Sample

These are a sample of the logic games explanations written by Graeme Blake, and available at: http://www.lsatprep180.com/lsat-explanations/

Test 29

Game 1 - Administrator Parking

Questions 1 - 6

Setup

This is a grouping game. It's an excellent example of why you should split games into two scenarios, when possible.

The first rule is what lets us build scenarios. Either three or four bills are paid on Wednesday.

W ___ ___ ___

T ___ ___ ___ ___

Or

W ___ ___ ___ ___

T ___ ___ ___

You should draw the second rule directly on the diagram. 1 and 5 are never in the same group. Since there are only two groups, that means one goes in each group.

W 1/5 ___ ___

T 5/1 2 ___ ___

Or

W 1/5 ___ ___ ___

T 5/1 2 ___

I've added in the third rule as well: 2 is always paid on Thursday.

You may have an instinct to draw such a rule separately from the diagram. Something like:

2 --> Thursday.

I don't find that helpful. It takes time, and it doesn't let you combine rules. I've rarely found it helps students remember rules, either.

Whereas if you draw a rule right on your diagram, you can never forget it. And, it's easier to make deductions.

For instance: 4 and 7 always have to go together. On the second diagram, you can see there's only space to put 4 and 7 on Wednesday.

W 1/5 ___ ___

T 5/1 2 ___ ___

(Three bills on Wednesday)

W 5/1 4 7 ___

T 1/5 2 ___

(Four Bills on Wednesday)

I'm building these diagrams two at a time to show you how I would actually do this if I were doing the game on my own. The process is simple: place the rules on the diagram, and look for deductions by focussing on the areas with the most restrictions.

The final rule completes the second diagram. If 6 is paid on Wednesday, 7 is paid on Thursday. Since 7 is paid on Wednesday in the second diagram, then 6 must go on Wednesday. Only 3 is left to be paid, and they fill the last spot on Wednesday.

W	1/5			
T	5/1	2		

Or

W	5/1	4	7	3
T	1/5	2	6	

So there's only one way to pay the bills if four are paid on Wednesday.

The first diagram is more open ended, but only slightly. We have to place 4 and 7 together on one day. There will be two spaces left in the other day, and 3 and 6 have to go there.

Here are the two possibilities for placing 4 and 7 when three bills are paid on Wednesday.

W	1/5	4	7	
T	5/1	2	6	3

W	1/5	6	3	
T	5/1	2	4	7

(Three bills on Wednesday)

W	5/1	4	7	3
T	1/5	2	6	

(Four Bills on Wednesday)

There are only *three* possibilities in this game.

1. Three bills on Wednesday. 4 and 7 are on Wednesday.
2. Three bills on Wednesday. 4 and 7 are on Thursday.
3. Four bills on Wednesday.

Question 1

This question is easy if you made the scenarios in your setup. Here's the scenario when four bills are paid on Wednesday.

W	5/1	4	7	3
T	1/5	2	6	

The right answer has to include 4, 7, 3 and one of 1 or 5. **D** is **CORRECT.**

You can also use the rules to eliminate wrong answers.

A is **wrong** because 4 and 7 aren't together (fourth rule).

B is **wrong** because 1 and 5 are together (first rule).

C is **wrong** because 2 can't be paid on Wednesday (third rule).

E is **wrong** because 1 and 5 are together on Thursday (since they aren't paid on Wednesday).

Question 2

There are two ways to solve this. If you made scenarios, you can look at those and notice that every bill except 2 could be paid on Wednesday. **C** is **CORRECT.**

Or you can eliminate the answers using the rules.

We know both 1 and 5 can be on Wednesday. They're always paid on different days, and they're interchangeable. Interchangeable variables can go in either group. So **A** and **B** are wrong because they don't include both 1 and 5.

D and **E** are wrong because 2 can never go on Wednesday (third rule).

Question 3

Bill 2 is always paid on Thursday. That means that for this question, bill 6 is paid on Wednesday.

Thanks to the fifth rule, that means we have to put bill 7 on Thursday.

4 goes on Thursday too, since 4 and 7 are always together.

W	1/5	6	3	
T	5/1	2	4	7

One of 1/5 goes on either day. 3 goes on Wednesday, since there's no space anywhere else.

This is one of our scenarios from the setup.

A is **CORRECT.** There are only three bills paid on Wednesday, otherwise it would be impossible to pay all the bills that must be paid on Thursday.

If you're unsure how to make this diagram, practice drawing it yourself. Put 6 on the opposite day from 2, then see which rule that triggers. Go from there, one step at a time. Taking things one rule and one deduction at a time is useful on all games.

I'm repeating myself, because this diagram is important. It solves questions 3-7! If you can draw it, the game is easy. So try drawing it.

B has to be false, from the diagram.

C and **E** are wrong because 1 and 5 are interchangeable. They can go on either day.

D is wrong because 2 and 3 have to be on opposite days in this diagram.

Question 4

This is the same scenario from question 3. If Bill 6 is paid on Wednesday, then 7 and 4 are paid on Thursday (the fourth and fifth rules).

