LSAT Logic Games

"This test makes my head spin..."

Foreword

LSAT logic games are some of the most difficult and notorious questions in all of standardized testing. This book is intended as an extra practice supplement for mastering the section. While many guidebooks and prep courses tout a variety of strategies, at their core the logic games are about being able to draw inferences and make deductions–a mental skill which comes with practice. Conquering LSAT logic games is less like memorizing facts and more like training for a marathon–the key is learning how to think. As you go through these pages, remember a few things.

First, you are probably familiar with the various types of games. You will be asked to **put elements in order**, or to **put elements in groups**, or to **sort** elements between two categories. Also, it is rare but not unheard of for logic games to involve **maps** or **time conversions**, the latter a game where a series of permutations are laid out and applied to a set of variables.

Remember the distinction of **elements** and **qualities**, that is, sometimes each of the elements will also have a particular characteristic ascribed, like five different racecars being put in order, and also having a different color. Note the distinction between **single** and **multiple**–sometimes an element can go in more than one spot or group, and sometimes every element goes in exactly one spot. Take heed that some games are **tight** and some are **loose**, that is to say that on some games, a lot can be inferred from the rules and the elements are limited in their placement, while on others, the opposite is true.

Also notice that some rules are **spatial**, requiring or forbidding an element to be in a particular space (i.e., "X is in either 5 or 6") and others are **relational**, requiring elements to be a certain place with respect to each other. Often times you'll have to make deductions based on relational clues. Additionally, there are **absolute** conditions which always require something to be true, and **conditional** rules ("if X is in group 1, Y is in group 2") which are only triggered by a condition. Every conditional rule has a **contrapositive–**for example, if a rule states that "if L is in group 2, Y is in group 3", you can deduce that if Y is in group 2, L is not in group 2, since if it was, Y would be in group 3.

Pay attention to the distinction between **"if" questions** and **"which" questions**. Some questions give you new information specifically for that question, whereas others do not. Many find it helpful to do the former first and use previous work on the latter. Take note of the **rule testing** question that usually begins a game, which you can do easily by taking each rule and eliminating a choice that breaks it. Also be prepared to deduce the answers questions that ask you **minimums and maximums**, or **which fact would place all the elements**, or **rule–changing questions** which require new deductions.

Finally, if you struggle with games, **plug them out** to see why answers are right or wrong. Everything you need to solve each question is right in front of you, and there are no secrets. **Go back to the rules** if you get stuck. **Try answer choices** if you can't find the correct one. While this book includes explanations, they are purposefully somewhat vague–the point is to get you to learn how to think about these logic games. Once again, this section is about conditioning your mind to recognize certain things.

Good luck.

A dogsled musher is harnessing exactly eight huskies–Frosty, Glacier, Icy, Klondike, Polar, Snowball, Tundra and Yukon–in a single–file line in front of a dogsled. The order of the sled dogs must comply with the following conditions:

Tundra is either immediately in front of or immediately behind Polar.
Icy is behind Yukon.
Yukon is behind both Polar and Glacier.
Glacier is immediately behind Klondike.
Frosty is after Tundra but before Icy.
Snowball is not the last dog.

1. Which one of the following could be the order of the sled dogs, from first to last?

A. Polar, Tundra, Frosty, Glacier, Klondike, Yukon, Snowball, Icy
B. Snowball, Klondike, Glacier, Tundra, Frosty, Polar, Yukon, Icy
C. Tundra, Polar, Snowball, Klondike, Glacier, Frosty, Yukon, Icy
D. Polar, Tundra, Snowball, Klondike, Glacier, Frosty, Icy, Yukon
E. Snowball, Tundra, Polar, Yukon, Frosty, Klondike, Glacier, Icy

2. Which one of the following could be true?

A. Polar is immediately behind Snowball.
B. Yukon is immediately in front of Klondike.
C. Icy is immediately in front of Snowball.
D. Tundra is immediately in front of Glacier.
E. Polar is immediately behind Frosty.

3. If Frosty is the third dog from the front, which one of the following must be true?

A. Klondike is directly after Snowball.
B. Klondike is directly after Frosty.
C. Snowball is between Icy and Frosty.
D. Klondike is between Polar and Snowball.
E. Tundra is the first dog.

4. Which one of the following is a pair of sled dogs that could be next to each other?

A. Icy and Glacier.
B. Tundra and Yukon.
C. Yukon and Klondike.
D. Polar and Icy.
E. Tundra and Icy.

5. If Yukon is behind Frosty but ahead of at least two other dogs, which one of the following could be true?

A. Klondike is the second dog from the front.
B. Glacier is the fifth dog from the front.
C. Tundra is the fifth dog from the front.
D. Snowball is the third dog from the front.
E. Icy is the seventh dog from the front.

6. How many different places in order can Frosty be?

A. two
B. three
C. four
D. five
E. six

7. The order of the sled dogs can be completely determined if it is known that

A. Glacier is immediately in front of Frosty
B. Klondike is immediately behind Snowball
C. Tundra and Klondike are the second and third dogs from the front, respectively
D. Frosty and Yukon are the fifth and sixth dogs from the front, respectively
E. Polar and Frosty are the third and fourth dogs from the front, respectively

Game 1 – Sled Dogs

1. C
2. A
3. C
4. B
5. B
6. D
7. E

This is a game of putting things in order. Notice that you know the relationship of the elements but nothing about their places. A common mistake people make on the LSAT is that they try to work everything into columns of 1, 2, 3, and so forth. You should be able to make a chain out of these rules.

The first two questions feature four answers that break a rule, and it is a matter of eliminating these answers. However, the answers may be somewhat difficult if you have not drawn inferences in this game. The elements all form a chain, with only Snowball not required to be any specific place (except that Snowball cannot be last). You should be able to deduce and draw out a relational map between the elements in this particular arrangement. For example, because Tundra is ahead of Frosty and immediately next to Polar, Polar is ahead of Frosty.

Question 3 is based on the inference that Icy is last and Tundra and Polar are first and second (since they must go in front of Frosty). Since Snowball cannot be last, Snowball must fall between these fixed elements.

Question 4 is based on the chain of inferences you can make from these rules. For instance because Polar is ahead of Yukon, Tundra is also ahead of Yukon, and thus, because Yukon is ahead of Icy, Tundra is ahead of Icy. Make sure you are getting in the habit of drawing this out.

On Question 5, the key inference is that Snowball must be between Yukon and Icy, since nothing else can be after Yukon. As for Question 6, you need to deduce that Frosty can't be first, second, or last, because Frosty is behind both Tundra and Polar but ahead of Icy. Make sure you understand that because Tundra and Polar must be immediately adjacent, Frosty can't be second.

On questions like Question 7, there's no real shortcut–you have to evaluate the inferences of each answer and determine whether it places all the elements. Grind them out if you have trouble at first so you can see how these inferences work. The four wrong answers, as you should see, leave certain elements open to different spots.

At a rodeo, exactly seven bulls–F, G, J, L, M, N and O–will be ranked by how hard they buck. There are no ties. The ranking of the bulls conforms to the following conditions:

M does not buck as hard as J, which does not buck as hard as N.

O does not buck as hard as L, which bucks harder than F.

M does not buck as hard as O.

G bucks harder than at least one bull.

1. Which one of the following could be a complete and accurate ranking of the bulls, from the bull that bucks the hardest to the bull that bucks the least hard?

A. N, L, O, J, F, G, M
B. G, N, J, F, O, L, M
C. N, F, J, L, O, G, M
D. L, N, J, M, F, G, O
E. N, L, O, M, G, J, F

2. Which one of the following must be true?

A. Either M or F is the lowest ranked bull.
B. Either F or O is the lowest ranked bull.
C. Either F or G is the second–lowest ranked bull.
D. Either F or O is the second–lowest ranked bull.
E. Either O or J is the second–lowest ranked bull.

3. How many different bulls could be ranked as bucking the hardest?

A. one
B. two
C. three
D. four
E. five

4. If J bucks harder than G but not as hard as F, which one of the following must be true?

A. N bucks harder than F.
B. G bucks harder than M.
C. O bucks harder than F.
D. N bucks harder than O.
E. O bucks harder than G.

5. Each one of the following could be true EXCEPT

A. F bucks harder than G, but not as hard as M.
B. J bucks harder than F, but not as hard as O.
C. N bucks harder than G, but not as hard as L.
D. M bucks harder than F, but not as hard as O.
E. O bucks harder than N, but not as hard as G.

6. If N is ranked immediately behind F, and L if is not the highest ranked bull, then how many different arrangements could be a complete and accurate list of the three highest ranked bulls?

A. one
B. two
C. three
D. four
E. five

Game 2 – Rodeo Bulls

1. A
2. A
3. C
4. B
5. A
6. B

Question 1, like most first questions of a game, tests the rules, and answers B through E each break a rule. In Question 2, every other bull must be in front of another bull, or, in the case of G, cannot be last. Question 3 is based on the deduction that N, L and G are the only bulls that are not required to be behind another bull under the rules.

In Question 4, G can't be last, so it must come ahead of M, since it would be the only thing behind M, since F is in front of M. Question 5 is A because this would put G in last place. On Question 6, you can deduce that either G, L and F or G, L and O must be the first three bulls because the N and F fact places the other bulls behind these clusters.

A salad bar has a row of six different containers of salad dressing numbered 1 through 6, with 1 being on the left. Each container has exactly one type of salad dressing in it–French Dressing, Ranch Dressing, or Thousand Island Dressing. The following conditions apply:

No container has in it the same type of dressing as any adjacent container.

Container 1 does not contain Ranch Dressing.

Container 4 does not contain French Dressing.

If container 2 does not contain Thousand Island Dressing, then container 3 does.

There are at most two containers of each type of salad dressing.

1. Which pair of containers CANNOT contain the same type of salad dressing?

A. 1 and 6
B. 1 and 5
C. 2 and 3
D. 3 and 5
E. 4 and 6

2. If container 2 has the same type of salad dressing as container 4, then which container must contain French Dressing?

A. 1
B. 2
C. 3
D. 4
E. 5

3. If container 4 contains Thousand Island Dressing, then which one of the following could be true?

A. There is French Dressing in container 2.
B. There is Ranch Dressing in container 2.
C. There is French Dressing in container 3.
D. There is French Dressing in container 5.
E. There is Thousand Island Dressing in container 6.

4. If there is Thousand Island Dressing in container 6, there must be Ranch Dressing in containers

A. 1 and 3
B. 1 and 4
C. 2 and 4
D. 2 and 5
E. 3 and 5

5. If there is no Ranch Dressing in container 2 or 3, then there must be

A. either French Dressing or Ranch Dressing in container 3
B. either Thousand Island Dressing or French Dressing in container 4
C. either French Dressing or Thousand Island Dressing in container 5
D. either Thousand Island Dressing or Ranch Dressing in container 5
E. either French Dressing or Thousand Island Dressing in container 6

6. If there is Ranch Dressing in container 4, then how many different orders of salad dressing could there be at the salad bar?

A. one
B. two
C. three
D. four
E. five

Game 3 – Salad Bar

1. C
2. A
3. D
4. C
5. C
6. D

Question 1 is C because of the fourth rule–they can't both have Thousand Island. The second question is a little trickier. If 2 and 4 have the same type of dressing, it must be either Thousand Island or Ranch (rule 4), and containers 1 and 2 must contain something different than this. Since two of the remaining six containers are next to each other (5 and 6), they cannot contain the same type of dressing, and therefore, 1 and 3 cannot contain the same type of dressing. This means 1 and 3 must have Ranch dressing and French dressing, and since 1 cannot contain Ranch, it must contain French.

On Question 3, you can deduce based on the fourth rule that there must be Thousand Island in container 2, since there isn't any in container 3 (because 3 is next to four, which has Thousand Island in it). This means that there are two Ranch and two French in the other four spots, and you have the same deduction you made earlier–between 1 and 3, 1 is French and 3 is Ranch. This excludes four answers. Question 4 requires you to deduce that there must be no Thousand Island in 4 (because then you'd have three thousand Islands with the spot 2 and 3 rule), which means there is Ranch in 4 (no French under the rules), which means there must be Ranch in 2, since it can't be in 3, 5 or 1. Question 5 is the old inference you've probably already made–that the Ranch dressing needs to be split up. It can't go in 1, so if it's not in 2 or 3, it must be in 4 and 6–meaning Thousand Island or French is there.

Question 6 is simply a matter of inferring the four possible combinations you can have–three if the Thousand Island dressing is in spot 3 (two if Ranch is second, one if French is second), and one if French dressing is in spot 3.

This is a "multiple" game where the elements can go more than once. When there is, as here, a numerical limit on the times the elements can go, usually it's pretty important to the game.

A roofing company will do work on six different buildings–G, H, I, K, L and M. Each of the buildings is either receiving new roofing or receiving repairs. The company will work on each of the buildings one at a time until finished. The following conditions apply:

M is either the third or the fourth building, and will receive repairs.

A building in need of new roofing will be worked on after H but before L.

K is worked on immediately after G.

1. Which one of the following could be a complete and accurate list of the buildings in the order the roofing company works on them?

A. I, H, M, G, K, L
B. H, K, G, M, I, L
C. G, K, M, H, L, I
D. H, M, L, I, G, K
E. G, K, H, M, L, I

2. If G is the fifth building worked on, which building must receive new roofing?

A. H
B. I
C. K
D. L
E. M

3. Which one of the following could be true?

A. G is the third building the roofing company works on.
B. H is the fifth building the roofing company works on.
C. L is the third building the roofing company works on.
D. I is the fourth building the roofing company works on.
E. L is the second building the roofing company works on.

4. If H is the second building the company works on, which one of following CANNOT be true?

A. M is the third building worked on.
B. I is the first building worked on.
C. Both G and H will receive repairs.
D. Both K and I will receive repairs.
E. Both G and K will receive repairs.

5. If L is the fourth building the company works on, each of the following must be true EXCEPT

A. The second building the roofing company works on receives new roofing.
B. The third building the roofing company works on receives repairs.
C. The fourth building the roofing company works on receives repairs.
D. H is the first building the roofing company works on.
E. K is the last building the roofing company works on.

6. Which one of the following is a complete and accurate list of the buildings, any one of which could be the first building the roofing company works on?

A. H
B. G
C. H, I
D. G, I
E. H, G, I

Game 4 – Roofing Company

1. A
2. B
3. C
4. E
5. C
6. E

This is a game of both order and qualities. Remember that often you'll only be given the element or the quality of the element, not both, and have to make deductions on this basis.

On Question 1 four choices breaks a rule. For the second question, G in fifth means K in sixth, and H and the building receiving new roofing after it, I, up front. In Question 3, four of the choices break rule.

Question four is E because there must be a new construction between H and L. In Question 5, C means the entire order can be placed out since if L is fourth, M is third, and H and a new construction are first and second. Question 6 is a bit of tricky inference–you have to be able to see that H, G, and I all work. Remember that often on list questions like this it's helpful to test an element such as H or I and then either exclude answers with it if it doesn't work, or exclude answers without it if it does.

Three environmental journals–*Green Earth*, *Pollution Watch* and *Wildlife Defenders*–will each publish exactly three articles, each of which was written by one of four distinguished academics–Houck, Lazarus, Matthews and Reinhard. The publication of the articles in the journals is consistent with the following conditions:

The three journals collectively publish at least twice as many articles by Houck as they do articles by Reinhard.

Green Earth does not contain an article by Reinhard, but has at least one article by Matthews.

Pollution Watch has at least one article by Houck.

Wildlife Defenders has exactly two articles written by the same author.

1. Which one of the following could be a complete and accurate listing of the authors and the journals in which their articles appear?

A. *Green Earth*: Lazarus, Matthews, Reinhard; *Pollution Watch*: Houck, Lazarus, Reinhard; *Wildlife Defenders*: Houck, Matthews, Matthews
B. *Green Earth*: Houck, Matthews, Matthews; *Pollution Watch*: Houck, Reinhard, Reinhard; *Wildlife Defenders*: Houck, Lazarus, Reinhard
C. *Green Earth*: Houck, Lazarus, Matthews; *Pollution Watch*: Houck, Lazarus, Matthews; *Wildlife Defenders*: Houck, Reinhard, Reinhard
D. *Green Earth*: Lazarus, Lazarus, Matthews; *Pollution Watch*: Houck, Houck, Houck; *Wildlife Defenders*: Houck, Reinhard, Reinhard
E. *Green Earth:* Houck, Houck, Lazarus; *Pollution Watch*: Houck, Matthews, Reinhard; *Wildlife Defenders*: Houck, Lazarus, Lazarus

2. What is the maximum number of Houck articles that can be included in the three journals?

A. three
B. four
C. five
D. six
E. seven

3. If *Wildlife Defenders* has two articles by Reinhard and one by Houck, what is the maximum number of articles by Lazarus that can be in the three groups?

A. one
B. two
C. three
D. four
E. five

4. If *Pollution Watch* and *Wildlife Defenders* publish articles from the exact same authors in the same respective numbers, the three journals can publish exactly

A. one article by Reinhard
B. three articles by Matthews
C. four articles by Matthews
D. three articles by Reinhard
E. four articles by Reinhard

5. If two of the journals publish at least one article by Reinhard, then *Pollution Watch* must contain

A. one article by Matthews and one article by Reinhard
B. one article by Matthews and one article by Houck
C. one article by Reinhard and one article by Houck
D. one article by Reinhard and one article by Lazarus
E. one article by Houck and one article by Lazarus

6. If the journals publish the maximum number of articles by Lazarus, then the journals must publish exactly

A. one article by Houck and one article by Matthews
B. one article by Reinhard and four articles by Lazarus
C. one article by Reinhard and four articles by Houck
D. two articles by Houck and one article by Matthews
E. seven articles by Lazarus

Game 5 – Environmental Journals

1. D
2. E
3. B
4. B
5. C
6. D

This is a classic LSAT–style game of putting things in groups. It has a "multiple" element to it in that elements can fill more than one group.

Question 1 tests the rules–four of the answers violate one of the conditions. For Question 2, look at the rules for limitations. The only two rules limiting Houck are *exactly* two articles by the same author in *Wildlife Defenders* and the requirement of one Matthews article in *Green Earth*.

On Question 3, five of the nine spaces have been occupied when you include the Matthews article in *Green Earth* and the Houck article in *Pollution Watch*, and Reinhard and Houck articles are of equal numbers given that two Reinhard articles are in *Wildlife Defenders*. This means another two Houck articles must be published between the remaining four spaces, leaving two for Lazarus.

For Question 4, the key is the two and one rule for *Wildlife Defenders* combined with the rules about Houck and Reinhard. All four answers break a rule, mostly implicating this in some fashion. (Also note you can't have even numbers of Matthews articles under the stipulation of this question) Question 5 is C because Reinhard must publish only two articles under the Houck and Reinhard rule–there isn't enough room for Reinhard to have three. This means there is one each in *Pollution Watch* and *Wildlife Defenders*, and since there is already a Houck article in the former under the rules, this leads to the answer.

You get to D on Question 6 because while Lazarus can take two spots in both *Green Earth* and *Pollution Watch*, the third journal must have *exactly two* of one of its authors. Because of the Reinhard and Houck rule, the third spot must then go to Houck.

A radio station is deciding whether or not to broadcast violin music from six different composers — Holst, Mussorgsky, Ponchielli, Ravel, Stravinsky and Vivaldi. The music selected to broadcast is consistent with the following conditions.

If Mussorgsky is not played, Ponchielli is played.

If Vivaldi is not played, neither is Mussorgsky.

If Ravel is played, then Holst is not played.

If Ponchielli is played, so are Stravinsky and Ravel.

1. Which could be a complete and accurate list of composers the station decides to play?

A. Ravel, Holst
B. Mussorgsky, Ponchielli
C. Mussorgsky, Ravel, Stravinsky
D. Mussorgsky, Stravinsky, Holst, Vivaldi
E. Stravinsky, Holst

2. If Stravinsky and Ponchielli are both played, which one of the following must be true?

A. At most four of the six composers are played.
B. At least four of the six composers are played.
C. Both Stravinsky and Vivaldi are played.
D. If exactly four of the six composers are played, those four cannot include Ravel.
E. If exactly four of the six composers are played, those four must include Vivaldi.

3. If Ravel is not played, which one of the following CANNOT be true?

A. Stravinsky is played.
B. Holst is played.
C. Vivaldi is not played.
D. Ponchielli is not played.
E. Holst is not played.

4. What is the maximum number of composers out of the six who could be played?

A. two
B. three
C. four
D. five
E. six

5. Each of the following could be true EXCEPT

A. Holst is played but Stravinsky is not.
B. Holst is played but Vivaldi is not.
C. Mussorgsky is played but Ravel is not.
D. Vivaldi and Ponchielli are both played.
E. Ponchielli and Mussorgsky are both played.