W	1/5	6	3	
T	5/1	2	4	7

B is **CORRECT.**

4 and 7 can't go on Wednesday, so **C** and **E** are wrong.

1 and 5 can go on either day, so neither of them *have* to go on Wednesday. **A** and **D** are wrong.

Question 5

If bill 4 is paid on Thursday, then so is bill 7 (fourth rule). Bill 2 and one of 1/5 must also be paid on Thursday. It's the *same scenario* from the last two questions.

W	1/5	6	3	
T	5/1	2	4	7

There's a reason I focussed on building scenarios in the setup. They're extremely useful for this game.

A is wrong because 1 and 5 can *never* be together (second rule).

B is **CORRECT.** 7 has to be paid on Thursday, and 1 can be paid on either day.

C is wrong, 3 has to be paid on Wednesday.

D is wrong because both 3 and 6 have to be paid on Wednesday.
There's no room for them on Thursday.

E is wrong because 6 has to be paid on Wednesday.

Question 6

A is silly. Bill 2 is always paid on Thursday (rule 3), so this answer choice adds nothing new.
We've seen scenarios where 3 is paid on Thursday too.

B is wrong. Bill 1 never has to go anywhere. It can be paid on Wednesday or Thursday, as long as Bill 5 is paid on the other day.

C is **CORRECT.** If Bill 4 is paid on Thursday, we're in the scenario from questions 3-6. Bill 7 has to go with Bill 4, and that forces bills 6 and 3 to be paid on Wednesday.

W	1/5	6	3	
T	5/1	2	4	7

This scenario proves **D** and **E** wrong:

W	5/1	4	7	3
T	1/5	2	6	

Test 29

Game 2 - Colorful Mannequins

Questions 7-13

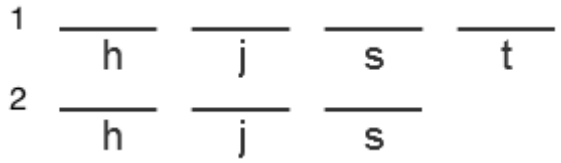
Setup

This is a grouping game. It's a very interesting game. Many students struggle to make a good diagram. But once you do get the diagram, it's a fairly easy game.

First, I'd like to clear up a common point of confusion. There is exactly one of each type of clothing. If one mannequin wears the red hat, the other mannequin can't wear it.

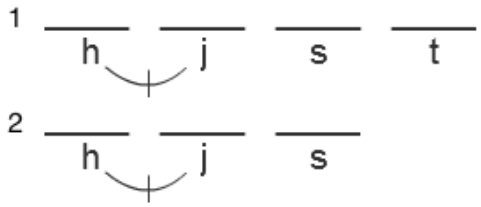
Second, the most important thing on any game is how to set up the main diagram. That's especially true on this game, but many students rush to start drawing rules without thinking things over first. They get a bad diagram, and get questions wrong.

So read over everything, and think of how to set things up. The first question often gives you a clue. Notice that the mannequins are vertical, and their clothing is horizontal. ...that's hard to describe, so I'll just show you a picture.



There are our two mannequins, and the clothing they wear. Number 1 is on top, with the tie.

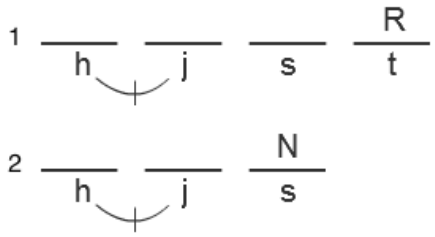
I'm going to start with rule 2. There's very little you can do with rule 1 right away. It's not useful to draw it on your page all by itself. Often you can combine rules such as the first rule later, once you've drawn the other rules (in this game, you can). There's no need to do the rules in order.



The hat and the jacket are *never* the same color. You need something on your diagram to remind you, or you might forget. I like an arc underneath h and j, with a line through it (see the diagram).

If it's right there in front of you, it's very hard to forget the rule.

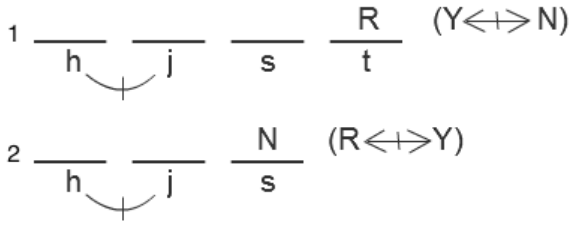
The last two rules are easy to draw. That alone is good reason to draw them first. Mannequin 1 is wearing a red tie because the tie only comes in one color...red.



Now we can do something with the first rule. The mannequins can't wear all three colors. Mannequin 1 is already wearing R, so this means he can't wear Y and N are the same time.

Mannequin 2 is already wearing N, so this means mannequin 2 can't wear Y and R at the same time.

It's best to draw this directly on the diagram, too.