6. Suppose the condition is added that if Vivaldi is played, Ponchielli is not played. If all other conditions hold, which one of the following could be true?

A. Mussorgsky and Ponchielli are both played.
B. Vivaldi and Stravinsky are both played.
C. Holst and exactly four others are played.
D. Ravel and exactly one other are played.
E. Exactly one composer is played.

Game 6 – Radio Station

1. D
2. E
3. C
4. D
5. B
6. B

This is a classic sorting game. You won't be able to draw any sort of a diagram–you have to go off instinct and the rules. Plot the elements out for each question to understand it if you need.

Question 1, as is the case with most first questions, is a matter of eliminating the four answer choices which break a rule. On Question 2, you can deduce that Ravel is played but Holst is not based on the rules. After this, you cannot deduce the exact arrangement further, but Mussorgsky cannot be played without Vivaldi, meaning that if there are exactly four, Vivaldi and not Mussorgsky is played.

For Question 3, you can deduce that Ponchielli cannot be played (because if he was, Ravel would be), and therefore you can infer from the first rule, that Mussorgsky must be played, which means Vivaldi is played under the second rule. C breaks this rule.

Remember that on questions like Question 4, look for "rules of exclusion"–those which say two things can't be together. Your only real rule of exclusion in this game is Ravel and Holst, and since Holst doesn't impel the existence of anyone else, your maximum is five–everybody but Holst. For Question 5, you can't have Holst and not Vivaldi because if Holst is played, Ravel can't be, which means Ponchielli can't be (fourth rule), which means Mussorgsky must be (first rule) which means Vivaldi must be (second rule).

The rule–change question is a little tricky. Vivaldi is required for Mussorgsky, excluding answer A. For C, Holst doesn't have three elements it could go with–it can't be with Ravel, and among the other four, neither Vivaldi nor just Mussorgsky can be with Ponchielli. D and E are out for similar reasons–you need either Mussorgsky or Ponchielli under the first rule, and these both command the presence of something else (Vivaldi, or Stravinsky and Ravel, respectively). Thus the answer is B.

A psychiatrist is scheduling individual meetings with six patients–Helen, Jacynthe, Kavik, Leonardo, Micah and Ruth. Each of the meetings will be for one hour, with the first beginning at 1:00 and the last beginning at 6:00. The following conditions apply:

Ruth meets with the psychiatrist after Micah does.

Helen meets with the psychiatrist after Kavik does.

Jacynthe's meeting is either immediately before or immediately after Leonardo's.

There is exactly one meeting in between the meetings of Jacynthe and Micah.

1. Which one of the following could be a complete and accurate schedule of the meetings, listed from 1:00 to 6:00?

A. Leonardo, Kavik, Helen, Micah, Ruth, Jacynthe
B. Leonardo, Jacynthe, Kavik, Helen, Micah, Ruth
C. Leonardo, Helen, Jacynthe, Kavik, Micah, Ruth
D. Ruth, Micah, Kavik, Jacynthe, Helen, Leonardo
E. Micah, Kavik, Jacynthe, Leonardo, Helen, Ruth

2. What is the earliest that Helen's meeting could be?

A. 1:00
B. 2:00
C. 3:00
D. 4:00
E. 5:00

3. Which one of the following must be true?

A. Micah's meeting is either at 1:00 or at 5:00.
B. Jacynthe's meeting is before Helen's.
C. Leonardo and Micah do not meet with the psychiatrist during hours directly next to each other.
D. Kavik and Helen do not meet with the psychiatrist during hours directly next to each other.
E. Ruth's meeting is, at the earliest, one hour before Jacynthe's.

4. If Leonardo meets with the psychiatrist at 1:00, which one of the following could be true?

A. Micah meets with the psychiatrist at 2:00.
B. Ruth meets with the psychiatrist at 3:00.
C. Kavik meets with the psychiatrist at 5:00.
D. Micah meets with the psychiatrist at 5:00.
E. Ruth meets with the psychiatrist at 6:00.

5. Which one of the following must be true?

A. If Kavik meets before Ruth, Micah meets before Kavik
B. If Jacynthe meets before Helen, Kavik meets before Jacynthe.
C. If Ruth meets before Kavik, Micah meets before Helen.
D. If Micah meets before Jacynthe, Jacynthe meets before Ruth.
E. If Kavik meets before Micah, Helen meets before Micah.

6. The order of the meetings with the psychiatrist can be completely determined if which one of the following is true?

A. Micah meets immediately before Leonard.
B. Ruth meets immediately before Kavik.
C. Helen meets immediately before Jacynthe.
D. Kavik meets immediately before Leonard.
E. Micah meets immediately before Kavik.

Game 7 – Psychiatrist

1. E
2. B
3. E
4. E
5. C
6. D

Question 1 is the standard testing of the rules, and looking at the rule and excluding which answer choice breaks it should get you the answer. On the second question, the only rule pertaining to Helen is that she must be behind Kavik. Nothing else limits her forward spots. Try and develop the ability to analyze rules in this fashion, i.e., seeing if they limit an element being forward or backward.

The key to Question 3 is that Jacynthe is at most one space behind Micah, and since Ruth must be behind Micah, Ruth can at most go in that one space (in which case Leonard is immediately behind Jacynthe). On Question 4, if Leonardo is in first, Jacynthe is in second based on the rules, which puts Micah in fourth. From there we can deduce that Kavik is third, since Helen is after Kavik and Ruth is after Micah. This arrangement excludes the four wrong answers.

On Question 5, if Ruth is before Kavik, then Micah must be before Helen, since Ruth is after Micah and Helen is after Kavik. For Question 6, if Kavik is before Leonard, Jacynthe must immediately follow Leonard, and then one space separates Leonard from Micah. This space can only be filled by Helen because Ruth must follow Micah. The other answers do not completely place the variables; for example, C does not place all the variables because Micah could go before Helen as well as two spaces after.

Shelby will set mousetraps among seven different locations in her house–the foyer, the guest room, the kitchen, the living room, the master bedroom, the pantry and the study. At most, Shelby sets one mousetrap at each location. Shelby's setting of the mousetraps is consistent with the following conditions:

If Shelby sets a mousetrap in the living room, she does not set one in the study.

If Shelby sets a mousetrap in the foyer, she does not set one in the kitchen.

If Shelby sets a mousetrap in the study, then she also sets one in master bedroom.

If Shelby sets a mousetrap in either the foyer or the kitchen, then she sets one in the study.

1. Which could be a complete and accurate list of the places where Shelby could set a mousetrap?

A. the pantry, the living room, the foyer
B. the pantry, the living room, the foyer, the study
C. the pantry, the foyer, the study, the master bedroom
D. the pantry, the kitchen, the study
E. the foyer, the kitchen, the study, the master bedroom

2. If Shelby does not set a mousetrap in the master bedroom, which one of the following could be true?

A. Shelby sets a mousetrap in both the pantry and the living room.
B. Shelby sets a mousetrap in both the pantry and the foyer.
C. Shelby sets a mousetrap in both the foyer and the living room.
D. Shelby sets a mousetrap in both the kitchen and the living room.
E. Shelby sets a mousetrap in both the guest room and study.

3. If Shelby sets the greatest number of mousetraps possible, then she cannot set a mousetrap in

A. the living room
B. the guest room
C. the foyer
D. the kitchen
E. master bedroom

4. If Shelby does not set a mousetrap in the study, which one of the following must be true?

A. Shelby sets a mousetrap in the living room.
B. Shelby sets a mousetrap in the pantry.
C. Shelby does not set a mousetrap in either the master bedroom or the guest room.
D. Shelby sets at least three mousetraps.
E. Shelby sets at most three mousetraps.

5. Each one of the following could be true EXCEPT

A. Shelby sets a mousetrap in the pantry and exactly two other places.
B. Shelby sets a mousetrap in the foyer and exactly three other places.
C. Shelby sets a mousetrap in the study and exactly four other places.
D. Shelby sets a mousetrap in the guest room and exactly one other place.
E. Shelby sets a mousetrap in the kitchen and exactly one other place.

6. If Shelby does not set a mousetrap in the kitchen, what is the maximum number of places that Shelby can set a mousetrap?

A. 2
B. 3
C. 4
D. 5
E. 6

Game 8 – Mousetraps

1. C
2. A
3. A
4. E
5. E
6. D

Question 1 involves eliminating all the choices which break one of the rules. A, B, D and E all fail to comply with one of the conditions. On Question 2, you can deduce based on the third rule that Shelby has not placed a mousetrap in the study, and based on rule 4 that she has not placed one in either the foyer or the kitchen.

The third question asks for a maximum number. On these you should always identify rules which exclude certain elements. For example, the living room excludes the possibility of placing a mousetrap in the study, and thus the master bedroom, foyer, and kitchen. This means that you can get the most mousetraps by excluding the living room and including the others. It takes some checking, but you should see that rules that say two things can't be together mean that one thing will result in more traps than another.

Question 4 involves a similar deduction to the second question–if there is no mousetrap in the study, then there is no mousetrap in the master bedroom, foyer, or kitchen. This leaves three rooms at most. Question 5 likewise is about a combination of inferences. If Shelby places a mousetrap in the kitchen, then she places one in the study–and thus places one in the master bedroom. Question 6 is the same maximum you dealt with earlier, with has either the kitchen or the foyer, but not both–you can achieve the maximum number of 5 mousetraps with either a mousetrap in the kitchen or in the foyer (but they cannot be in both).

On Monday, a zookeeper will feed six different groups of animals–flamingos, marmosets, penguins, snakes, tortoises and wolverines. The groups of animals will be fed one at a time, and no group of animals will be fed twice. The following conditions govern the feeding of the animals:

The wolverines must be fed either first or last.

The flamingos are fed immediately after the tortoises are fed.

The tortoises are fed at some time after the marmosets are fed.

If the snakes are the third group of animals to be fed, the tortoises are the fifth group of animals to be fed.

1. Which one of the following could be a list of the animals in the order they are fed on Monday, from 1 to 6?

A. snakes, marmosets, tortoises, penguins, flamingos, wolverines
B. snakes, marmosets, tortoises, flamingos, wolverines, penguins
C. snakes, penguins, marmosets, tortoises, flamingos, wolverines
D. wolverines, tortoises, flamingos, penguins, marmosets, snakes
E. marmosets, penguins, snakes, tortoises, flamingos, wolverines

2. Which CANNOT be the fifth group of animals to be fed on Monday?

A. The snakes
B. The marmosets
C. The tortoises
D. The penguins
E. The flamingos

3. Which one of the following must be false?

A. The flamingos are the second group of animals to be fed on Monday.
B. The tortoises are the third group of animals to be fed on Monday.
C. The marmosets are the fourth group of animals to be fed on Monday.
D. The snakes are the fourth group of animals to be fed on Monday.
E. The penguins are the sixth group of animals to be fed on Monday.

4. Which of the following is a pair of animals who could be fed third and fifth, respectively, on Monday?

A. the penguins and the snakes
B. the snakes and the penguins
C. the snakes and the flamingos
D. the flamingos and the penguins
E. the flamingos and the marmosets

5. If, on Monday, the number of animals fed in between the feeding of the penguins and the snakes, not necessarily in that order, is as large as possible, which one of the following is a complete and accurate list of the animals which could be fed first?

A. snakes, penguins
B. wolverines, marmosets
C. snakes, penguins, marmosets
D. wolverines, snakes, penguins
E. wolverines, snakes, penguins, marmosets

6. If on Monday the wolverines are fed immediately after the flamingos, which one of the following must be true?

A. Either the snakes or the marmosets are fed first.
B. Either the snakes or the penguins are fed first.
C. Either the snakes or the marmosets are fed second.
D. Either the penguins or the snakes are fed third.
E. Either the penguins or the marmosets are fed third.

7. If, on Monday, the tortoises are fed immediately after the snakes, then which one of the following could be true?

A. The marmosets are fed second.
B. The flamingos are fed third.
C. The tortoises are fed fourth.
D. The snakes are fed fifth.
E. The penguins are fed sixth.

Game 9 – Zoo Animals

1. C
2. B
3. A
4. D
5. D
6. E
7. A

This is a "tight" game where space and "having enough room" is very important. Hopefully you started thinking about how the placement of one element pushed the other ones around.

Question 1 is your typical rule testing question–each of the four rules is broken by a different answer choice. On Question 2, the marmosets cannot be fed fifth because they are fed before the tortoises, which are fed immediately before the flamingos. This is also how you get to the answer to Question 3–the flamingos can't be fed second because both the marmosets and the tortoises must be fed before them.

On Question 4, we know if the snakes are fed third, the tortoises are fed fifth, so this excludes B and C. Likewise, if the penguins are fed third and the snakes are fed fifth, this leaves no room for the tortoises to be immediately next to the flamingos, since they have to be fed after the marmosets (which is also why E is wrong).

Question 5 is a little bit intuitive–you have to figure out that since wolverines are first or last, you can't have penguins or snakes in first or sixth. Therefore, they have to be in second and sixth or first and fifth. There are no rules restricting which animal between snakes and penguins must go first, nor whether they must go second and sixth with wolverines in first or first and fifth themselves. Thus, the answer is D.

On Question 6, you can deduce that tortoises are fourth, and that snakes are not third–since if snakes were third, tortoises would be fifth (but they are not). This means that either the marmosets or the penguins are fed third.

Finally, on question 7, it's matter of excluding the answers. B is wrong–there is no room for the marmosets. C is wrong because it breaks the rule of snakes in third mandating tortoises in fifth. D doesn't leave enough room for the flamingos, and E leads to the deduction that the wolverines are in first, putting the marmosets in second and the snakes in third–which again breaks the snakes and tortoises rule.

A technician will fix four different computers–a Medion, a Polywell, a Redfox and a Toshiba–one at a time, exactly once. Each of these four computers has a different problem to be fixed than any others–hard drive, network, operating system, or software. The repair of the computers is consistent with the following conditions:

If the Toshiba has a software problem, then the Medion has an operating system problem.

If the Polywell has a software problem, then the Redfox has a network problem.

The computer with the software problem is fixed immediately after the Medion and immediately before the Redfox.

The computer with the operating system problem is not the last computer repaired.

1. Which one of the following could be a complete and accurate list of the computers and their respective problems, from first to last?

A. Medion: operating system; Polywell: software; Redfox: network; Toshiba: hard drive
B. Redfox: operating system; Polywell: hard drive; Toshiba: software; Medion: network
C. Polywell: hard drive; Medion: network; Toshiba: software; Redfox: operating system
D. Redfox: operating system; Toshiba: software; Medion: hard drive; Polywell: network
E. Medion: software; Toshiba: operating system; Redfox: hard drive; Polywell: network

2. If the Toshiba is the second computer fixed, each of the following could be true EXCEPT

A. The Toshiba has the hard drive problem.
B. The Polywell has the network problem.
C. The Toshiba has the software problem.
D. The Polywell has the hard drive problem.
E. The Redfox has the hard drive problem.

3. Which one of the following could be true?

A. The Medion is fixed immediately after the computer with the software problem.
B. The computer with the software problem is fixed immediately after the Toshiba.
C. The Toshiba is fixed immediately after the computer with the hard drive problem.
D. The Polywell is fixed immediately after the computer with the hard drive problem.
E. The computer with the network problem is fixed immediately before the Redfox.

4. The computer with the operating system problem CANNOT be fixed

A. immediately after the Polywell
B. immediately before the Polywell
C. immediately after the Redfox
D. immediately before the Toshiba
E. immediately before the Medion

5. If the Redfox is the third computer fixed, which one of the following could be true?

A. The Medion has the hard drive problem.
B. The Redfox has the hard drive problem.
C. The computer with the software problem is last.
D. The computer with the operating system problem is third.
E. The computer with the hard drive problem is second.

Game 10 – Computer Repair

1. A
2. A
3. D
4. C
5. B

This is a game of both orders and qualities, and with many of these you will know proximate elements and qualities but not necessarily the place. The third rule is key to solving this game because you can deduce a block on the basis of it. The Medion is before a computer with a software problem, which is before the Redfox. (You should also be able to deduce that neither the Medion nor the Redfox has the software problem)

For Question 1, all of the other choices violate a rule–plug them out and see for yourself. The second question is based on the third rule–you can deduce that the Medion is fixed first and the Redfox third because there is nowhere else the three elements set out in that rule can go as a block. Question 3, like the first question, has four answers that lead to inferences which break a rule, and again, you are advised to plug them out if you don't see it. Remember to try and develop "visualizing skills."

On Question 4, if the computer with the operating system problem comes directly after the Redfox, there is no place it can go under the first and fourth rules. Likewise on Question 5, either the Polywell or Toshiba must have the software problem, and based on the deductions from either of these options, four of the choices are impossible.

Three types of fruits–pineapples, grapefruit and mangoes–as well as four types of vegetables–onions, turnips, radishes and zucchini–will be stored in three different barrels, numbered 1 to 3. The storage of the produce must conform to the following conditions:

No more than one type of fruit is stored in a given barrel.

Onions are stored in the same barrel as radishes.

Turnips are stored in a different barrel from onions

If zucchini in stored with mangoes, radishes are stored with pineapples.

1. Which one of the following could be a complete and accurate list of the produce stored in barrel 2?

A. grapefruit, onions, radishes, pineapples
B. mangoes, onion, radishes, zucchini
C. pineapples, turnips
D. mangoes, onions, zucchini
E. onions, radishes

2. Each of the following is two types of produce that could be in the same barrel EXCEPT

A. zucchini and radishes
B. radishes and turnips
C. mangoes and onions
D. pineapple and turnips
E. grapefruit and radishes

3. If turnips are the only vegetable in the same barrel as pineapples, which one of the following must be true?

A. Zucchini are in the same barrel as grapefruit.
B. Radishes are in the same barrel as mangoes.
C. Onions are in the same barrel as grapefruit.
D. Onions are in the same barrel as zucchini.
E. Radishes are in the same barrel as grapefruit.

4. Which one of the following CANNOT be true?

A. Turnips are in a different barrel from both radishes and zucchini.
B. Radishes are in a different barrel from both mangoes and grapefruit.
C. Grapefruit are in a barrel with exactly three types of vegetable.
D. Pineapples are in a barrel with exactly three types of vegetable.
E. Mangoes are in a barrel with exactly three types of vegetable.

5. If the only vegetable in barrel 2 is zucchini, barrel 3 must contain either

A. pineapples or grapefruit
B. turnips or radishes
C. grapefruit or radishes
D. turnips or pineapples
E. onions or mangoes

6. If the barrel with the grapefruit contains exactly two types of vegetable and the other two barrels each contain exactly one type of vegetable, then each of the following pairs of fruits and vegetables must be stored in the same barrel EXCEPT

A. zucchini and pineapple
B. turnips and pineapple
C. turnips and mangoes
D. radishes and grapefruit
E. onions and grapefruit

Game 11 – Fruits & Vegetables

1. C
2. B
3. A
4. E
5. B
6. B

This is a good example of a game where you seldom know the numbers of the groups, but rather, the elements that are in them. Hopefully you are figuring out that you need to plot out the three different fruits and which vegetables are with them, not the numbers of the groups, for most of these questions.

Question 1 tests the rules, and each of the wrong answers breaks a rule. Sometimes the breaking of the rule is by inference; for instance, E is wrong because one of the fruits must be there. On Question 2, radishes must be with onions, but onions cannot be with turnips–making the arrangement in B impossible. On Question 3, you can deduce that, because radishes are not in the same barrel as pineapples, zucchini are not in the same barrel as mangoes, and thus they must be in the barrel with the grapefruit (since only turnips are with pineapple).

On Question 4, mangoes can't be in a barrel with three types of vegetable because of the zucchini and mangoes rule. The only group of three of vegetable possible is onions, radishes, and zucchini, since onions can't be with turnips (and thus neither can radishes). This cluster can exist in the barrel with the pineapple or the grapefruit, but not the mangoes because if zucchini are with mangoes, radishes are not.

For Question 5, the third barrel must contain either the onions and the radishes or the turnips, since these two things cannot be together, and cannot go in the second barrel. On Question 6, onions and radishes must be in the barrel with the grapefruit, meaning zucchini cannot be in a barrel with the mangoes based on the last rule. This means zucchini are with pineapple and turnips are with mangoes.

A literature club is selecting upcoming readings from a group of exactly seven novels. Four of the novels–*Likewise*¸ *On My Own*, *The Torrey* and *West of Town*–are romance novels, while three–*Hammerhead*, *Inverness* and *No Way Out*, are mystery novels. The selection of the novels is consistent with the following requirements:

At least three novels are selected.

At least as many romance novels as mystery novels are selected.

If *West of Town* is not selected, *On My Own* is selected.

If *No Way Out* is selected, then *Likewise* is not selected.

If *Hammerhead* is not selected, then *The Torrey* is not selected.

1. Which one of the following could be a complete and accurate list of the novels selected?

   A. *Likewise, The Torrey, Hammerhead, Inverness*
   B. *West of Town, Hammerhead, No Way Out*
   C. *On My Own, The Torrey, Inverness*
   D. *On My Own, Inverness*
   E. *Likewise, On My Own, Hammerhead*

2. If *No Way Out* is selected, which one of the following must be true?

   A. Either *West of Town* or *Inverness* is selected.
   B. Either *Hammerhead* or *On My Own* is selected.
   C. Both *Hammerhead* and *Inverness* are selected.
   D. Both *West of Town* and *The Torrey* are selected.
   E. Neither *West of Town* nor *Inverness* is selected.

3. Which one of the following could be true?

   A. Exactly one romance novel is selected.
   B. Exactly one mystery novel is selected.
   C. Exactly four romance novels and exactly two mystery novels are selected.
   D. No mystery novels and all four romance novels are selected.
   E. All three mystery novels are selected but *On My Own* is not.

4. If *The Torrey* is selected, which one of the following CANNOT be true?

   A. *No Way Out* is the only mystery novel selected.
   B. *West of Town* is the only other romance novel selected.
   C. Both *Likewise* and *On My Own* are selected.
   D. *Inverness* is not selected.
   E. Both *West of Town* and *On My Own* are selected.

5. Suppose the condition is added that there must be exactly one more romance novel than mystery novels. If all other conditions hold, each of the following could be true EXCEPT

   A. *No Way Out* and *Hammerhead* are both selected.
   B. *Inverness* and *West of Town* are both selected.
   C. *Hammerhead* and *No Way Out* are both selected.
   D. *Inverness* and *No Way Out* are both selected.
   E. *Inverness* and *On My Own* are both selected.

Game 12 – Literature Club

1. E
2. B
3. B
4. A
5. D

The first question is the typical first question on a game–testing the rules. All the wrong answer choices break a rule. On Question 2, three novels need to be chosen with at least two romance novels, so since *Likewise* is out, either *Hammerhead* and *The Torrey* plus another romance have to come in, or the other two romance novels–*West of Town* and *On My Own* must.

Question 3 is based on the deduction that all other answers inevitably break a rule–go back and plug them out if you don't see it. Question 4 is A because of the deduction that *Hammerhead* must be selected. On Question 5, if *Inverness* and *No Way Out* are both selected, the group needs three romance novels but can't have it because *Likewise* is excluded, and if they add *The Torrey* then *Hammerhead* must also be added.

A magazine will rank exactly seven retirement plans–Q, R, S, W, X, Y and Z–based on their annual yield. The ranking of the retirement plans is consistent with the following conditions:

W is ranked either first or second.

Q is not ranked last.

If S is not ranked higher than Y, then Y is ranked lower than R.

Z is ranked after W but before Q.

1. Which one of the following could be a complete and accurate ranking of the retirement plans, from highest yield to lowest?

A. W, S, Z, R, X, Y, Q
B. W, Z, Y, R, Q, S, X
C. S, Y, W, Z, X, Q, R
D. S, W, Y, R, Z, Q, X
E. X, W, Z, Q, Y, R, S

2. Which one of the following CANNOT be true?

A. Y is ranked behind both Z and X.
B. Y is ranked behind both R and X.
C. Z is ranked behind both S and X.
D. Y is ranked behind neither S nor R.
E. Q is ranked ahead of both Y and X.

3. If Z is ranked fifth, each of the following could be true EXCEPT

A. S is ranked first.
B. W is ranked second.
C. Y is ranked third.
D. X is ranked fourth.
E. R is ranked sixth.

4. If both Y and X are ranked lower than S but higher than Z, then which one of the following must be true?

A. S is first.
B. W is second.
C. Q is fourth.
D. Z is sixth.
E. R is seventh.

5. What is the lowest that Y can be ranked?

A. third
B. fourth
C. fifth
D. sixth
E. seventh

6. The ranking of each of the plans can be completely determined if which one of the following is true?

A. X is ranked immediately ahead of Z, which is ranked immediately ahead of Y.
B. S is ranked immediately ahead of Z, which is ranked immediately ahead of R.
C. W is ranked immediately ahead of Y, which is ranked immediately ahead of R.
D. Z is ranked immediately ahead of Q, which is ranked immediately ahead of Y.
E. R is ranked immediately ahead of Y, which is ranked immediately ahead of Q.

Game 13 – Retirement Plans

1. D
2. D
3. E
4. E
5. E
6. C

This is your standard order game, and Question 1 is the standard testing of the rules. However, one of the rules in this game is slightly tricky. Read over the third rule a few more times if you feel you don't understand it–this rule is saying that either S, or R, or both, must be in front of Y, and that if S is not in front of Y, R is. Find a good way to symbolize this. Question 2 is based on this rule–Y must follow at least one of those two letters.

In Question 3, the answer is E because Q must be ranked sixth. Q must follow Z, and it cannot be last. On Question 4, R is the only element that can be last, since S and X are taken up, and everything else must be in front of something. Question 5 is yet again E. Remember, both S and R can be in front of Y under the rules.

On Question 6, C places all the elements because Y must follow S–making S first and W second. This means R is followed by Z, Q, and X. Since Z must be ahead of Q, and since Q cannot be last, there is only one order these elements can go with.

Conditional statements on order games like the third rule here are rare but you sometimes do encounter them. Be ready.

A cargo ship is carrying exactly four types of cargo–oil, steel, paper and timber–each of which is going to a different port. The ship stops at each of exactly four ports exactly once–Gulf Shores, Lanesville, Middleton and Newport. The following conditions hold:

The paper is traveling either to Gulf Shores or to Lanesville.

The cargo ship carries the timber longer than it carries the oil.

If the ship does not stop at Gulf Shores first, it stops at Gulf Shores last.

If the ship is still carrying timber when it reaches Lanesville, then the ship is still carrying steel when it reaches Middleton.

1. Which one of the following could be a complete and accurate list of the ports and the cargo discharged thereat, in order from first to last?

A. Newport: steel
Middleton: oil
Lanesville: paper
Gulf Shores: timber
B. Gulf Shores: oil
Newport: timber
Lanesville: steel
Middleton: paper
C. Gulf Shores: paper
Newport: steel
Lanesville: timber
Middleton: oil
D. Gulf Shores: oil
Newport: timber
Lanesville: paper
Middleton: steel
E. Newport: oil
Gulf Shores: steel
Lanesville: timber
Middleton: paper

2. If the first port the ship stops at is Newport, which one of the following is a complete and accurate list of the cargo which could be discharged there?

A. paper
B. paper, steel
C. steel, oil
D. timber, steel, oil
E. steel, paper, oil

3. If Lanesville is the first port at which the ship stops, which one of the following could be an accurate list of the cargoes, from the first unloaded to the last?

A. oil, paper, timber, steel
B. oil, timber, steel, paper
C. oil, steel, paper, timber
D. paper, steel, timber, oil
E. steel, oil, timber, paper

4. If the first two ports at which the ship stops are Gulf Shores and Lanesville, which one of the following must be true?

A. The ship carries the timber longer than it carries the paper.
B. The ship carries the steel longer than it carries the timber.
C. The ship carries the oil longer than it carries the paper.
D. The ship carries the timber longer than it carries the steel.
E. The ship carries the paper longer than it carries the oil.

5. If the ship is not carrying steel when it reaches Middleton, then which one of the following CANNOT be true?

A. The ship stops at Gulf Shores first.
B. The ship stops at Gulf Shores last.
C. The ship stops at Lanesville second.
D. The ship stops at Newport second.
E. The ship stops at Newport third.

Game 14 – Cargo Ship

1. D
2. C
3. B
4. A
5. C

This is a game where you end up with a grid, and often times you can only deduce some of the relationships, such as the place of the cargoes or the order of the cargoes. Intense diagrams will help you less in a game like this–you need to focus on each question and what you can deduce.

The first question is the usual testing of the rules, and each of the four incorrect answers breaks a rule. On Question 2, you can deduce that the ship stops at Gulf Shores last, and thus at Lanesville and Middleton second and third or vice versa. The timber can't be let off because it must stay on longer than the oil, and the paper has to go to either Gulf Shores or Lanesville. This leaves steel and oil, neither of which needs to stay on under the fourth rule, since this is a conditional rule, and the ship need not carry timber to Lanesville or beyond.

On Question 3, each of the four answer choices break a rule, and it is a matter of taking each rule and eliminating a choice in which the rule is broken. On Question 4, you have to deduce that the paper must be one of the first two cargoes, and the oil is before the timber–thus the timber stays on longer.

On Question 5, the ship can't stop at Lanesville second because both the timber and the steel need to be let off before Lanesville–remember that if the timber is still on when the ship reaches Lanesville, the steel is still on when the ship reaches Middleton. This means Lanesville must be the third or fourth stop.

Exactly six restaurants–Farley's, Karla's, Moe's, Pascal's, Robert's and Vicky's–are ranked from best to worst in a local survey. There are no ties. The ranking conforms to the following conditions:

Vicky's is ranked higher than Pascal's.
Karla's is ranked either fifth or second.
Robert's is ranked higher than Vicky's but lower than Moe's.

1. Which one of the following could be the ranking of the restaurants, from best to worst?

A. Moe's, Robert's, Vicky's, Pascal's, Karla's, Farley's
B. Moe's, Vicky's, Karla's, Robert's, Pascal's, Farley's
C. Robert's, Moe's, Vicky's, Karla's, Pascal's, Farley's
D. Farley's, Moe's, Pascal's, Karla's, Robert's, Vicky's
E. Moe's, Robert's, Karla's, Farley's, Vicky's, Pascal's

2. If Vicky's is the third highest ranked restaurant, then which one of the following is the highest that Farley's could be ranked?

A. first
B. second
C. third
D. fourth
E. sixth

3. Each one of the following could be the restaurant ranked third EXCEPT

A. Vicky's
B. Pascal's
C. Robert's
D. Moe's
E. Farley's

4. If Robert's is ranked fourth, which one of the following could be true?

A. Farley's is ranked second.
B. Moe's is ranked third.
C. Farley's is ranked fifth.
D. Pascal's is ranked fifth.
E. Vicky's is ranked sixth.

5. If Pascal's is not ranked sixth, then which one of the following must be true?

A. Karla's is ranked second.
B. Vicky's is ranked fourth.
C. Vicky's is ranked third.
D. Robert's is ranked second.
E. Farley's is ranked sixth.

6. Which restaurant could be ranked in any place, from highest to lowest?

A. Vicky's
B. Moe's
C. Robert's
D. Farley's
E. Pascal's

Game 15 – Restaurants

1. A
2. D
3. B
4. B
5. E
6. D

This is a straight game of putting things in order. The rules are combination of relational (rules 1 and 3) and absolute (rule 2), which means you may need to draw a little diagram around this anchor. The key to this game is making a chain out of the first and third rules, and to note Farley's as a "free element" which can go anywhere. Question 1 is the standard testing of the rules, and the four wrong answers each break a rule. The second question deals with "running out of room"–Vicky's needs to be behind Moe's and Robert's, so if it is in third place, Farley's can't be in front of it because there are not enough spaces. Question 3 is based on the combine inference that Pascal's must have three restaurants ranked higher than it (see rules 1 and 3).

On Question 4, the trick is you have to have three elements in front of Robert's. Those cannot be Vicky's or Pascal's under the rules, so they must be Farley's, Karla's and Moe's, and Karla's needs to go in spot 2 because of the second rule. This eliminates the four other answers. On the fifth question, you can deduce that Farley's must go behind Pascal's because nothing else can. The last question is based on relational rules–Farley's does not have any rules that apply to it, while everything else must be in front of or behind at least one other element.

A hedge fund has investments in exactly seven stocks–P, Q, R, U, V, W and X. In September, each stock's value either goes up or goes down. The following conditions apply in September:

If X goes up in value, P and W go down.
If R goes up in value, then U goes down.
Of Q and V, exactly one stock goes up.
Of R and W, exactly one stock goes down.
If U does not go up in value, neither does V.

1. Which one of the following could be a complete and accurate list of the stocks which go up in value in September?

A. U, Q, V
B. R, X, V
C. P, W, Q
D. U, W, Q, V
E. R, U, P, Q

2. What is the maximum number of stocks which could go up in value in September?

A. two
B. three
C. four
D. five
E. six

3. Which one of the following is a pair of stocks which both CANNOT go up in value in September?

A. R and V
B. U and Q
C. Q and X
D. W and P
E. P and Q

4. If Q and P both go up in value in September, then which one of the following could be true of the value of the stocks in September?

A. Both V and W go up in value.
B. Both W and X go down in value.
C. Both U and V go up in value.
D. Both R and W go down in value.
E. Both R and X go up in value.

5. If R goes up in value in September, which one of the following also could be true in September?

A. P goes up in value.
B. V goes up in value.
C. U goes up in value.
D. Q goes down in value.
E. W goes up in value.

Game 16 – Hedge Fund

1. C
2. C
3. A
4. B
5. A

Question 1 is the standard first testing of the rules–all of the four incorrect answers break a rule. Question 2 is a minimum and maximum list question, and you need to look for and draw inferences from rules that say two things can't both be together. For example, you can't have X along with P and W, and you can't have both Q and V. You'll find that if you take the sides with the larger elements, you'll get a maximum of four stocks going up–P, W, U, and either Q or V but not both.

Remember that on a question like Question 3; usually the answer will require an inference from the rules. (In other words, when it asks what cannot be true, it will usually not simply be an answer which directly breaks a rule, but rather which by way of inference will violate the rules) In Question 3, the inference is that if R goes up in value, U goes down, which means V cannot go up under the last rule.

On Question 4, you can deduce that X and V must both go down in value, since if X went up, P would go down, and between Q and V, one goes up in value. This eliminates every answer but B.

For Question 5, if R goes up, U and W must go down, which means that V must go down and Q must go up. This excludes four of the answers.

Exactly six hikers–Ichabod, Juanita, Keisha, Melvin, Olga and Pang–will each go on exactly one of three hiking trails–Spruce, Tamarack, or Waterfall. The hiking trail that each hiker takes is governed by the following conditions:

Keisha and Olga cannot go on the same hiking trail.

Juanita and Melvin must go on the same hiking trail.

Ichabod goes on a trail with at most one other hiker.

Pang goes on a hiking trail alone.

At most two people can go on the Waterfall trail.

1. Which one of the following could be a complete and accurate list of the hikers who take the Tamarack trail?

A. Juanita, Keisha, Melvin, Pang
B. Ichabod, Juanita, Melvin
C. Juanita, Keisha, Melvin, Olga
D. Juanita, Melvin
E. Juanita, Melvin, Olga

2. If Ichabod goes on the Spruce trail, which one of the following could be true?

A. Olga goes on the Waterfall trail.
B. Juanita goes on the Spruce trail.
C. Keisha goes on the Tamarack trail.
D. Pang goes on the Tamarack trail.
E. Melvin goes on the Spruce trail.

3. If Keisha goes on the same hiking trail as Melvin, which one of the following CANNOT be true?

A. Juanita goes on the Tamarack trail.
B. Olga goes on the Waterfall trail.
C. Melvin goes on the Spruce trail.
D. Keisha goes on the Waterfall trail.
E. Ichabod goes on the Waterfall trail.

4. If Olga goes on the Waterfall trail, which one of the following must be true?

A. Melvin goes on the Tamarack trail.
B. Ichabod goes on the Waterfall trail.
C. Pang goes on the Spruce trail.
D. Juanita goes on the Tamarack trail.
E. Keisha goes on the Spruce trail.

5. How many different groups of hikers could take the waterfall trail?

A. one
B. two
C. three
D. four
E. five

6. If Pang goes on the Spruce trail, which one of the following could be true?

(A) Juanita goes on the Waterfall trail.
(B) Ichabod goes on the Tamarack trail.
(C) Melvin goes on the Waterfall trail.
(D) Keisha goes on the Sprucen trail.
(E) Olga goes on the Waterfall trail.

Game 17 – Hikers

1. E
2. C
3. D
4. B
5. C
6. E

The first question is the typical rule testing inquiry, and four of the choices break a rule (D by way of inference to who is on the other trails). On Question 2, Melvin and Juanita have to be on the Tamarack trail because of the combination Ichabod–Waterfall and Keisha and Olga rules. On Question 3, Keisha, Melvin and Juanita are all together and there is no room for them on the Waterfall trail.

On Question 4, either Olga or Keisha has to be with Ichabod; the other with Melvin and Juanita, and there are only two spots on the Waterfall trail. Question 5 is intuitive and you need to deduce the combinations that work–either Olga or Keisha with Ichabod (two) or Pang alone (three). On Question 6, if Pang is on the Spruce trail, Juanita and Melvin must be on the Tamarack trail together with either Keisha or Olga, since there is no room for both Juanita and Melvin on the Waterfall trail without breaking the Ichabod or Keisha and Olga rules.

This is a good example of a "tight" game where the elements are arranged in such a way that placing one in a certain spot requires others to be placed in specific places because they can't be together, or can't be in a particular place.

Exactly six speakers–Felson, Garcia, Hoffman, Lundrigan, Rogers and Thibodeaux–will give a speech at a convention. The speeches will be given one at a time, and each speaker gives exactly one speech. The following conditions must apply:

Rogers's speech is neither immediately before nor immediately after Garcia's speech.

Felson's speech is given after Thibodeaux's speech but before Garcia's speech.

Lundrigan's speech is immediately before Thibodeaux's speech.

1. Which one of the following could be the order of the speeches, from first to last?

A. Lundrigan, Thibodeaux, Felson, Garcia, Hoffman, Rogers
B. Rogers, Felson, Lundrigan, Thibodeaux, Garcia, Hoffman
C. Rogers, Lundrigan, Thibodeaux, Hoffman, Garcia, Felson
D. Lundrigan, Thibodeaux, Felson, Garcia, Rogers, Hoffman
E. Thibodeaux, Lundrigan, Rogers, Hoffman, Felson, Garcia

2. If Garcia does not speak last, then which one of the following is a complete and accurate list of the times at which Hoffman could speak?

A. first, second, third, fourth, fifth, sixth
B. second, third, fourth, fifth, sixth
C. third, fourth, fifth, sixth
D. fourth, fifth, sixth
E. fifth, sixth

3. If Lundrigan speaks third, which one of the following could be true?

A. Thibodeaux does not speak immediately before Felson.
B. Rogers speaks after Thibodeaux.
C. Hoffman speaks immediately after Rogers.
D. Hoffman speaks fifth.
E. Garcia does not speak last.

4. If Garcia does not speak immediately after Felson, then which one of the following could be true?

A. Rogers speaks second.
B. Rogers speaks last.
C. Rogers speaks immediately after Hoffman.
D. Rogers speaks immediately after Thibodeaux.
E. Rogers speaks immediately before Thibodeaux.

5. Which pair of speakers could deliver their speeches first and second, respectively?

A. Thibodeaux, Rogers
B. Rogers, Thibodeaux
C. Rogers, Garcia
D. Hoffman, Rogers
E. Lundrigan, Rogers

Game 18 – Speakers

1. A
2. E
3. C
4. D
5. D

Question 1 is the usual testing of the rules, and answers B through E each break a rule. Question 2 is E– since Garcia cannot be last and only Rogers and Hoffman can go after Garcia, Hoffman must follow Garcia. Garcia can be fifth with Hoffman in sixth, or fourth, with Hoffman followed by Rogers. On Question 3, you can place all the elements within two variations, since three speakers must follow Lundrigan, and this excludes four answers.

The key to the fourth question is the Garcia and Rogers rule, which excludes all of the answers. There must be one or two elements–Hoffman or Hoffman and Rogers–in between Garcia and Felson, and this combined with the Rogers rule excludes answers A, B, C and E. On question 5, A and B and E are wrong because Thibodeaux must be directly after Lundrigan. C is wrong, among other reasons, because Rogers can't be next to Garcia.

This is a very "tight" game with few combinations. Like many "tight" games, the displacement of elements is important. Hopefully you were able to draw a chain of rules and deduce this; if not, keep trying.

Exactly seven oil explorers–Fideli, Goldin, Hindieh, Minshull, Reid, Silhan and Thorpe–will each explore exactly one of three fields–W, X and Y–for petroleum reserves. One of the fields will be explored by exactly three oil explorers, the other two by exactly two. The following conditions govern the exploration of the fields:

Reid and Silhan explore the same field as each other.

Thorpe does not explore the same field as either Fideli or Silhan.

If Minshull explores field X, Goldin explores field Y.

1. Which one of the following could be a complete and accurate list of the oil explorers who explore field W?

A. Minshull, Fideli, Silhan
B. Goldin, Fideli, Thorpe
C. Silhan, Reid, Fideli
D. Reid, Goldin, Fideli
E. Thorpe, Reid, Silhan

2. Each of the following could be the only explorers of field W EXCEPT

A. Silhan and Fideli
B. Reid and Silhan
C. Hindieh, Goldin and Minshull
D. Thorpe and Fideli
E. Reid and Minshull

3. If Goldin and two others explore field X, which one of the following must be true?

A. Minshull and Reid explore different fields.
B. Hindieh and Thorpe explore different fields.
C. Fideli and Minshull explore different fields.
D. Silhan explores field Y.
E. Fideli explores field W.

4. If Thorpe explores field Y with Hindieh and no others, which one of the following could be true?

A. Minshull explores field X.
B. Goldin and Reid explore field W.
C. Silhan and Goldin explore field X.
D. Fideli and Silhan explore field W.
E. Neither Silhan nor Fideli explores field X.

5. Which one of the following could be true?

A. Minshull, Goldin and Hindieh all explore a field together.
B. Silhan, Goldin and Fideli all explore a field together.
C. Thorpe explores a different field from both Hindieh and Goldin.
D. Goldin and Minshull explore field X.
E. Thorpe and Reid explore field Y.

6. If Thorpe explores field W with Goldin and Hindieh, then how many different groups of oil explorers could explore field X?

A. one
B. two
C. three
D. four
E. five

Game 19 – Oil Explorers

1. C
2. C
3. A
4. C
5. C
6. A

Games of groups like this are classics on the LSAT. Pay attention to space and relational deductions–rarely does a game like this tell you exactly what group an element is in.

Question 1 is the typical testing of the rules, and four of the answers break a rule. This is also the case with Question 2, which asks you which could be true–for example, answer C would force two incompatible elements together. On Question 3, you can deduce that since the other two fields have exactly two explorers and Minshull must be exploring one of them based on the last rule, Minshull is exploring a different field than the Silhan and Reid pair.

On Question 4, you can deduce that Minshull can't be exploring field X because Goldin isn't in field Y, so Minshull must be in field W. This inference excludes all of the incorrect answers. On Question 5, Thorpe doesn't need to be with Goldin or Hindieh–Thorpe can explore a field with Minshull and comport with the rules. All other answer choices break a rule. Finally, on Question 6 you can infer that Minshull must be exploring field Y because of the third rule, and since there are already three people exploring field W, this field has only one other explorer. Of Fideli, Silhan, and Reid–the three not placed–only Fideli can go in field W with Minshull, whereas Reid and Silhan must go in field X.

At a weather station, seven tropical storms–Q, R, S, T, U, V and W–are ranked according to intensity. There are no ties. The ranking of the storms is subject to the following restrictions:

U is not as intense as V.

V is ranked immediately above S.

There are exactly two storms ranked in between Q and W, regardless of whether Q comes before W or W comes before Q.

1. If W is ranked as the second most intense storm, which one of the following must be the third most intense storm?

A. U
B. V
C. T
D. S
E. R

2. If Q is ranked sixth, V could be ranked

A. second
B. third
C. fourth
D. fifth
E. seventh

3. What is the maximum number of storms which can be ranked between R and U?

A. 1
B. 2
C. 3
D. 4
E. 5

4. U CANNOT be ranked

A. second
B. third
C. fourth
D. fifth
E. sixth

5. If T is ranked first, what is the lowest that V can be ranked?

A. third
B. fourth
C. fifth
D. sixth
E. seventh

6. The ranking of S can be determined if it is known that W is ranked

A. first
B. third
C. fourth
D. fifth
E. sixth

Game 20 – Tropical Storms

1. B
2. C
3. E
4. A
5. B
6. D

For Question 1, if W is second, Q is fifth, and the block of V and S must go in third and fourth since it can't go in sixth and seventh because of rule 1. On Question 2, you can place W in third, which means the V and S block has only two places it can go. This limits V to spots 1 and 3.

The third question is E–five storms. Questions like these are a lot easier than they look–just try the largest number and if it doesn't work, you'll know the reason why and be able to go from there. Four is likewise solvable in this way–because U must be preceded by V which is directly next to S, U cannot be second.

On Question 5, while V has only S and U necessarily behind it, you can't put V in fifth because there is no room for the Q or W, since T is first. V and S must be moved one to the left to make room for a Q or W. Question 6 utilizes the same deduction as earlier–W in fifth puts Q in second–and S in fourth, since VS cannot be the last two based on rule 1.

This is a good example of a game with "blocks" such as the Q and W rule which must fit in. Visualize picking up that block and manipulating it in your head. The other elements must make way for the block. Generally, when an order game has a large block clue like this, most of the answers require a deduction based on the block clue.

Six different expert witnesses–Feinberg, Lopez, Marx, Pyong, Samson and Tetlow—are all asked to testify at a trial The determination of which experts testify is governed by the following conditions:

If Lopez testifies, Pyong does not.

If Samson does not testify, Lopez does.

If Marx testifies, both Pyong and Tetlow testify.

If Tetlow testifies, then either Feinberg or Samson or both testify.

At least one expert witness testifies.

1. Which of the following could be a complete and accurate list of the expert witnesses who testify?

   A. Marx, Pyong
   B. Pyong, Samson
   C. Marx, Pyong, Tetlow
   D. Marx, Samson, Tetlow
   E. Lopez, Marx, Pyong, Tetlow

2. If only one expert witness testifies, that expert witness could be

A. Feinberg
B. Marx
C. Pyong
D. Samson
E. Tetlow

3. Each of the following could be a complete and accurate list of the expert witnesses who testify EXCEPT

A. Lopez, Samson
B. Samson, Tetlow
C. Feinberg, Lopez, Tetlow
D. Marx, Pyong, Samson, Tetlow
E. Feinberg, Lopez, Marx, Pyong, Tetlow

4. If Tetlow does not testify, which one of the following must be true?

   A. Lopez testifies.
   B. At least two of the expert witnesses testify.
   C. At most three of the expert witnesses testify.
   D. Neither Marx nor Pyong testifies.
   E. Neither Marx nor Feinberg testifies.

5. If Tetlow testifies, which one of the following CANNOT be true?

   A. Feinberg does not testify.
   B. Samson does not testify.
   C. Pyong does not testify.
   D. Pyong testifies but Marx does not.
   E. Pyong testifies but Samson does not.

6. If the condition that Lopez testifies if Samson does not is suspended, but all other conditions remain in effect, then each of the following is a complete and accurate list of the witnesses who testify EXCEPT

   A. Pyong
   B. Feinberg, Pyong
   C. Marx, Pyong, Tetlow
   D. Feinberg, Pyong, Tetlow
   E. Feinberg, Marx, Pyong, Tetlow

Game 21 – Expert Witnesses

1. B
2. D
3. E
4. C
5. E
6. C

Question 1 is the standard testing of the rules, and four of the answers break one of the rules. On Question 2, the key is the inference from the second rule. This rule means that either Samson or Lopez, or both, must testify, since if one is not there, the other must be there. In Question 3, answer E breaks the first rule.

On Question 4, you can deduce that Marx cannot testify (since if Marx did, Tetlow would) and thus there can be up to three experts since Lopez and Pyong can't both testify. On Question 5, Pyong and Lopez can't both testify, so if Pyong testifies, Samson has to. The final question is a matter of seeing which response breaks a rule. C breaks the rule about Tetlow, Feinberg and Samson.

A refinery has four different processing units–F, H, P and W–and each unit has both an upper outflow and a lower outflow. Some of the outflows are directed to a gasoline tank, while others are not. The following conditions apply:

Exactly three of the outflows lead to the gasoline tank.

The lower outflow of both W and H do not flow to the gasoline tank.

If one of the outflows of a unit leads to the gasoline tank, the other one does not.

If the lower outflow of P does not lead to the gasoline tank, neither does the upper outflow of F.

1. If neither outflow of F leads to the gasoline tank, which one of the following could be two outflows that lead to the gasoline tank?

A. the lower outflow of W and the upper outflow of H
B. the upper outflow of W and the lower outflow of P
C. the upper outflow of W and the lower outflow of H
D. the lower outflow of H and the upper outflow of P
E. the lower outflow of H and the upper outflow of W

2. Which of the following must be false?

A. The upper outflows of both F and P lead to the gasoline tank.
B. The upper outflows of both F and H lead to the gasoline tank.
C. The upper outflows of both P and W lead to the gasoline tank.
D. The lower outflows of both F and P lead to the gasoline tank.
E. The upper outflows of both F and W lead to the gasoline tank.

3. If the lower outflow of P does not lead to the gasoline tank, each of the following could also be an outflow that leads to the gasoline tank EXCEPT

A. the upper outflow of F
B. the lower outflow of F
C. the upper outflow of H
D. the upper outflow of P
E. the upper outflow of W

4. If the upper outflow of F leads to the gasoline tank, which one of the following could be true?

A. The lower outflow of F leads to the gasoline tank.
B. The upper outflow of H leads to the gasoline tank.
C. The lower outflow of P does not lead to the gasoline tank.
D. The upper outflow of P leads to the gasoline tank.
E. The lower outflow of W leads to the gasoline tank.

5. If the upper outflow of H does not lead to the gasoline tank, which one of the following is a pair of outflows that also could not lead to the gasoline tank?

A. upper W and lower P
B. upper W and upper P
C. lower F and lower P
D. upper F and upper P
E. upper F and lower F

Game 22 – Refinery

1. B
2. A
3. A
4. B
5. D

This is a game of groups–of slots over which a limited number of elements will be allocated.

On Question 1, you can deduce that the three outflows to the gasoline tank must be spread out between H, P and W. This eliminates four answer choices, combined with the fourth rule and its implications.

Question 2 is a matter of deducing that if the upper outflow of P leads to the gasoline tank, the lower does not–which means the upper outflow of F can't either. Likewise, you get to the answer of Question 3 from the "if then" rule. If the lower P outflow doesn't lead to the gasoline tank, neither does answer A.

Question 4 is (mostly) based on the inference that if the upper F outflow leads to the gasoline tank, so does the lower outflow of P. (This is the contrapositive of the "if, then" rule) With this and other deductions you can exclude the four wrongs answers.

For Question 5, you can deduce that the other three units must each have an outflow leading to the gasoline tank. For W, this is the upper outflow (because the lower one can't be under the rules), which eliminates two answers. The other two are based on the rules that no two outflows of the same unit can lead to the gasoline tank rule, and on the "if then" rule about P and F.

Game 23 – Job Applicants

Out of nine recent graduates, a bank will interview exactly five for a managerial position. Three of the graduates, Lynn, Matambo and Ortiz, are from Halstead University, three are from Ionia University, Peavey, Qaffar and Riley, and three are from Jupiter College, Twombley, Ulrich and Valentin. The selection of the interviewees is governed by the following conditions:

At least one recent graduate of each institution is interviewed.

If Peavey is interviewed, Ortiz is interviewed.

If Ulrich is interviewed, Valentin is interviewed.

If Qaffar is interviewed, neither Riley nor Peavey is interviewed.

If at least two Halstead graduates are interviewed, at most one Jupiter graduate is interviewed.

1. Which one of the following could be a complete and accurate list of the interviewees?

A. Riley, Peavey, Ortiz, Ulrich, Valentin
B. Lynn, Peavey, Ulrich, Valentin, Matambo
C. Matambo, Peavey, Riley, Ortiz, Ulrich
D. Lynn, Qaffar, Peavey, Ulrich, Valentin
E. Lynn, Qaffar, Ortiz, Peavey, Matambo

2. If Valentin is not interviewed, which one of the following must be true?

A. Peavey is interviewed.
B. Qaffar is not interviewed.
C. Twombley is interviewed.
D. Matambo is not interviewed.
E. Ortiz is interviewed.

3. If all three recent graduates of Halstead are interviewed, each of the following could be true EXCEPT

A. Qaffar is interviewed.
B. Twombley is interviewed.
C. Peavey is interviewed.
D. Valentin is interviewed.
E. Ulrich is interviewed.

4. Which one of the following must be false?

A. Neither Valentin nor Twombley is interviewed.
B. Neither Qaffar nor Peavey is interviewed.
C. Neither Matambo nor Ortiz is interviewed.
D. Neither Ortiz or Qaffar is interviewed.
E. Neither Peavey nor Qaffar is interviewed.

5. Suppose the condition is added that if Valentin is interviewed, Ortiz is not. If all other conditions hold, which one of the following cannot be true?

A. Qaffar and Valentin are both interviewed.
B. Neither Qaffar nor Peavey are interviewed.
C. Ulrich is interviewed but Riley and Qaffar are not.
D. Peavey is interviewed but Ulrich and Riley are not.
E. Lynn is interviewed but Riley and Twombley are not.

Game 23 – Job Applicants

1. A
2. C
3. E
4. A
5. C

This is a game of sorting elements with qualities, and it requires paying attention to both the elements themselves as well as the quality of each element.

Question 1 tests the rules, and all four questions break a rule. On Question 2, you can deduce that Ulrich is not interviewed, and thus, Twombley–the only other Jupiter graduate–must be.

On Question 3, If Ulrich is interviewed, Valentin must also be–meaning there is no room in the group for an Ionia graduate. For Question 4, if Valentin is not interviewed, Ulrich cannot be either; thus, if Valentin isn't interviewed, Twombley is. Finally, for Question 5, if Ulrich is interviewed, it means Valentin will be but Ortiz will not be. This combined with the lack of Ionia graduates due to means that this answer choice breaks the first rule.

A crew of painters will paint exactly six buildings– M, N, O, Q, R and S. The buildings will be painted one at a time, and each building will be painted exactly once. Three of the buildings will be painted on Monday; the other three will be painted on Tuesday. The following conditions apply:

N is painted before M.
R and O are both painted before S.
Both Q and R are painted after M.

1. Which one of the following could be true?

A. M is the third building painted on Monday, and R and O are the first and second buildings painted on Tuesday, respectively.
B. N is the first building painted on Monday, and R and Q are the second and third buildings painted on Tuesday, respectively.
C. Q is the third building painted on Monday, and R and S are the first and second buildings painted on Tuesday, respectively.
D. Q is the third building painted on Tuesday, and N and R are the first and third buildings painted on Monday, respectively.
E. S is the third building painted on Tuesday, and O and R are the second and third buildings painted on Monday, respectively.

2. If R is the second building painted on Tuesday, which one of the following must be true?

A. N is the first building painted on Monday.
B. M is the second building painted on Monday.
C. O is the third building painted on Monday.
D. Q the first building painted on Tuesday.
E. S is the third building painted on Tuesday.

3. Which one of the following CANNOT be true?

A. M is painted after S.
B. N is painted after O.
C. R is painted after Q.
D. O is painted after M.
E. Q is painted after R.

4. If Q is the third building painted on Monday, then which one of the following CANNOT be true?

A. R is painted immediately before S.
B. R is painted immediately before O.
C. O is painted immediately before M.
D. Q is painted immediately before R.
E. O is painted immediately before S.

5. Of the three different places on each day, how many could be the place in order that O is painted?

A. two
B. three
C. four
D. five
E. six

6. If O is painted after R, which one of the following must be true?

A. M is painted immediately after N.
B. R is painted immediately after Q.
C. S is painted immediately after O.
D. Q is painted immediately after M.
E. R is painted immediately after M.

Game 24 – Painters

1. D
2. E
3. A
4. C
5. D
6. A

Don't let the business of days fool you on this question–it's a matter of putting the elements in order. First, second, and third on the second day are the same as fourth, fifth and sixth. One thing that may help is using brackets or spaces to designate that the first three will be a day as well as the second three.

The first question is the standard rule testing question, and all the incorrect answers violate a rule. Question 2 is based on the deduction that S must be after R, and thus last (third on Tuesday). Question 3 is A because M must be before R, which is before S.

On Question 4, because N and M must be ahead of O, they must be first and second on Monday. On Question 5, you can deduce that O can be in five spots because it only must be ahead of S. (Hopefully you are developing the skill of seeing which rules will limit an element's spots) On the sixth question, Q, R, and S all must be after M, so the only that can come between N and M is O–meaning they are adjacent if O is elsewhere.

At a wedding reception, there are exactly eight large tables—F, G, H, I, J, L M and N. Each table is seated according to the following conditions:

Exactly four tables are reserved for the bride's family; the other four are reserved for the groom's family.

The family seated at table J is also seated at table M.

Between table F and table I, one table is reserved for each spouse's family.

The groom's family is sitting at table G.

If the bride's family is sitting at table L, the groom's family is sitting at table M.

1. Which one of the following could be the four tables reserved for the bride's family?

A. F, H, I and L
B. F, H, J and L
C. G, I, J and M
D. H, I, J and M
E. H, J, L and M

2. Which one of the following is a complete and accurate list of the tables any one of which could be for the bride's family?

A. H, I L, M and N.
B. F, H, J, L M and N.
C. F, H, I, J, L M and N.
D. G, H, I, J, L M and N.
E. F, G, H, I, J, L M and N.

3. If N is reserved for members of the same family as L, which one of the following pairs of tables must be reserved for members of different families?

A. G and L
B. M and H
C. J and I
D. F and G
E. H and G

4. If the bride's family is seated at table J, then the groom's family must be seated at table

A. F
B. I
C. N
D. H
E. L

5. If the groom's family is sitting at table J, which one of the following is a pair of tables the groom's family could also sit at?

A. F and I
B. F and M
C. H and I
D. H and L
E. L and M

6. Which one of the following statements must be true?

A. If the groom's family is seated at table I, the bride's family is seated at table H.
B. If the groom's family is seated at table J, the bride's family is seated at table F.
C. If the groom's family is seated at table J, the bride's family is seated at table H.
D. If the groom's family is seated at table L, the groom's family is also seated at table H.
E. If the groom's family is seated at table H, the groom's family is also seated at table M.

Game 25 – Wedding Reception

1. D
2. C
3. E
4. E
5. B
6. C

On Question 1, the four incorrect answers each break one of the rules. Question 2 requires that you make the inference that D and E are wrong because of the second to last rule, but everything else works.

For Question 3, if N and L are reserved for the same family, no matter which family this is, H will be placed with the bride's family, since there is no room for H if N and L are placed with the groom's family given that G and either R or I takes up a space. Since G is always reserved for the groom's family, answer E is impossible.

The key to Question 4 is the contrapositive of the last rule. J is reserved for the bride's family; thus, so is M–which means L is reserved for the groom's family (because if L was reserved for the bride's family, M would be reserved for the groom's). This leads you to answer E.

Question 5 is a matter of plugging out the inferences–if the groom's family is at table J, then they are also at table M and in addition, they must be at G and either F or I under the rules. This excludes four answers.

On Question 6, if the groom's family is a table J, they must also be seated at table M–and since the bride's family must also be at table G and either table F or I under the rules, the bride's family must be at the other four tables.

A programmer will install eight software applications–L, M, N, O, P, Q, R and S–one at a time. Each application is installed only once. The following conditions apply:

S is installed before N.
O is installed after R but before N.
L is installed after both P and R.
O is installed after both Q and M.

1. If N is the seventh software application to be installed, which one of the following CANNOT be the fifth software application to be installed?

A. Q
B. R
C. O
D. L
E. P

2. Which one of the following could be true?

A. L is installed first.
B. O is installed second.
C. N is installed sixth.
D. M is installed seventh.
E. S is installed eighth.

3. If L is installed third, which one of the following could be true?

A. S is installed second.
B. O is installed fifth.
C. R is installed fourth.
D. N is installed fourth.
E. P is installed fifth.

4. If R is installed fifth, which one of the following could be true?

A. S is installed after O.
B. S is installed after L.
C. M is installed after L.
D. N is installed before L.
E. N is installed before P.

5. If P is installed before both Q and R, which one of the following could be true?

A. L is installed fifth.
B. O is installed fourth.
C. N is installed sixth.
D. M is installed eighth.
E. S is installed eighth.

6. Which software application CANNOT be installed fourth?

A. S
B. N
C. L
D. P
E. R

Game 26 – Software Programmer

1. D
2. C
3. A
4. D
5. A
6. B

On this straight game of putting things in order, all the rules are relational, and any diagram you make is going to be where the elements are relative to each other. For instance, Question 1 is D because if N is seventh, L must be eighth–nothing else can come after it.

On Question 2, four of the answer choices break a rule, as you should be able to see from a diagram (if not try again to symbolize all the rules together). For Question 3, you can deduce that S must be first or second, and with this or otherwise, eliminate four of the answers. (For example, answer B is wrong because O must have N and S in front of it in addition to M, R and Q)

The information in Question 4 places L, N, and O in the last three places, since all of these elements must follow R. This makes D possible, if not necessarily true. Question 5 allows you to deduce that P must follow O and N, since it precedes elements that come before them. This eliminates four of the answers. Finally, Question 6 is B because N must be preceded by O, which must be preceded by M, R and Q.

An appliance company manufactures exactly seven types of refrigerator–K, L, M, Q, R, S and T. The refrigerators are each stored at exactly one of three company warehouses–X, Y and Z. The storage of the refrigerators is consistent with the following:

M is stored in a different warehouse than Q.
Y has at most two types of refrigerator in it.
R is stored in a different warehouse from K.
L is stored in the same warehouse as Q.
If K is stored in either X or Z, S is stored in the same warehouse as K.

1. Which one of the following CANNOT be true?

A. M and R are stored in warehouse Z.
B. K and L are stored in warehouse Y.
C. K and T are stored in warehouse X.
D. K and S are stored in warehouse Y.
E. R and Q are stored in warehouse Z.

2. If there are no refrigerators stored in warehouse Z, which one of the following must be true?

A. T is stored in warehouse Y.
B. S is stored in warehouse X.
C. R is stored in warehouse Y.
D. Q is stored in warehouse Y.
E. K is stored in warehouse X.

3. Each of the following could be true EXCEPT

A. Three types of refrigerator are stored in warehouse X.
B. Four types of refrigerator are stored in warehouse Z.
C. M and K are stored in warehouse Y.
D. M and L are stored in warehouse Z.
E. S and Q are stored in warehouse X.

4. If S and M are the only refrigerators stored in one of the warehouses, which one of the following must be true?

A. R is stored in warehouse Z.
B. K is stored in warehouse Y.
C. T is stored in warehouse Y.
D. L is stored in warehouse Z.
E. Q is stored in warehouse Z.

5. If K is stored in the same warehouse that Q is stored in, which one of the following is a complete and accurate list of the types of refrigerator, any one of which could be stored in the same warehouse as M?

A. R
B. T, S
C. R, T
D. T
E. R, T, S

6. If R is stored in warehouse Y, which one of the following is a pair of refrigerators that CANNOT be stored in the same warehouse?

A. L and T
B. L and K
C. Q and T
D. S and T
E. S and R

Game 27 – Refrigerators

1. B
2. B
3. D
4. A
5. C
6. E

This is a standard LSAT group game. On games like this, you need to get used to not being able to draw a diagram and merely having to deduce on the basis of what you can infer in each question.

On Question 1, L must be with Q, and there is not enough room in Y for three elements if L and Q are placed with each other. On Question 2, the two rules that state that both M and Q and R and K cannot be together means that among these two pairs, one of each must be stored in Y, the other in Z. Since there is not enough room left to put S in Y, we know S is stored in warehouse X.

Question 3 is based on the inference that M cannot be with Q but must be with L–therefore, L cannot be with M. On Question 4, you can deduce that K is in warehouse Y because if K were in X or Z, S would be as well.

On Question 5, S has to be in the same warehouse as K (since K is not in Y), and L has to be in the same warehouse as Q. Everything else is fair game. Remember to always try and see these limitations or lack thereof. On Question 6, if R is in warehouse Y, K is in X or Z–and thus S cannot be with R, since it must be with K under the last rule.

Exactly six books–L, M, N, Q, R and S–are placed on a shelf in a single file line from left to right. The placement of the books must conform to the following conditions:

R has exactly two books to the left of it.
S is to the left of M, but to the right of L.
L and N are not shelved next to each other.

1. Which one of the following could be the order of the books on the shelf, from left to right?

A. Q, L, S, R, M, Q
B. L, N, R, S, Q, M
C. S, Q, R, L, M, N
D. Q, S, R, L, M, N
E. Q, L, R, S, M, N

2. Each of the following could be true EXCEPT

A. M has exactly one book to the left of it.
B. N has exactly one book to the left of it.
C. Q has exactly one book to the left of it.
D. S has exactly one book to the right of it.
E. S has exactly two books to the right of it.

3. If M is not the furthest book to the right, which one of the following is a complete and accurate list of numbers of books that could be to the left of N?

A. one, three, four
B. one, three, five
C. one, four, five
D. three, four
E. three, four, five

4. Which one of the following is a pair of books that cannot be shelved next to each other?

A. S and L
B. S and Q
C. L and Q
D. Q and M
E. Q and N

5. If L is the second book from the left, then in how many different arrangements can the books be shelved?

A. one
B. two
C. three
D. four
E. five

Game 28 – Books

1. E
2. A
3. E
4. B
5. C

Question 1 is the typical first question that tests the rules. Answers A through D all break a rule. Question 2 is based on the inference that both S and L must be to the left of M. The answer to Question 3 flows from the L and N rule–if M isn't last, either Q or N is last. If Q is last, N can't be first or second because it would be next to L. This means N is in fourth, fifth, or sixth–with three, four, or five books to the left.

On Question 4, if S is next to Q, then S must be fourth and Q fifth–leaving L stuck next to N in violation of the rules. Question 5 stems from the deduction that Q must be furthest to the left (since N cannot be under the rules), therefore, three different arrangements of books can be placed afterward.

For her birthday, Angelica receives exactly four presents, which she will open one at a time. The presents are a gift certificate, a hat, show tickets and a portrait. Each is from a different one of Angelica's friends–Juliette, Margot, Naveen and Tania. The following conditions apply:

Margot's present is not opened first.

Juliette's present is opened immediately after the show tickets.

The hat is opened before the gift certificate.

The portrait is not the last present to be opened.

1. Which one of the following could be a complete and accurate list of the friends' presents in the order Angelica opens them?

A. Tania: the portrait; Juliette: the hat; Naveen: the gift certificate; Margot: the show tickets
B. Margot: the hat; Naveen: the show tickets; Juliette: the portrait; Tania: the gift certificate
C. Naveen: the show tickets; Juliette: the hat; Margot: the portrait; Tania: the gift certificate
D. Tania: the show tickets; Juliette: the gift certificate; Margot: the portrait; Naveen: the hat
E. Naveen: the hat; Margot: the show tickets; Juliette: the gift certificate; Tania: the portrait

2. If Margot gives Angelica the hat, which one of the following could be true?

A. Tania's present is opened second.
B. Juliette gives Angelica the portrait.
C. Angelica opens the hat first.
D. Angelica opens the portrait third.
E. Angelica opens Naveen's present second.

3. Which one of the following could be true?

A. Angelica opens the show tickets fourth.
B. Angelica opens the hat fourth.
C. Angelica opens Tania's present third.
D. Angelica opens Juliette's present first.
E. Angelica opens the gift certificate first.

4. If the show tickets are opened immediately before the gift certificate, which one of the following could be true?

A. Tania gives Angelica the hat.
B. Juliette gives Angelica the hat.
C. Juliette gives Angelica the portrait.
D. Margot's present is opened before the portrait.
E. Naveen's present is opened after the show tickets.

5. Which one of the following CANNOT be true?

A. Neither Naveen nor Tania gives Angelica the hat.
B. Neither Juliette nor Margot gives Angelica the portrait.
C. The portrait is opened immediately after Juliette's present.
D. Angelica opens a portrait from Tania second.
E. Angelica opens a gift certificate from Margot third.

6. Suppose the condition that Juliette's present is opened after the show tickets is suspended and replaced with the condition that Juliette's present is opened immediately before the gift certificate and immediately after the hat. If all other conditions hold, then regardless of from whom each is from, how many different orders are there in which Angelica could open the presents?

A. 1
B. 2
C. 3
D. 4
E. 5

Game 29 – Angelica's Birthday

1. C
2. B
3. C
4. A
5. E
6. C

This is a game of both elements and qualities. On games like this, often the order will be based on both a quality and the element, and it can be useful to find a way to symbolize both.

Question 1 is a testing of the rules, and all of the incorrect choices directly break a rule. On Question 2, you can deduce that because Juliette's present immediately follows the tickets and because Margot's gift must be followed by the gift certificate, Margot must give the hat third, and Juliette must give the portrait second, or alternatively, Margot must give the hat second with Juliette giving the gift certificate last.

Question 3 is a matter of determining that four of the answers break a rule (namely the hat and gift certificate rule, and the Juliette rule). On Question 4, you can deduce that, because of the hat and gift certificate rule as well as the Juliette and show tickets rule, Juliette must be fourth and must give Margot the gift certificate–the portrait cannot be last, and the hat must precede the tickets. This excludes the four incorrect answers.

On Question 5, if Angelica opens a gift certificate from Margot third, Juliette's present will have to be second and have to be the hat, since Juliette's present follows the show tickets. This places the portrait in last and violates the rules.

Finally, Question 6 is C. You can deduce that the hat, Juliette's present, and gift certificate block must be first, second and third, or second, third and fourth. These leads you two three different possibilities: two if the hat is second (since either the show tickets or the portrait can be first) and one if the hat is first (since the portrait cannot be last).

Game 30 – Janet's Trip to Town

On a trip to town, Janet will stop at exactly six places–the florist, the grocery store, the hairstylist, the mechanic, the pharmacy and the savings & loan–before returning home. Janet stops at the places one at a time and does not stop at any place more than once. The order in which Janet makes the stops must conform to the following conditions:

Janet stops at the florist either first or third.

Janet stops at the savings & loan and then stops at exactly three places before stopping at the grocery store.

Janet stops at the mechanic after the florist but before the grocery store.

1. If Janet stops at the florist first, which one of the following could be true?

A. Janet stops at the pharmacy second.
B. Janet stops at the savings & loan third.
C. Janet stops at the mechanic fourth.
D. Janet stops at the grocery store fifth.
E. Janet stops at the hairstylist sixth.

2. Which one of the following is a place where Janet could stop either third or sixth?

A. the savings & loan
B. the grocery store
C. the hairstylist
D. the mechanic
E. the florist

3. If Janet stops at the pharmacy first, each of the following must be true EXCEPT

A. Janet stops at the savings & loan second.
B. Janet stops at the florist third.
C. Janet stops at the grocery store sixth.
D. Janet stops at the hairstylist before she stops at the grocery store.
E. Janet stops at the mechanic before she stops at the hairstylist.

4. Which one of the following is a complete and accurate list of places Janet could stop at second?

A. the hairstylist
B. the savings & loan
C. the savings & loan, the hairstylist, the pharmacy
D. the hairstylist, the mechanic, the savings & loan
E. the hairstylist, the mechanic, the pharmacy, the savings & loan

5. If Janet stops at the florist third, which one of the following CANNOT be true?

A. Janet stops at the hairstylist immediately before the mechanic and sometime after the pharmacy.
B. Janet stops at the hairstylist immediately before the grocery store and sometime after the pharmacy.
C. Janet stops at the mechanic immediately before the grocery store and sometime after the hairstylist.
D. Janet stops at the pharmacy immediately before the hairstylist and sometime after the mechanic.
E. Janet stops at the mechanic immediately before the pharmacy and sometime after the hairstylist.

6. If Janet stops at the pharmacy immediately after she stops at the florist, she must stop at the hairstylist

A. first
B. second
C. third
D. fourth
E. fifth

Game 30 – Janet's Trip to Town

1. C
2. C
3. E
4. C
5. D
6. A

Question 1 deals with inferences from all the rules–Janet must stop at the savings & loan second and the grocery store last based on rule 2 and the presence of the florist in spot 1. This excludes the four incorrect answers. Likewise, Question 2 is based on all three rules, which by their terms exclude the elements in answers A, B, D and E from spot 3 or spot 6.

On Question 3 you can deduce that the florist must be third, so the savings & loan is second and the grocery store is sixth. This gets you to answer E, since it is the only thing not deduced. Question 4 is a matter of deducing from a diagram or previous work, or trying out elements (for example, pharmacy) to eliminate answers.

For Question 5, there can only be one or two spaces between the florist and the grocery store–meaning that if the pharmacy and hairstylist are the stops, the mechanic must come earlier, in violation of the third rule.

On Question 6, if the pharmacy immediately follows the florist, then the mechanic must immediately follow the pharmacy and the grocery store must be sixth while the hairstylist is first.

This is a "tight" game and sometimes when there are only a few possible combinations it can be useful to plot them all out, for example, with the savings & loan being either first or second, the florist being only first or third.

A pet rescue has exactly six cats available for adoption. Each is one of three breeds–Manx, Persian or Tabby–and is either male or female. The display must conform to the following conditions:

There are at most two Persian cats.
There is at least one female Manx cat.
There are no male Tabby cats.
If there are two or more female cats, then at least one of those is a Persian.
At least one cat is male.

1. Which could be a complete and accurate list of the cats available for adoption?

A. four female Manx cats, two male Tabby cats
B. three male Persian cats, one female Tabby cat, two female Manx cats
C. six female Manx cats
D. three male Manx cats, one female Manx cat, one female Tabby cat, one female Persian cat
E. three female Manx cats, two male Persian cats, one male Tabby cat

2. Which one of the following could be true?

A. Exactly four Tabby cats and two Persian cats are available for rescue.
B. Exactly four Tabby cats and two Manx cats are available for rescue.
C. Only Tabby cats are available for rescue.
D. Only Persian cats are available for rescue.
E. Only Manx cats are available for rescue.

3. Each of the following could be a complete and accurate list of the cats available for rescue EXCEPT

A. two female Persian cats, two male Manx cats, two female Manx cats
B. one female Persian cat, three male Manx cats, one female Tabby cat, one female Manx cat
C. one male Persian cat, two male Manx cats, two female Tabby cats, one female Manx cat
D. one male Persian cat, one female Persian cat, three female Tabby cats, one female Manx cat
E. five male Manx cats, one female Manx cat

4. If there is exactly one Persian cat and it is a male, which one of the following could be a complete and accurate list of the Manx cats available for rescue?

A. three females, two males
B. two females, two males
C. three males
D. four males, one female
E. five males

5. If there is only one Manx cat available for rescue, which one of the following must be true?

A. there is exactly one Persian cat available for rescue
B. there are exactly two Persian cats available for rescue
C. there are exactly three Tabby cats available for rescue
D. there are exactly four Tabby cats available for rescue
E. there are exactly five Tabby cats available for rescue

6. If no Tabby cats are available for rescue, what are the minimum and maximum numbers of female cats that can be available for rescue, respectively?

A. 1, 4
B. 1, 5
C. 1, 6
D. 2, 5
E. 2, 6

Game 31 – Pet Rescue

1. D
2. E
3. C
4. D
5. B
6. B

Question 1 is the standard rule testing question, and the four wrong answers all break a rule. Likewise, four of the answers on the second question break a rule; for instance, B doesn't work because if you have four Tabby cats, you have more than two females, and you need to have a Persian.

Question 3 is a matter of seeing which answer breaks a rule–you get to the answer by noticing that C has two female cats but no female Persian cat.

For Question 4, the important inference is that because there is no female Persian cat, there must be only one female cat, and since you can't have male Tabby cats, you need four or five male Manx cats–and you must have one female Manx cat, excluding the latter possibility.

On Question 5, there must be two Persian cats because there are more than two female cats (since all the Tabby cats and the Manx are female under the Manx cat rule). This means there must be a female Persian cat as well as a male, since there must be one male cat. The answer to Question 6 flows naturally from the rules–only one male is required to be available, and nothing else restricts the presence of females.

The final exams for six medical school courses– Gerontology, Histology, Neurology, Organic Chemistry, Pediatrics and Toxicology–will each be held in a different one of exactly six lecture halls– 101, 102, 103, 104, 105 and 106. The assignment of the exams to the lecture halls must satisfy the following conditions:

The Gerontology exam room is one number lower than the Organic Chemistry exam room.

The Pediatrics exam is in either room 101 or room 106.

The Histology exam is in a lower–numbered lecture hall than the Toxicology exam.

If the Gerontology exam is not in room 103, then the Neurology exam is.

1. Which one of the following could be an accurate assignment of exams to lecture halls?

A. 101: Pediatrics, 102: Neurology, 103: Histology, 104: Gerontology, 105: Organic Chemistry, 106: Toxicology
B. 101: Toxicology, 102: Histology, 103: Neurology, 104: Gerontology, 105: Organic Chemistry, 106: Pediatrics
C. 101: Organic Chemistry, 102: Gerontology, 103: Neurology, 104: Histology, 105: Toxicology, 106: Pediatrics
D. 101: Neurology, 102: Histology, 103: Gerontology, 104: Organic Chemistry, 105: Toxicology, 106: Pediatrics
E. 101: Histology, 102: Pediatrics, 103: Gerontology, 104: Organic Chemistry, 105: Neurology, 106: Toxicology

2. If the Gerontology exam is held in a lecture hall immediately to the right of the hall where the Neurology exam is held, which one of the following could be true?

A. Histology is in room 105.
B. Organic Chemistry is in room 106.
C. Neurology is in room 101.
D. Organic Chemistry is in room 102.
E. Neurology is in room 104.

3. If the Toxicology exam is held in room 102, then which one of the following must be true of the exams?

A. Gerontology is in room 101.
B. Neurology is in room 103.
C. Organic Chemistry is in room 104.
D. Organic Chemistry is in room 105.
E. Pediatrics is in room 106.

4. Which one of the following CANNOT be true?

A. The Histology exam is held in a higher numbered classroom than the Gerontology exam.
B. The Neurology exam is held in a higher numbered classroom than the Pediatrics exam.
C. The Organic Chemistry and Histology exams are held in adjacent rooms.
D. The Pediatrics and Toxicology exams are held in adjacent rooms.
E. The Pediatrics and Gerontology exams are held in adjacent rooms.

5. If both the Gerontology exam and the Histology exam are held in odd numbered classrooms, then each of the following could be true EXCEPT

A. The Neurology exam is held in room 102.
B. The Neurology exam is held in room 104.
C. The Organic Chemistry exam is in room 104.
D. The Toxicology exam is held in room 106.
E. The Neurology exam is held in room 106.

6. The exact room of each exam can be completely determined if it is known that

A. the Toxicology exam is in a room with a lower number than either the Gerontology or Organic Chemistry exams
B. the Organic Chemistry exam is in a room with a lower number than either the Histology or Pediatrics exams
C. the Gerontology exam is in a room with a lower number than either the Neurology or Pediatrics exams
D. the Histology exam is in a room with a lower number than the Gerontology exam
E. the Toxicology exam is in a room with a lower number than the Gerontology exam

Game 32 – Med School Exams

1. D
2. A
3. E
4. E
5. E
6. B

Question 1 is the standard rule testing question that typically begins a game. Answers A, B, C and E all break a rule. On Question 2 you can deduce a "block" of Neurology, Gerontology and Organic Chemistry that must begin in either 102 or 103, which excludes the four wrong answers. For Question 3, you can deduce that the Histology exam is first based on the implicated rule, and therefore the Pediatrics exam must be sixth, based on its rule.

Question 4 is E because Gerontology is to the immediate left of Organic Chemistry, the only way it can be next to Pediatrics is if Pediatrics is in 101 and Gerontology is in 102. This would break the rule that Neurology or Gerontology must be in 103.

On Question 5, if Neurology is in Room 106, Pediatrics must be in room 101. Thus Histology cannot go anywhere–not in 101 because Pediatrics is there, not in 103 because of Rule 4, and not in 105 because Toxicology must follow it.

The final question is matter of looking at each and drawing out the inferences–plug them out meticulously if you're struggling. B is the correct answer because if this is the case, Gerontology must be first and Neurology must be third. (In choice C, Gerontology could be either first or third)

In games that involve order with both relational clues as well as absolute ones, often times it's bested to "anchor" any relational deductions. For example, you might be able to deduce the relation of certain objects and the exact position of one. In a case like this, you can put a little subscript object or some other denotation. (i.e., X is before Y, which is before Z–and Y is fourth)As always, do not get hung up on trying to figure out what exact place the elements are in.

An exterminator will visit three different apartment complexes–Glens, Islandview and Willows–to spray for pests. At each apartment complex, the exterminator will spray for up to three pests–fleas, roaches, or termites. The exterminator's visits are governed by the following conditions:

If Glens is sprayed for fleas, Willows is not.

If Islandview is sprayed for roaches, Glens is not.

If Willows is sprayed for roaches, Islandview is sprayed for termites.

If at least two apartment complexes are sprayed for a particular pest, the third one is as well.

Islandview is sprayed for fleas.

1. Which one of the following could be true?

A. Both Willows and Islandview are sprayed for roaches.
B. Both Willows and Islandview are sprayed for fleas.
C. Glens is sprayed for both fleas and termites.
D. Willows is sprayed for both roaches and termites.
E. Willows is sprayed for both fleas and termites.

2. If Glens is sprayed for roaches, which one of the following could be true?

A. Willows is sprayed for roaches.
B. Willows is sprayed for fleas.
C. Glens is sprayed for termites.
D. Glens is sprayed for fleas.
E. Islandview is sprayed for roaches.

3. Which one of the following must be true?

A. If Willows is sprayed for roaches, Islandview is not.
B. If Willows is sprayed for termites, Glens is not.
C. If Islandview is sprayed for termites, so is Willows.
D. If Glens is sprayed for fleas, so is Willows.
E. If Glens is sprayed for termites, so is Islandview.

4. If Willows is sprayed for exactly two types of pest, which one of the following must be true?

A. Glens is sprayed for termites.
B. Glens is sprayed for roaches.
C. Glens is sprayed for fleas.
D. Islandview is sprayed for roaches.
E. Willows is sprayed for fleas.

5. Which is a complete and accurate list of the apartment complexes which could be sprayed for all three types of pest, not necessarily at the same time?

A. Willows
B. Glens
C. Islandview
D. Willows and Islandview
E. Glens and Islandview

Game 33 – Exterminator

1. D
2. C
3. A
4. A
5. C

The rule that if two are sprayed for a pest, the third is as well, is key to solving this game. Think about what's happening in the third apartment building.

One both the first and second questions, four of the choices break a rule. In the third question, if both Willows and Islandview were sprayed for roaches, this would mean Glens would be too–in violation of the rules.

On the fourth question, the two that Willows is sprayed for must be roaches and termites, since fleas would violate the rules. This places termites in Islandview and thus in Glens under the rules. Finally, on Question 5, all other choices violate a rule–plug it out if you don't see it. Remember to pay attention to the first rule.

Anglers go to a lake to see which of seven types of fish—Gar, Muskies, Northerns, Perch, Sunfish, Trout and Walleyes–it contains. The types of fish in the lake are consistent with the following conditions:

If the lake does not contain Muskies, then it does not contain Walleyes.

If the lake does not contain Northerns, then it contains Sunfish.

If the lake contains Gar, then it contains Trout.

If the lake contains Muskies, then it contains Perch.

If the lake contains Trout, then it does not contain Perch.

1. If the lake does not contain Perch, then which one of the following is the maximum number of fish among the seven types which could be in the lake?

A. 2
B. 3
C. 4
D. 5
E. 6

2. If lake contains Walleyes, which one of the following is a complete and accurate list of the types of fish among the seven which could be, but need not be, in the lake?

A. Northerns, Sunfish
B. Gar, Northerns
C. Gar, Sunfish
D. Gar, Northerns, Sunfish
E. Northerns, Sunfish, Perch

3. If there are exactly three of the seven types of fish in the lake, the lake CANNOT contain

A. Walleyes
B. Muskies
C. Gar
D. Perch
E. Northerns

4. If the lake does not contain Perch or Gar, what is the maximum number of the types of fish among the seven which can be in the lake?

A. 1
B. 2
C. 3
D. 4
E. 5

5. What is the maximum number of types of fish among the seven which can be in the lake?

A. 3
B. 4
C. 5
D. 6
E. 7

6. If the lake contains Northerns but not Muskies, which one of the following is a complete and accurate list of the types of fish among the seven, any one of which could be in the lake?

A. Gar, Perch, Sunfish, Trout
B. Gar, Perch, Sunfish, Trout, Walleyes
C. Gar, Perch, Sunfish
D. Gar, Perch, Trout, Walleyes
E. Perch, Sunfish, Trout

7. Suppose the condition that Perch cannot be in the lake with Trout is suspended and replaced by the condition that Perch cannot be in the lake with Gar. If all other conditions remain in effect, what is the maximum number of fish among the seven types which can be in the lake?

A. 3
B. 4
C. 5
D. 6
E. 7

Game 34 – Fishing

1. C
2. A
3. A
4. C
5. C
6. A
7. D

This is a sorting game loaded with “list” questions and minimum and maximum numbers. Your task is determining which elements are in the group and which are not.

On Question 1, we know that if there are no Perch, there are no Muskies, and if there are no Muskies, there are no Walleyes. This means four fish are left, and none of the remaining rules say that two fish can't be together. For Question 2, we know if there are Walleyes there are Muskies, and if there are Muskies, there are Perch, and if there are Perch, there are no Trout, and if there are no Trout, there are no Gar. This leaves only Northerns and Sunfish as elements that could go in the lake but need not. Look back at the rules and make sure you follow this lengthy chain of inferences.

Question 3 is A because if there are Walleyes there must be Muskies, which means there must be Perch, and there also must be either Northerns or Sunfish (or both) in every lake. This would mean four types of fish. The fourth question is three fish–Northerns, Sunfish, and Trout (remember there can still be Trout if there are no Gar).

Question 5 is a type you may have struggled with–the dreaded "maximum number list." This is actually easier than you think. Notice that there is only one rule forbidding two elements to be in the group together–the rules provided that if there are Trout, there are no Perch. However, if there are Gar, there are Trout, and if there are Muskies there are Perch, and if there are Walleyes, there are Muskies. Your maximum number is the three fish–Walleyes, Muskies, and Perch, plus the other two (Northerns and Sunfish) to the exclusion of Trout and Gar. On Question 6, if there are no Muskies, there can be everything but Walleyes (since if there were Walleyes, there would be Muskies). The other four types of fish can all be in the lake.

Finally, on Question 7, the rules change, and the lake’s maximum capacity increases by one. This is because now Perch that cannot be with Gar, Trout can still be in the lake with Perch (and thus with Walleyes and Muskies) because Trout can be in the lake without Gar. Again, remember it's an "if, then" rule.

A DJ will play exactly seven songs–F, G, H, J, K, L and M–at a junior high dance. The songs will be played one at a time and no song will be played twice. The order in which the songs will be played is governed by the following conditions:

K is played immediately after L.
Either G or L is played fourth.
M must be played immediately after J.
F must be one of the first three songs played.
K cannot be played either immediately before or immediately after G.

1. Each of the following could be the first song played at the dance EXCEPT

A. J
B. G
C. H
D. M
E. L

2. If L is played immediately after M at the dance, then each of the following must be true EXCEPT

A. F is played first
B. M is played third
C. L is played fourth
D. H is played fifth
E. G is played seventh

3. Which one of the following could be true?

A. K is the third song played.
B. L is the fifth song played.
C. L is the seventh song played.
D. M is the fifth song played.
E. J is the third song played.

4. If H is played second at the dance, then which one of the following must be played fifth?

A. G
B. J
C. F
D. K
E. M

5. If M is the sixth song played at the dance, then K must be played

A. second
B. third
C. fourth
D. fifth
E. seventh

Game 35 – Junior High Dance

1. D
2. D
3. B
4. D
5. A

This is a good example of an "anchor"–you have three rules about where the elements are relative to each other, and then one rule about what is in the middle of the system. In this case, one way to do it might be to draw the G or L in the middle and put three spots on either side. Again, don't get trapped in the "1, 2, 3" columns.

Question 1 is D because M must follow J. On the second question, you can deduce that L must be in fourth because if G is fourth, there is no place for the ensuing "JMLK" block in the question. This allows you to deduce everything else. On Question 3, you can exclude four answers on the basis of the K and L block rule and the G or L fourth rule.

Question 4 you can deduce that L must be fourth. If G is fourth and H is second, there is no room for the two blocks of MJ and LK. For Question 5, M in sixth places J in fifth, which places G in fourth, and L and K in first and second, since K cannot be next to G.

A yardworker will mow the lawns of nine different houses–F, G, H, I, J, L, M, Q and R–using three different lawnmowers–a Kubota, a New Holland and a Snapper. Each lawn is mowed exactly once with exactly one of the three mowers. The following conditions govern the mowing of the lawns:

At most two lawns are mowed with the New Holland.

Lawns R and I are mowed with different lawn mowers.

If lawn M is mowed with the Snapper, lawn R is mowed with the Kubota.

If lawn F is mowed with the Kubota, lawn L is mowed with the New Holland.

Lawns G and J are mowed with the same lawn mower.

1. Which one of the following could be the lawns mowed with the Snapper?

A. F, M, Q
B. J, L, M
C. F, I, Q, R
D. F, G, L, Q
E. H, M, R

2. Which one of the following could be true?

A. The New Holland mows both lawns G and I.
B. The Snapper mows lawn M and the Kubota Mows lawn I.
C. The New Holland mows lawn J and the Kubota mows lawn F.
D. The Snapper mows only lawn F and the New Holland mows only lawn M.
E. The New Holland mows only lawn M and the Kubota mows only lawn R.

3. If the New Holland mows lawns M and Q, which one of the following must be true?

A. Lawn R is mowed with the Snapper.
B. Lawn I is mowed with the Kubota.
C. Lawn F is mowed with the Snapper.
D. Lawn J is mowed with the Kubota.
E. Lawn G is mowed with the Snapper.

4. If the Snapper is not used to mow any lawns, which one of the following could be true?

A. The New Holland is used to mow both R and M.
B. The Kubota is used to mow both F and L.
C. The New Holland is used to mow both F and R.
D. The New Holland is used to mow both G and J.
E. The New Holland is used to mow exactly one lawn.

5. Which one of the following CANNOT be a complete and accurate list of the lawns mowed by the Kubota?

A. F, G, J, M, Q
B. F, H, L, K, R
C. G, H, J, L, K, Q
D. G, H, I, J, L
E. F, G, J, M

6. If the New Holland mows lawn Q and no other lawns, which one of the following could be a complete and accurate list of the lawns mowed by the Snapper?

A. F, G, I, J, M, R
B. G, J, I, L, M, H
C. F, G, H, I, J, M
D. F, G, H, L, M
E. G, M, R

Game 36 – Lawnmowers

1. A
2. E
3. C
4. C
5. B
6. C

This is a game of groups–the lawnmowers and the lawns mowed by each. Note the space limitation for the lawns mowed by the New Holland. Whenever there is a single space limitation sticking out like this, it is usually very important to the game.

Question 1 is the usual testing of the rules–all of the answers either directly or by inference violate one of the conditions set out. Likewise, on Question 2, four of the answers break rule by way of inferences. If you don't see how they break a rule, go back and plug them out.

On Question 3, lawn F must be mowed with the Snapper because if lawn F is mowed by the Kubota, lawn L is mowed by the New Holland–but in this question, it isn't. In Question 4, you can deduce that either R or I must be mowed by the New Holland because these can't be mowed by the same mower (and you only have two mowers left to choose from), and you can also deduce that either F or L must be mowed by the New Holland based on the conditional rule.

Question 5 is B because if F is mowed with the Kubota, L is mowed with the New Holland. On Question 6, you should be able to deduce that F as well as either R or I must be mowed by the Snapper because if F is mowed by the Kubota, L is mowed by the New Holland (but it is not). The answers all violate this deduction or another basic rule.

Archaeologists are investigating an ancient temple which has four pillars in the center in the following arrangement:

1 2

3 4

The pillars are facing in such a way that the south sides of pillars 1 and 2 face the north sides of pillars 3 and 4, respectively, and face no other sides of any pillar. Each pillar has exactly one engraving of either a falcon or a lion on both the south side and the north side. The following conditions apply:

At least one side of each pillar displays a lion.

Sides which face each other do not display the same engraving.

If the north side of pillar 2 displays a lion, the north side of pillar 3 displays a falcon.

1. Which one of the following could be true?

A. Both the north side of pillar 1 and the south side of pillar 3 display a falcon.
B. Both the north side of pillar 1 and the south side of pillar 2 display a lion.
C. Both the south side of pillar 2 and the south side of pillar 3 display a falcon.
D. Both the north side of pillar 4 and the south side of pillar 2 display a lion.
E. Both the south side of pillar 1 and the south side of pillar 2 display a falcon.

2. If the south side of pillar 4 displays a falcon, which one of the following could be true?

A. The north side of pillar 1 displays a lion.
B. The south side of pillar 3 displays a falcon.
C. The north side of pillar 2 displays a falcon.
D. The south side of pillar 2 displays a lion.
E. The north side of pillar 4 displays a falcon.

3. Each of the following could be true EXCEPT

A. The south sides of pillars 1 and 2 both display a lion.
B. The north sides of pillars 1 and 3 both display a lion.
C. The north sides of pillars 3 and 4 both display a lion.
D. The south sides of pillars 2 and 3 display a lion.
E. The south sides of pillars 3 and 4 display a lion.

4. If the south side of pillar 1 displays a falcon, which one of the following must be true?

A. The south side of pillar 3 displays a falcon.
B. The north side of pillar 4 displays a lion.
C. The south side of pillar 3 displays a lion.
D. The north side of pillar 2 displays a falcon.
E. The south side of pillar 4 displays a falcon.

5. If it is known that the south side of pillar 2 displays a falcon, then for how many of the pillars is it possible to deduce which engraving both sides display?

A. zero
B. one
C. two
D. three
E. four

6. Of the eight sides of the pillars, what is the maximum number that could display lions?

A. four
B. five
C. six
D. seven
E. eight

Game 37 – Ancient Temple

1. B
2. A
3. C
4. D
5. C
6. C

This is an example of the rare "map" type of game. Usually games like this will involve rules requiring things next to each other to have a different quality; thus, inferences on games like this create a sort of "domino" effect. Make sure you understand that each pillar, while it must have at least one lion, need not have at least one falcon.

On Question 1, four of the answers break a rule. For instance, A and E break the second rule because they create the inference that two engravings of the same kind are facing each other. On question 2 you can deduce that the north side of pillar 4 must have a lion (since each pillar must have at least one lion) and therefore, the south side of pillar 2 has a falcon. Therefore, the north side of pillar 2 must have a lion (again since each pillar must have a lion); thus, the north side of pillar 3 has a falcon, likewise meaning the south side of pillar 3 has a lion as well as the south side of pillar 1. Only the north side of pillar 1 cannot be deduced, and is either a falcon or a lion.

On Question 3, the south sides of pillars 3 and 4 cannot both display falcons because it would mean their north sides would both display lions, meaning the south sides of 1 and 2 would display falcons, meaning that the north side of pillar 2 would display a lion, meaning the north side of pillar 3 could not display a lion (but in the answer, it does). Thus, choice C breaks a rule.

Question 4 involves the inference that if the south side of pillar 1 displays a falcon, the north side of both pillar 1 and pillar 3 must display a lion. This means the north side of pillar 2 must display a falcon, thus the south side of pillar 2 must display a lion. This in turn means that the north side of pillar 4 must display a falcon and the south side of that pillar must display a lion. These deductions exclude answers A through D.

On Question 5, you can deduce that the north side of pillar 2 contains a lion, and thus the north and south sides display a lion and a falcon, respectively. You can also deduce that the south side of pillar 1 and north side of pillar 1 display a lion (since they are across from falcons). However, you cannot deduce what is on the other side of these two pillars–the north side of pillar 1 and south side of pillar 2 could contain lions or falcons.

Question 6 is C–six faces–because of the rule about faces across from each other. Remember that, though a pillar can have two lions, the pillars facing each other must be different. Also note that such an arrangement must comport with the third rule. With the north faces of pillars 3 and 4 displaying falcons, the third rule is accommodated.

Exactly six security guards–Garcia, Hiram, Koontz, Llewellyn, Schuman and Torrington–will each patrol a building during exactly one three shifts–morning, evening and graveyard. Exactly two guards will be on duty during each shift, with one guarding the front door and one guarding the rear door. The following conditions apply:

Of Koontz and Torrington, exactly one guards the front door.

If Llewellyn is not on the same shift as Koontz, he is on the same shift as Schuman.

Garcia guards the front door.

1. Which one of the following could be a complete and accurate list of the guards assigned to each shift and the door which each is guarding?

	Shift	Front Door	Rear Door
A.	Morning:	Koontz	Llewellyn
	Evening:	Torrington	Schuman
	Graveyard:	Garcia	Hiram
B.	Morning:	Llewellyn	Koontz
	Evening:	Garcia	Torrington
	Graveyard:	Hiram	Schuman
C.	Morning:	Torrington	Koontz
	Evening:	Llewellyn	Schuman
	Graveyard:	Garcia	Hiram
D.	Morning:	Llewellyn	Koontz
	Evening:	Hiram	Garcia
	Graveyard:	Torrington	Schuman
E.	Morning:	Garcia	Koontz
	Evening:	Hiram	Llewellyn
	Graveyard:	Schuman	Torrington

2. If Llewellyn is on duty during the same shift as Koontz, and if Llewellyn guards the front door during that shift, which one of the following could be true?

A. Torrington and Schuman are on duty during the same shift, with Schuman guarding the rear door.
B. Torrington and Schuman are on duty during the same shift, with Schuman guarding the front door.
C. Hiram and Schuman are on duty during the same shift, with Hiram guarding the rear door.
D. Hiram and Schuman are on duty during the same shift, with Hiram guarding the front door.
E. Hiram and Garcia are on duty during the same shift, with Garcia guarding the rear door.

3. Which one of the following could be true?

A. Llewellyn is on duty during the same shift as Schuman, who guards the rear door.
B. Garcia is on duty during the same shift as Koontz, who guards the front door.
C. Koontz is on duty during the same shift as Torrington, who guards the front door.
D. Koontz is on duty during the same shift as Hiram, who guards the front door.
E. Hiram is on duty during the same shift as Llewellyn, who guards the front door.

4. If Hiram and Schuman are on duty during the same shift, then for how many guards can it be determined what door they guard?

A. one
B. two
C. three
D. four
E. five

5. If Torrington is on duty during the same shift as Garcia, which one of the following could be true?

A. Koontz is on duty during the same shift as Schuman.
B. Hiram is on duty during the same shift as Llewellyn.
C. Llewellyn guards the rear door.
D. Koontz guards the rear door.
E. Torrington guards the front door.

6. If Schuman guards the front door and Torrington guards the rear door, which one of the following is a pair of guards who could be on duty during the same shift?

A. Garcia and Llewellyn
B. Koontz and Torrington
C. Garcia and Koontz
D. Hiram and Torrington
E. Torrington and Llewellyn

Game 38 – Security Guards

1. C
2. A
3. A
4. D
5. C
6. B

This is a good example of a game where the exact groups are never known–only their relationship.

Question 1 is C–all the other answers break a rule, as is the case on most initial "rule testing" questions. On Question 2, you can deduce based on the first rule that Torrington is guarding a front door; therefore, Torrington and Garcia guard front doors, whereas Hiram and Schuman guard back doors. You don't know which shift. This eliminates answers B through E. On Question 3, four of the answers break a rule; for instance, D breaks the Koontz and Llewellyn rule.

For Question 4, you can deduce that Llewellyn must be with Koontz, leaving Torrington with Garcia. This means Garcia must be guarding the front door and Torrington must be guarding the rear door, which in turn means that Koontz is guarding the front door and Llewellyn, the rear door. This places four guards–you don't know about Llewellyn and Hiram because no rules implicate them.

In Question 5, you can deduce that Koontz guards the front door, since Torrington is guarding the back door with Garcia guarding the front door. You do not, however, know who Koontz is on the shift with. It could be Llewellyn or Hiram, with the other guard on shift with Schuman. (However it can't be Schuman with Koontz because Llewellyn has to be with one of them). This arrangement eliminates four of the answer choices.

Question 6 involves deducing that Garcia and Koontz are the other guards at the front door in addition to Schuman. The other three must guard the rear door. This arrangement excludes four of the answers.

For an engineering class, six students–Fernando, Gus, Holly, Ona, Pei and Timothy, will work in pairs of two on a series of projects. Each project will result with the pair building one of three things–a model airplane, a steam engine, or a vehicle chassis. The engineering projects must be consistent with the following conditions:

If Fernando and Holly work together, they build a steam engine.

If Gus works with anyone, the two of them build a vehicle chassis.

If Ona works with either Timothy or Holly, the two of them build a steam engine; otherwise, whoever works with Ona builds a model airplane.

No engineering student works with the same fellow engineering student on two consecutive projects.

1. If during an immediately preceding project, Timothy built a model airplane with Fernando, which one of the following could be true?

A. During the preceding project, Pei built a steam engine with Holly.
B. During the preceding project, Pei built a model airplane with Holly.
C. Holly can partner with either Gus or Ona for the current project.
D. Ona can partner with either Pei or Holly for the current project.
E. Pei can partner with either Fernando or Gus for the current project.

2. If after the first project, the engineering students have built two model airplanes, which one of the following must be true?

A. Either Fernando or Holly worked with Gus.
B. Either Timothy or Holly worked with Gus.
C. Either Holly or Ona worked with Pei.
D. Either Fernando or Pei worked with Ona.
E. Either Fernando or Pei worked with Gus.

3. Which one of the following must be true?

A. If Gus works with Pei, at least one steam engine will be built.
B. If Ona works with Timothy, no model airplanes will be built.
C. If Timothy works with Holly, at most one steam engine will be built.
D. Pei cannot work with Ona.
E. Ona cannot work with Fernando.

4. If after two rounds of projects, the engineering students have not built any steam engines, which one of the following must be true?

A. Either Holly or Pei or both have built at least one vehicle chassis.
B. Either Timothy or Holly or both have built at least one model airplane.
C. Either Timothy or Holly or both have built at least one vehicle chassis.
D. Either Timothy or Fernando or have both built at least one vehicle chassis.
E. Either Pei or Fernando or both have built at least one vehicle chassis.

5. Which one of the following could be a complete and accurate list of things that could be built by the engineering students after each has completed two projects?

A. Four steam engines, one vehicle chassis, one model airplane
B. Three steam engines, one vehicle chassis, two model airplanes
C. Five vehicle chassis, one model airplanes
D. Four model airplanes, two vehicle chassis
E. Six model airplanes

6. If the students build the maximum number of steam engines over the course of three projects per student, each of the following could be true EXCEPT

A. Holly partners with Gus exactly once.
B. Ona partners with Pei exactly once.
C. Fernando partners with Gus exactly twice.
D. Fernando partners with Holly exactly once.
E. Holly partners with Pei exactly twice.

Game 39 – Engineering Projects

1. E
2. D
3. C
4. C
5. D
6. B

This is a time conversion game. Solving it requires predicting and backtracking. One of the keys to solving this game is understanding the Ona rule. Remember that while Ona must build either a model airplane or a steam engine, depending on who she works with, and while Gus must build a vehicle chassis, the other two can build anything.

For Question 1, Ona can't be with Gus, because Gus has to build a vehicle chassis, and Ona never builds a vehicle chassis. Therefore, Gus had to either be with Holly or Pei on the preceding project, as did Ona. This excludes the four wrong answers (the third because Holly can't partner with either Gus or Ona since she partnered with one of them last time, and likewise for the fourth answer).

On Question 2, since two model airplanes were built, you can deduce that Holly and Timothy didn't work with Ona. This means they either worked together or one of them worked with Gus (you don't know which). Either way, this leaves Fernando or Pei to work with Ona, since Gus can't work with Ona given the inference from each's rule.

Question 3 involves the deduction that Holy and Timothy can't work with Ona; thus, Ona is building a model airplane, and whoever is working with Gus is building a vehicle chassis. For Question 4, you can deduce that neither Holly nor Timothy worked with Ona for two projects in a row. This means one of them had to work with Gus at least once, meaning they built a vehicle chassis.

Question 5 is a matter of excluding answers, but doing so takes some inferences. For example, Gus builds a vehicle chassis every time, so there must be at least two vehicle chassis. This leaves two answers remaining. After this, C can be excluded because Ona must build either a steam engine or a model airplane.

On Question 6, if the engineering students are to produce the maximum number of steam engines, then Ona and whoever partners with Ona must build one each time. This means Ona must partner with Timothy and then with Holly or vice versa.

Exactly six office employees–Hammond, Imu, Jalopnik, Lane, Mbende and Nethel–each work in exactly one of eight cubicles, numbered 1 to 8. Each employee either works in Claims or in Support. The following conditions apply:

Nethel works in Support in Cubicle 5.

Jalopnik works in cubicle 8.

Nethel works in a lower numbered cubicle than Lane.

Both Hammond and Imu work in a lower numbered cubicle than Mbende.

An employee works in Claims in Cubicle 7.

No employees in adjacent cubicles both do the same type of work.

1. Which one of the following could be a complete and accurate list of the employees in cubicles 1 to 3, respectively?

A. Hammond, empty, Imu
B. Hammond, empty, Mbende
C. Jalopnik, Hammond, Mbende
D. Lane, Hammond, Imu
E. Lane, Imu, Mbende

2. If Mbende works in Support, which one of the following could be true?

A. Hammond works in Support.
B. Lane works in Support.
C. The employee in cubicle 2 works in Support.
D. The employee in cubicle 7 works in Support.
E. Exactly three employees work in Support.

3. If Imu works in cubicle 3, which one of the following must be true?

A. Mbende works in Support.
B. Imu works in Support.
C. Hammond works in cubicle 1.
D. Hammond works in cubicle 2.
E. Hammond works in Claims.

4. Which one of the following is a complete and accurate list of the cubicles, any one of which could be the cubicle of an employee who handles claims?

A. 1, 3, 4, 7
B. 1, 2, 3, 4
C. 1, 3, 5, 7
D. 1, 2, 3, 4, 7
E. 1, 2, 3, 4, 6, 7

5. If there is no employee in cubicle 3, which one of the following must be true?

A. Exactly 2 employees handle Claims.
B. Exactly 2 employees handle Support.
C. Exactly 3 employees handle Claims.
D. Exactly 4 employees handle Claims.
E. Exactly 4 employees handle Support.

6. Which one of the following CANNOT be true?

A. Both Mbende and Hammond handle Claims.
B. Both Mbende and Hammond handle Support.
C. Both Mbende and Imu handle Claims.
D. Both Hammond and Imu handle Support
E. Both Hammond and Imu handle Claims.

Game 40 – Cubicles

1. A
2. A
3. B
4. D
5. C
6. E

This is a game of order with qualities. Right of the bat you should be able to figure out that Lane is in cubicle 7 because nobody can be in cubicle 6 under the adjacent cubicles rule. In fact, all of this game takes place in the first four spots, mostly using a combination of the Mbende, Imu and Hammond rule combined with the adjacent cubicle rule.

On Question 1, four of the answers break a rule, including the inference based on the rules that Lane is in cubicle 7. Question 2 requires the deduction that Mbende must be in third because Mbende must follow Hammond and Imu but cannot be next to Nethel, since Nethel works in support. Mbende is thus preceded by Hammond and Imu, and since these two are next to each other, one must work in support (we don't know which one).

On Question 3, because Imu comes before Mbende, you can deduce that Mbende is in fourth and must work in Claims, since Nethel works in support. This means Imu handles support. Question 4 is a matter of excluding the cubicles known to be support–5 and 8, and deducing that no one is in the sixth cubicle. Claims can go in any of the first four spots, and they also always go in the eighth.

On the fifth Question, you can deduce that Mbende must be in the fourth cubicle and Hammond and Imu are in the first and second, not necessarily in that order. This means Mbende is handling Claims since Mbende is next to Nethel, and between Hammond and Imu, exactly one is handling Claims because of the adjacent cubicle rule. This gives you exactly three employees doing Claims and Support. Remember that it's possible to know the number of a quality even if you don't know exactly which elements to which it is ascribed.

Question 6 is E because if both Hammond and Imu handle Claims, they can't be next to each other, and thus must be in cubicles 1 and 3, not necessarily in that respective order. This means that cubicle 4 is next to a Claims cubicle and a Support cubicle, and its occupier–Mbende by virtue of the order rule–cannot comply with the adjacent cubicle rule.

At an automotive conference, seven different engines—T, U, V, W, X, Y and Z—are tested and ranked according to their horsepower. The ranking of the engines is consistent with the following conditions:

X has more horsepower than U.
Y has more horsepower than V.
W has more horsepower than U.
Z has more horsepower than X.
W has more horsepower than Y.
U has more horsepower than T.
There are no ties.

1. Which one of the following could be a complete and accurate ranking of the engines, in order from first to seventh?

A. Z, X, U, W, T, Y, V
B. X, W, U, Y, V, Z, T
C. W, Y, V, U, Z, T, X
D. W, Z, X, Y, V, U, T
E. Z, W, X, U, T, V, Y

2. If Z ranks third, which one of the following could be true?

A. W ranks second.
B. X ranks third.
C. T ranks fourth.
D. Y ranks fifth.
E. V ranks sixth.

3. Which one of the following CANNOT be true?

A. U is ranked fifth.
B. V is ranked second.
C. X is ranked fourth.
D. W is ranked first.
E. Y is ranked sixth.

4. The ranking of the engines can be completely determined if it is known that

A. Z ranks second.
B. V ranks third.
C. W ranks third.
D. Y ranks fourth.
E. T ranks fifth.

5. If X and U rank fifth and sixth, then each of the following could be true EXCEPT

A. Z ranks first.
B. W ranks second.
C. V ranks third.
D. Y ranks fourth.
E. Z ranks fourth.

6. Which one of the following is a complete and accurate list of the engines, any one of which CANNOT be ranked third?

A. U, T
B. W, U, T
C. Z, U, T
D. X, U, T
E. X, V, Y, T

Game 41 – Engines

1. D
2. E
3. B
4. B
5. D
6. A

Question 1 is the typical first question–a testing of the rules. All four wrong answers break a rule. Question 2 is E because you can deduce that W and Y are in front of Z (nothing else can be) and likewise that X, U, and T follow Z in that order (with V anywhere in between). Question 3 is C because V must have two elements in front of it.

The fourth question is B–if V is third, W is first and Y is second. The other four elements must likewise be in order–after V. For Question 5 you can deduce that W, Y, and V are in the first four spots as a chain, as is Z, but you don't know the order. This means that four of the choices are possible, but since Y must be in front of V, Y can't be fourth. Question 6 is a matter of deducing and testing, and you can get to the answer by noting that both U and T must have three or more elements in front of them.

Within a group of seven tourists–Quentin, Roberto, Stella, Tegan, Uma, Val and Wass–each will select up to three tourist attractions in which to partake–a gondola ride, a museum tour and a performance. The attractions selected by each tourist are consistent with the following conditions:

Each tourist partakes in at least one attraction.

If Stella goes on the gondola ride, Tegan does as well.

If Quentin goes on the museum tour, both Uma and Val do as well.

Wass partakes in more tourist attractions than Quentin.

If Uma goes on the museum tour or the gondola ride, Tegan does not.

Roberto and Stella do not partake in any of the same attractions.

Exactly two tourists go to the performance.

1. Each of the following is a pair of tourists who could both go on the gondola ride EXCEPT

A. Uma and Val
B. Wass and Quentin
C. Stella and Tegan
D. Stella and Uma
E. Stella and Val

2. If Tegan and Quentin attend the performance and no other activities, which one of the following CANNOT be true?

A. Roberto goes on the museum tour.
B. Wass goes on the gondola ride.
C. Uma goes on the gondola ride.
D. Uma goes on the museum tour.
E. Val goes on the museum tour.

3. If Uma goes on the gondola ride but not the museum tour, which one of the following is a pair of tourists who could partake in the exact same two activities?

A. Stella and Uma
B. Tegan and Roberto
C. Quentin and Val
D. Stella and Quentin
E. Quentin and Tegan

4. What is the maximum number of tourists who could attend both the gondola ride and the museum tour?

A. one
B. two
C. three
D. four
E. five

5. Which one of the following tourists CANNOT partake in the museum tour and no other attractions?

A. Wass
B. Quentin
C. Stella
D. Val
E. Uma

6. If Uma goes on the gondola ride and Roberto and Quentin partake in exactly the same two activities, which one of the following must be true?

A. Wass goes on the gondola ride.
B. Stella watches the performance.
C. Uma goes on the museum tour.
D. Quentin goes on the museum tour.
E. Quentin goes on the gondola ride.

Game 42 – Tourists

1. D
2. A
3. C
4. E
5. A
6. E

Question 1 is based on the inference that Stella has to be on the gondola with Tegan, but Uma cannot be. Likewise, in Question 2, Stella has to be somewhere, and she can't be on the gondola because Tegan would be there, so she must be in the museum tour–meaning Roberto can't be there. On Question 3, four answers lead to inferences that break a rule. (Plug them out if you don't see it)

In Question 4, you are faced with a maximum question so you must identify rules which limit the number. Try it a few times if necessary before you keep reading–the winning combination is Quentin, Uma, Val, Quentin and Roberto, with Stella and Tegan watching the performance. Question 5 is A because of the Wass and Quentin rule, and on Question 6, Roberto can't be with Stella, and we know Stella's not on the Gondola, so since Roberto's partaking in two activities, one of them has to be on the gondola ride–where Quentin is as well.

A shoe store has exactly six cashiers–Jamarcus, Lui, Maria, Natasha, Sally and Tova. Three of the employees work morning shifts, and the other three work afternoon shifts. The employees switch shifts with each other, with each of two employees taking the other's shift. If an employee switches shifts for one week, that employee does not switch shifts for the next week. The employees switch shifts according to one of three plans, each of which must be different than the one used the preceding week:

Plan 1: One morning shift employee switches with one afternoon shift employee.

Plan 2: Natasha switches with Sally and Maria switches with Tova.

Plan 3: Maria switches with Natasha and Sally switches with Jamarcus.

1. If in week 3, Lui, Tova and Natasha are working the afternoon shift, which one of the following could be true?

A. Lui worked a morning shift with Maria in week 2.
B. Sally worked an afternoon shift with Tova in week 2.
C. Jamarcus worked an afternoon shift with Lui in week 2.
D. Tova worked an afternoon shift with Lui in week 2.
E. Natasha worked a morning shift with Sally in week 2.

2. Which one of the following could be true?

A. Natasha switches with Jamarcus at the end of week 1.
B. Sally switches with Lui at the end of week 1.
C. Lui switches with Jamarcus at the end of week 1.
D. Jamarcus switches with Maria at the end of week 2.
E. Maria switches with Lui at the end of week 2.

3. If Tova does not switch shifts with any employee at the end of week 2, which one of the following could be true?

A. Maria switches with Natasha at the end of week 1.
B. Natasha switches with Sally at the end of week 1.
C. Lui switches with Natasha at the end of week 1.
D. Plan 3 was used at the end of week 1.
E. Plan 2 was used at the end of week 2.

4. If at the beginning of week 3, Natasha, Jamarcus and Tova are all working morning shifts, which one of the following is three employees who could have worked the morning shift during week 2?

A. Lui, Sally and Tova
B. Maria, Jamarcus and Tova
C. Maria, Sally and Jamarcus
D. Natasha, Sally and Jamarcus
E. Lui, Natasha and Sally

5. Which one of the following must be true?

A. If Tova switches shifts at the end of week 1, Jamarcus switches shifts at the end of week 2.
B. If Sally switches shifts at the end of week 1, Jamarcus switches shifts at the end of week 2.
C. If Natasha switches shifts at the end of week 1, Jamarcus switches shifts at the end of week 2.
D. If Maria switches shifts at the end of week 1, Jamarcus switches shifts at the end of week 2.
E. If Maria switches shifts at the end of week 1, Tova switches shifts at the end of week 2.

6. If Tova switches with an employee other than Maria during week 1, then during week 2 Jamarcus must switch with

A. Natasha
B. Sally
C. Lui
D. Maria
E. Tova

Game 43 – Shoe Store

1. A
2. C
3. B
4. C
5. A
6. B

This is a time conversion game. The key deduction is that whichever employees switch during one week, the other two or four must switch during the next week. For example, if Natasha, Sally, Maria and Tova switch, then next time, Jamarcus and Lui must switch. Make sure you understand for this game that because the same switch cannot be used twice, Natasha, Sally and Maria cannot switch under Plan 1. Also note the difference between switching shifts and switching from an afternoon to a morning shifts (in other words, two employees on morning shifts can switch and still be in the morning).

The key to Question 1 is that no other arrangement can be switched under one of the plans to produce the result given in the question–try them out and see.

On Question 2, remember that Natasha and Sally can't switch with Jamarcus or Lui, respectively, because both of these will have to switch according to Plan 2 or 3 the next week. In other words, if Sally switches with Lui as in answer B, it would have to be pursuant to Plan 1, which means Plan 2 or 3 must be used the next week–moving Sally again, in violation of the rules. The answer is C because Lui or Jamarcus can both move and are not necessarily moved by Plans 2 and 3.

For Question 3, if Tova doesn't switch, it means Tova switched at the end of week 1, pursuant to Plan 1 or Plan 2. D and E are incorrect because at least one employee always must change in this fashion, and A and C violate the rules because these are not switches which would've involved Tova.

For Question 4, C could be the result of a Plan 2 switch. None of the other answers are consistent with any of the switches. Question 5 is A because if Tova switches, it must be either with Maria under Plan 2 or with Lui under Plan 1 (anything else would violate the rules). Either way, Jamarcus switches next time. On Question 6, you can deduce that Plan 1 was used to switch Tova and someone other than Maria, which means Jamarcus must switch with Sally under Plan 3.

Becky will select articles of clothing to pack for her upcoming vacation. The articles to choose from include exactly three frocks–one navy, one red and one pink, three pairs of shoes–one gray and two white–and three turtlenecks–one navy, one red and one pink. The following conditions apply to Becky's vacation:

If Becky packs at least one pink article of clothing, she does not pack any red articles of that type of clothing.

If Becky packs at least as many navy articles of clothing as either pink or red articles of clothing, she packs the gray shoes.

If Becky does not pack the red frock, she packs exactly two pink articles of clothing.

Becky packs exactly two pairs of shoes.

1. For her vacation, Becky could pack

A. three turtlenecks
B. a pink frock and a red turtleneck
C. two frocks, two turtlenecks and two pairs of white shoes
D. exactly one frock, which is navy
E. a pink frock and two pairs of white shoes

2. If Becky packs two frocks and exactly one turtleneck, each of the following could be true EXCEPT

A. Becky does not pack any pink articles of clothing.
B. Becky does not pack any red articles of clothing.
C. Becky does not pack any navy articles of clothing.
D. Becky packs exactly two pairs of white shoes.
E. Becky packs exactly one pair of white shoes.

3. If Becky packs two pairs of white shoes, which one of the following could be true?

A. Becky does not pack any turtlenecks.
B. Becky does not pack any frocks.
C. Becky packs two frocks and two turtlenecks.
D. Becky packs a pink frock and a red turtleneck.
E. Becky packs two frocks and no turtlenecks.

4. Which one of the following CANNOT be true of the articles of clothing Becky packs?

A. Exactly two red and two white articles of clothing are packed.
B. Exactly two navy and two white of clothing are packed.
C. Exactly one red and one pink article of clothing are packed.
D. Exactly one frock and exactly two turtlenecks are packed.
E. Exactly two turtlenecks and exactly one frock are packed.

5. If Becky packs exactly one frock and exactly one turtleneck, neither of which is pink, then how many different assortments of clothing can she take on her vacation?

A. one
B. two
C. three
D. four
E. five

6. Suppose the condition that if Becky packs a pink article of clothing, she cannot pack a red article of that type, is suspended and replaced with the condition that if Becky packs a pink turtleneck, she does not pack any red articles of clothing. If all other conditions hold, what is the maximum number of articles of clothing that Becky can bring on her vacation?

A. 4
B. 5
C. 6
D. 7
E. 8

Game 44 – Becky's Vacation

1. E
2. C
3. A
4. B
5. C
6. D

This is a game of sorting with a bit of twist–there are multiple elements with varying qualities. Most of the time, sorting will be just single elements; however, games like this do occur on the LSAT.

On the first question, four of the answers break a rule, either directly or if their inferences are carried out. On Question 2, Becky must pack at least one navy article of clothing because she is packing two frocks, and she cannot pack a pink frock and a red frock under the first rule.

Two of the answers on Question 3, B and D, are eliminated based on the third rule. The other two wrong answers are eliminated based on the inference that because there are no gray shoes, Becky must pack more either pink or red articles than navy. Because of this, she can't pack two frocks, or two frocks and two turtlenecks, because this would mean she would have as many navy articles of clothing as either pink or red.

On Question 4, the key to getting the answer is the gray shoes rule–if Becky brings two navy articles of clothing, she must have at least as many navy articles as pink or red, and thus can't bring two white pairs of shoes.

On Question 5, you know Becky must pack the red frock under the rules. The turtleneck, however, can be red or navy. If the turtleneck is red, the shoes can be either white and white or white and gray–two possibilities. However, if the turtleneck is navy, then the shoes must be white and gray–one possibility. This is a total of three possibilities.

For the rule–change on Question 6, Becky can still bring three different colors of frock; however, she can only bring two different colors of turtleneck. Three frocks plus two turtlenecks plus two shoes equals seven.

Six golfers–Francois, Hillary, Nalyse, Oscar, Roman and Yvonne–are each members at one or more of three local golf courses–Palisades, Sylvan and Wildwood. The membership of the golfers must meet the following requirements:

If Roman is a member, Francois is not.

If Nalyse is a member, then so is Francois.

If either Hillary or Yvonne is a member, so is Roman.

1. Which one of the following could be true?

A. Yvonne is a member at all three golf courses.
B. Francois is a member at all three golf courses.
C. Roman is a member at all three golf courses.
D. Nalyse is a member at more golf courses than Yvonne.
E. Hillary is a member at more golf courses than Roman.

2. If Oscar and none of the others is a member at Wildwood, which one of the following is the minimum and maximum numbers of golfers among the six who could be members at Palisades?

A. one, four
B. one, five
C. two, four
D. two, five
E. three, five

3. If Hillary and Yvonne are not members at any of the same golf courses, each of the following must be true EXCEPT

A. Hillary is a member at exactly one golf course.
B. Roman is a member at exactly two golf courses.
C. Nalyse is a member at exactly one golf course.
D. All golf courses have at most three of the six golfers as members.
E. All golf courses have at least three of the six golfers as members.

4. Which one of the following must be false?

A. Yvonne is a member at exactly two of the golf courses.
B. Oscar is a member at exactly two of the golf courses.
C. Nalyse is a member at every golf course Oscar is.
D. Francois is a member at more golf courses than Roman.
E. Nalyse is a member at more golf courses than Francois.

5. If Roman is a member at Palisades but Yvonne is not, which one of the following is a complete and accurate list of the golfers among the six, any one of which could be members at more than one golf course?

A. Roman, Yvonne
B. Roman, Oscar
C. Roman, Yvonne, Hillary
D. Roman, Hillary, Oscar
E. Roman, Yvonne, Hillary, Oscar

6. Suppose the condition that if either Yvonne or Hillary is a member, so is Roman, is suspended and replaced with the condition that if Roman is a member, Hillary must also be. If all other conditions hold, which one of the following is a complete and accurate list of the golfers, any one of which could be a member at all three golf courses?

A. Oscar
B. Oscar, Yvonne
C. Roman, Yvonne
D. Hillary, Roman, Oscar, Yvonne
E. Hillary, Oscar, Yvonne

Game 45 – Golfers

1. D
2. C
3. E
4. E
5. D
6. E

For Question 1, Yvonne, Francois, and Roman can't be members at all three because everyone is a member at one of the golf courses at the very least, and all of these, directly or by inference, cannot be with another golfer. For example, if Hillary is a member, Roman is a member, and since Roman can't be with Francois, Hillary cannot be. This game forms clusters–Nalyse and Francois, as well as Hillary, Yvonne and Roman. Oscar, however, can go anywhere.

On Question 2, since all golfers must be members at one course at the very least, the other two golf courses must have Francois and Nalyse and Yvonne, Hillary, and Roman, respectively, since these elements could not be placed anywhere else. The minimum number would thus be two–Hillary and Roman, while the maximum would be the other three plus Oscar. (Remember that elements can go twice)

The key deduction on Question 3 is that since both Hillary and Yvonne impel the existence of Roman, there must be two courses where Roman is a member (one with Hillary and one with Yvonne) and one where Francois and Nalyse are members. This establishes all the answers except E–one group can only have Francois and Nalyse. On Question 4, Nalyse cannot be a member at more golf courses than Francois because if Nalyse is a member, so is Francois.

On Question 5, you can deduce that there must be another golf course where Hillary and Roman are members, since Hillary must be a member of at least one golf course, and if Hillary is a member, Roman is a member. Thus Hillary can be a member at Palisades – where Roman is without Yvonne, and at the course at which Yvonne is a member. Oscar, subject to no rules, can also be a member at more than one course. Question 6's change of the rules might confuse you–note that though the rule for Roman is now reversed, Roman can still not be with Francois. The answer is E because while Roman now impels the existence of Hillary, Hillary can be a member without Roman, and thus with Francois.

A group of campers take a canoe trip to a chain of lakes in the wilderness. If one lake flows into another lake, then it is possible to travel from either of the two lakes to the other. The lakes flow into each other as follows:

Jackrabbit Lake flows into Fox Lake, Heron Lake, Merganser Lake, Pickerel Lake and Weasel Lake.

Weasel Lake flows into Heron Lake, Jackrabbit Lake and Sand Lake.

Long Lake flows into Merganser Lake and Sand Lake.

Sand Lake flows into Weasel Lake, Long Lake and Merganser Lake.

Heron Lake flows into Fox Lake, Pickerel Lake, Weasel Lake and Merganser Lake.

1. If the canoers travel from Fox Lake to Sand Lake while passing through the fewest number of lakes possible in between, how many different routes could they take?

A. one
B. two
C. three
D. four
E. five

2. What is the maximum number of lakes the canoers could canoe through en route from Jackrabbit Lake to Weasel Lake without returning to the same lake?

A. two
B. three
C. four
D. five
E. six

3. If canoeing between Heron Lake and Weasel Lake is obstructed, then if the canoers are to travel from Sand Lake to Pickerel Lake while traveling through the fewest possible lakes, they must canoe through either

‘

A. Fox Lake or Weasel Lake
B. Heron Lake or Weasel Lake
C. Heron Lake or Merganser Lake
D. Long Lake or Merganser Lake
E. Jackrabbit Lake or Merganser Lake

4. If canoeing between Jackrabbit Lake and Weasel Lake becomes obstructed and the canoers wish to travel from Weasel Lake to Jackrabbit Lake while passing through the fewest lakes, which one of the following is a complete and accurate list of the lakes they could pass through

A. Sand Lake, Pickerel Lake
B. Heron Lake, Merganser Lake
C. Sand Lake, Long Lake
D. Sand Lake, Long Lake, Merganser Lake
E. Heron Lake, Pickerel Lake, Fox Lake

5. What is the minimum number of lakes the canoers must pass through if they are to travel from Long Lake to Fox Lake, excluding their origin and destination lakes?

A. one
B. two
C. three
D. four
E. five

Game 46 – Canoe Trip

1. C
2. D
3. E
4. B
5. B

This game involves a "map"–a very rare type of game but worth practicing. To do this game most effectively, you should draw a map of the elements and their relationship. It should probably look something like a web.

Question 1 is C–they could go from Fox Lake through Jackrabbit and Weasel Lakes, through Heron and Weasel Lakes, or through Jackrabbit and Merganser Lakes. All of these routes lead to Sand Lake with two lakes in between.

On Question 2, the longest route is through Fox, Heron, Merganser, Long, and Sand Lakes. The canoers can't go through Pickerel Lake because it would mean backtracking to Jackrabbit Lake, or being unable to travel through Fox Lake (which would also mean they could travel through five lakes).

For Question 3, the canoers can go through Merganser and Heron Lakes, Merganser and Jackrabbit Lakes, or Weasel and Jackrabbit Lakes. Either way they will travel through one of the two lakes in answer E.

On Question 4, there are multiple ways to go while passing through only two lakes, such as Sand and Merganser Lakes, Heron and Merganser Lakes, Heron and Pickerel Lakes, or Heron and Fox Lakes. However, only one of these options is in the answer choices–the others either do not connect Weasel and Jackrabbit Lakes, or connect them in three lakes instead of two.

Question 5 is B–the canoers can either go through Merganser and Heron Lakes, or through Merganser and Jackrabbit Lakes.

An opera company selects from among six operas– *Fidelio*, *La Boheme*, *Otello*, *Siegfried*, *Tosca* and *Zauberflöte*–to perform during a given opera season. Each opera, if performed, will be performed exactly once. The list of operas performed is consistent with the following conditions:

If *Tosca* is performed, then *Zauberflöte* is not.

Fidelio is performed only if *Tosca* is performed.

If *La Boheme* is performed, then so is *Zauberflöte*.

If *Fidelio* is not performed, then *Siegfried* is.

If *Tosca* is not performed, *Otello* is not performed.

1. Which one of the following could be a complete and accurate list of the operas performed in a given season?

A. *Fidelio, La Boheme, Otello, Siegfried*
B. *La Boheme, Otello, Tosca, Zauberflöte*
C. *Fidelio, La Boheme, Tosca, Zauberflöte*
D. *La Boheme, Siegfried, Tosca*
E. *Fidelio, Tosca*

2. If *Fidelio* is not performed in a given opera season, then each of the following could be true about that opera season EXCEPT

A. *Tosca* is performed.
B. *Otello* is performed.
C. Neither *La Boheme* nor *Tosca* is performed.
D. Neither *La Boheme* nor *Siegfried* is performed.
E. Neither *Otello* nor *Tosca* is performed.

3. If in a given opera season both *Otello* and *Tosca* are performed, then which one of the following must be true in that opera season?

A. *La Boheme* is the only other opera performed.
B. *Siegfried* is the only other opera performed.
C. At most two other operas are performed.
D. Neither *Fidelio* nor *Siegfried* is performed.
E. Exactly one other opera is performed.

4. If *Zauberflöte* is performed in a given opera season, then which one of the following must be true during that opera season?

A. *Siegfried* is performed.
B. *La Boheme* is performed.
C. Both *La Boheme* and *Siegfried* are performed.
D. At most one other opera is performed.
E. At least two other operas are performed.

5. Which one of the following is the maximum number of operas which could be performed during a given opera season?

A. two
B. three
C. four
D. five
E. six

6. Each of the following is a pair of operas which could be performed together EXCEPT

A. *Fidelio, Otello*
B. *Fidelio, La Boheme*
C. *Fidelio, Siegfried*
D. *Siegfried, La Boheme*
E. *Siegfried, Otello*

Game 47 – Operas

1. E
2. D
3. C
4. A
5. C
6. B

Question 1, like most first questions, is a testing of the rules. All four answer choices violate one of the conditions. Question 2 is D because if *Fidelio* is performed, *Siegfried* must be performed. On Question 3, because *Tosca* can't be with *Zauberflöte* and because *La Boheme* means the existence of *Zauberflöte,* then *Tosca* can't be with either of those–and thus only two more operas can be performed.

On Question 4, the key is that you need either *Fidelio* or *Siegfried* under the rules, and you can't have *Fidelio* if *Zauberflöte* is performed. For the maximum number question, remember to identify rules that require two things to not be together. There is only one such rule–the *Tosca* and *Zauberflöte* rule–but *La Boheme* impels the existence of *Zauberflöte* and thus cannot be included in such a maximum list as well. On Question 6, you cannot have both *Fidelio* and *La Boheme* because *Fidelio* means *Tosca* and *La Boheme* means *Zauberflöte,* and *Tosca* and *Zauberflöte* can't go together.

An accountant reviews exactly seven documents–F, G, K, L, M, S and T–to look for errors. Each document is reviewed exactly once, and no documents are reviewed at the same time. The documents are reviewed in accordance with the following conditions:

F is reviewed before G.
S is reviewed before M.
L is reviewed after K.
M is reviewed after L.
L is reviewed after both T and F.

1. Which one of the following could be the order, from first to last, in which the documents are reviewed?

A. K, F, T, L, M, G, S
B. S, F, G, T, L, M, K
C. T, S, F, K, L, M, G
D. T, G, F, S, K, L, M
E. T, G, K, S, F, L, M

2. Which one of the following CANNOT be the third document reviewed?

A. G
B. F
C. K
D. S
E. L

3. If G is reviewed second, which one of the following CANNOT be true?

A. S is reviewed third.
B. L is reviewed fifth.
C. T is reviewed fifth.
D. M is reviewed sixth.
E. S is reviewed sixth.

4. Which one of the following must be true?

A. No more than two documents are reviewed after T is reviewed.
B. No more than three documents are reviewed after L is reviewed.
C. No more than four documents are reviewed after K is reviewed.
D. At least two documents are reviewed before S is reviewed.
E. At least one document is reviewed before T is reviewed.

5. If F is the fourth document reviewed, then which one of the following could be true?

A. G is the second document reviewed.
B. K is the third document reviewed.
C. S is the fifth document reviewed.
D. M is the fifth document reviewed.
E. T is the fifth document reviewed.

6. If G is the third document reviewed, then each of the following could be the fourth document reviewed EXCEPT

A. L
B. K
C. M
D. T
E. S

7. If S is the first document reviewed and G is the third document reviewed, then each of the following must be true EXCEPT

A. F is the second document reviewed.
B. K is the fourth document reviewed.
C. L is the sixth document reviewed.
D. T is reviewed after F.
E. K is reviewed after G.

Game 48 – Accountant

1. C
2. E
3. D
4. B
5. B
6. A
7. B

This is a completely relational game of putting elements in order, and to do it, you need to chain all the elements together in a diagram. Once again, do not get trapped into the columns for places 1, 2, 3 and 4–on many LSAT games, all you have to go on is the relationship between the elements.

Question 1 is the typical rule testing question, and the four wrong answers all break a rule. In Question 2, L cannot be third because it must have three elements–K, T, and F in front of it, which you should have scratched out in a little diagram (if you didn't, go back and practice doing it). Question 3 is D because M must be last if G is second, since it is the only other element that is not required to be in front of something.

Question 4 is B because three different elements must precede L, meaning at most three can follow it. On Question 5, G, L and M must be in fifth, sixth, and seventh, if not necessarily in that order, because these must always follow F. Often times on the LSAT you will know three elements will go in three spaces if not the order. Based on this, you can eliminate all the wrong answers. On Question 6, remember K, T, and F all need to be in front of L–meaning L can't be fourth if G is third. Question 7 is based on the deduction that F is in second place, so T, K, L, and M must follow G–within this system, K is before L, which is before M, based on the rules. This excludes all the wrong answers.

Hopefully you've learned by now that one thing which can help on games like this is to draw a sort of "tree branching" diagram showing K, T, and F ahead of L whereas M is behind it, and S is in front of M whereas G is after F. This will allow you to see which elements must be in front of or behind other elements.

Game 49 – Handball Match

In a handball match, exactly three players–Henry, Julio and Katrina–will be on Team 1 and exactly three players–Renee, Sing and Tucker–will be on Team 2. Each team has exactly three positions–forward, guard and middle–which will each be played by exactly one player in each match. After each match, the players on each team switch positions according to one of the following statements:

Switch 1: The forward on each team switches with the guard.

Switch 2: The guard on each team switches with the middle.

Switch 3: Julio switches with Katrina and Renee switches with Tucker.

1. Which one of the following could be true?

A. Katrina plays guard in matches 1 and 2.
B. Julio plays forward in matches 1 and 2.
C. Tucker plays guard in matches 1 and 2.
D. Henry plays forward in match 1 and middle in match 2.
E. Sing plays middle in match 1 and forward in match 2.

2. If the same player on each team plays forward for matches 1 and 2, which one of the following must be true?

A. Either Renee or Tucker plays guard in one of the matches.
B. Either Julio or Katrina plays forward in one of the matches.
C. If Sing plays guard in match 1, Tucker plays guard in match 2.
D. If Tucker plays guard in match 1, Tucker plays middle in match 2.
E. If Julio plays middle in match 1, Henry plays middle in match 2.

3. If Renee plays the same position in matches 1 and 2, which one of the following could be true?

A. Henry plays guard in matches 1 and 2.
B. Katrina plays forward in matches 1 and 2.
C. Renee plays guard in matches 1 and 2.
D. Tucker plays forward in match 1 and Sing plays middle in match 2.
E. Sing plays middle in match 1 and Tucker plays forward in match 2.

4. Which one of the following CANNOT be true?

A. Renee plays forward in match 1 and guard in match 2.
B. Tucker plays middle in match 1 and forward in match 2.
C. Julio plays forward in match 1 and middle in match 2.
D. Henry plays forward in match 1 and guard in match 2.
E. Sing plays forward in match 1 and middle in match 2.

5. Which one of the following could be true?

A. Renee and Katrina both play guard in two consecutive matches.
B. Tucker and Julio both play guard in two consecutive matches.
C. Sing and Henry both play forward in match 1 and middle in match 2.
D. Sing and Henry both play middle in match 1 and guard in match 2.
E. Sing and Henry play middle in match 2 and forward in match 3.

6. If Tucker plays forward in matches 1 and 3 but not in match 2, which one of the following must be true?

A. Julio switches with Katrina after at least one match.
B. Julio does not switch with Henry after either match 1 or 2.
C. Tucker does not switch with Sing after either match 1 or 2.
D. Renee does not switch with Sing after either match 1 or 2.
E. Katrina does not switch with Henry after either match 1 or 2.

Game 49 – Handball Match

1. B
2. A
3. B
4. E
5. D
6. D

This is a time conversion game. Getting it right requires predicting and backtracking the permutations.

For Question 1, A and C are incorrect because no matter what Katrina and Tucker (under switch 3) or the player playing guard must switch. Likewise, D and E are incorrect because neither Henry nor Sing can switch directly from forward to middle under any of the permutations.

On Question 2, if the same player plays forward for two matches, this means that either switch 2 or switch 3 is employed after the first match. This means that either way, the guard and the middle will switch, and two of the three players will play guard.

For Question 3, if Renee doesn't switch, it means either the first or second switch is utilized–thus Renee is playing either forward or middle, since the guard will inevitably switch. Thus, neither Renee nor Henry can play guard for two matches, because the guard must switch; likewise, Tucker and Sing cannot play forward and middle in either match 1 or 2 because these two and not Renee must switch, and there is no way for the forward and middle to switch.

Question 4 is E because there is no way for Sing to switch from forward to middle. While Julio can by switching with Katrina, Sing can only switch positions, and there is no position switch from forward to middle.

Question 5 is partly based on this same inference–that the middle and the forward cannot switch. A and B are incorrect because no matter what, either the guard or the person playing it must switch. Likewise, Sing and Henry can't switch from forward to middle, but they can switch from middle to guard.

On Question 6, Renee can't switch with Sing because Tucker has to switch both after match 1 and match 2. This means Renee either stays put or switches with Tucker, since only two players are switching each time.

Exactly eight people are ranking members of a secret society, each with a different rank from 1 to 8. The members each have a different one of the following occupations: flight charterer, investment analyst, marketing coordinator, piano teacher, researcher, service representative, technician and videographer. The following conditions govern the eight members:

If the piano teacher is number 8, the investment analyst is number 3.

The service representative is number 3, 6 or 7.

If the researcher is not number 6, the technician is number 8.

The marketing analyst is one number lower than the videographer, but one number higher than at least one other member.

If the technician is number 2, the flight charterer is number 5.

1. Which one of the following could be the occupations of members 1, 2 and 3, respectively?

A. technician, researcher, marketing analyst
B. flight charterer, technician, piano teacher
C. service representative, piano teacher, technician
D. marketing analyst, technician, piano teacher
E. technician, flight charterer, investment analyst

2. If the technician is one number lower than the service representative, which one of the following could be true?

A. The flight charterer is number 1.
B. The investment analyst is number 2.
C. The piano teacher is number 3.
D. The marketing analyst is number 4.
E. The videographer is number 4.

3. If the investment analyst is number 2, each of the following could be true EXCEPT

A. The investment analyst is one number higher than the flight charterer.
B. The technician is one number lower than the flight charterer.
C. The service representative is one number lower than the piano teacher.
D. The researcher is number 7.
E. The piano teacher is number 8.

4. If the technician is number 2, which one of the following must be true?

A. The marketing analyst is either number 3 or number 7.
B. The piano teacher is either number 1 or number 8.
C. The investment analyst is either number 3 or number 4.
D. The videographer is either number 1 or number 3.
E. The researcher is either number 7 or number 8.

5. The members of the eight can be completely determined if which one of the following is true?

A. The service representative is number 6.
B. The flight charterer is number 4.
C. The piano teacher is number 8.
D. The technician is number 2.
E. The marketing analyst is number 3.

Game 50 – The Eight

1. E
2. C
3. E
4. A
5. C

This is a game of ordered elements, but almost all the rules are "if, then" conditionals. You won't have much of a diagram–focus on the rules and the questions.

On Question 1, all of the incorrect answers break a rule. Question 2 is based on a series of deductions. If the technician is one lower than the service representative, then the technician must be number 2 and the service representative number 3, since otherwise, they would take up number 6 and the researcher would not be number 6, thus the technician would have to be number 8. Since the technician is number 2, the flight charterer is number 5, and the researcher must be number 6. This means the marketing analyst and the videographer must be number 7 and 8, which means the piano teacher and investment analyst–the remaining members–can each either go in 1 or 3.

For Question 3, you can deduce that the videographer is in sixth and the technician is eighth—thus, the service representative is third. This excludes four of the answers.

On Question 4, the technician in number 2 places the flight charterer as number 5 and the researcher as number 6. This leaves two places–3 and 4, and 7 and 8, where the marketing analyst and videographer block can go.

Question 5 is a matter of following the inferences of each answer until you either reach a dead end or place all the elements. C places all the elements if you apply the rules correctly.