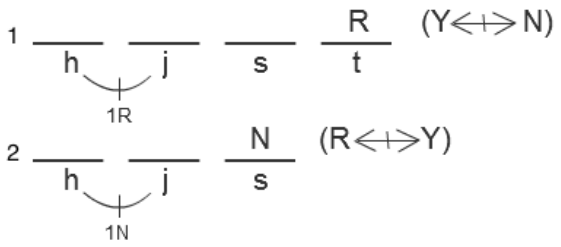


Now we're getting somewhere. This tiny little diagram shows *all* of the rules. Being slow to remember rules is the biggest problem most people have with logic games. This diagram makes that impossible, once you understand the symbols.

We can make one more deduction. What colors can the hat and jacket be? They have to be different colors - but on mannequin 1, for example, they can't be Y and N. So one of them is R, and the other is Y or N.

(We can't make them R and R, and we can't make them Y and N. So we have to make one R and the other Y or N).

For Mannequin 2, one of either the hat and jacket will be N, and the other will be R/Y, for the same reason.



So here is the final diagram. It has every rule, plus an important deduction. If you got this diagram, and you understand what it means, then the game is easy.

If you're not sure what it all means, then don't go on to the questions yet. Reread the rules, and reread my setup. Try drawing the diagram yourself.

These symbols are very powerful for solving logic games, but learning them is like learning a new language. It takes a bit of effort, but you'll be amazed at what you can do with it once you learn it. And it's not as hard as you'd think.

Question 7

This is a list question; just like the first question of most games. It's usually easiest to solve these by taking each rule and applying it to the answer choices. Generally you can eliminate one answer choice per rule.

A is wrong because mannequin 1 is wearing all three colors (rule 1).

B is wrong because mannequin 1 is wearing a red hat and jacket (rule 2)

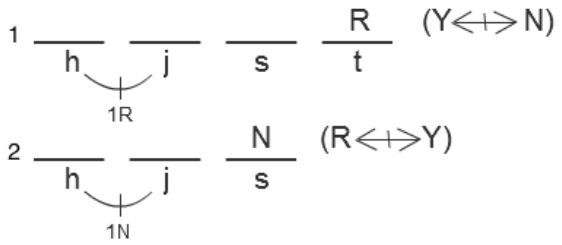
C is wrong because mannequin 2 needs to wear the navy skirt, not the yellow skirt (rule 3)

D is **CORRECT.**

E is wrong because mannequin 1 is wearing a yellow tie and jacket (rule 2) and also because mannequin 1 is not wearing the red tie (rule 4).

Question 8

This questions depends on applying the rules and deductions from the diagram,
so here it is again.



A is wrong because mannequin 1 would be wearing all three colors: N, Y and R (the tie).

B is wrong because a mannequin's hat and jacket have to be different colors (rule 2).

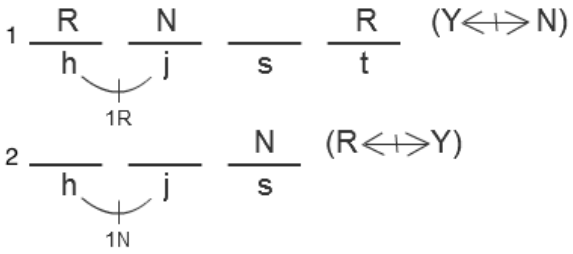
C is wrong because mannequin 1 has to wear either the red hat or the red jacket. Otherwise his hat and jacket would either be the same color, or Y and N. The latter wouldn't work because the mannequins can't wear Y, N and R at the same time.

D is wrong because mannequin 1's hat and jacket would both be yellow (rule 2).

E is **CORRECT.**

Question 9

This question gives us another local rule, and you should always draw local rules.



If Mannequin 1 wears the N jacket, then they must wear the R hat, thanks to the first and second rules.

One of Mannequin 1's hat or jacket always has to be R, otherwise they would wear all three colors.

This means **A** and **B** are wrong. Mannequin 1 can't wear Y, because they are wearing R and N.

C is wrong because Mannequin 1 must wear the red hat. So Mannequin 2 can't wear it.

D is tricky. There's normally nothing wrong with Mannequin 2 wearing a yellow hat.

It's the jacket that's the problem. It can't be yellow, because the hat and jacket must be different colors. The jacket can't be navy, because mannequin 1 is wearing the navy jacket.

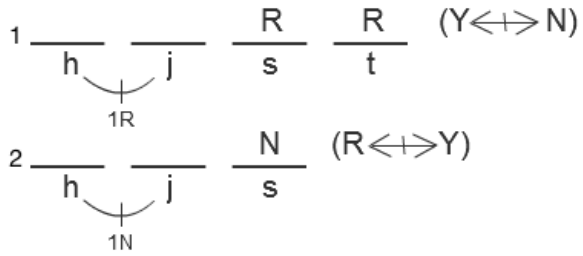
And the jacket can't be red, because then mannequin 2 would be wearing all three colors.

E is **CORRECT.**

Question 10

Everything must be red! Or at least, we have to use all of the red.

Start with what is certain. Mannequin 1 has to wear the red skirt, because mannequin 2 already wears the navy skirt.



Only the hats and jackets are left. Each mannequin will wear one red hat or jacket.

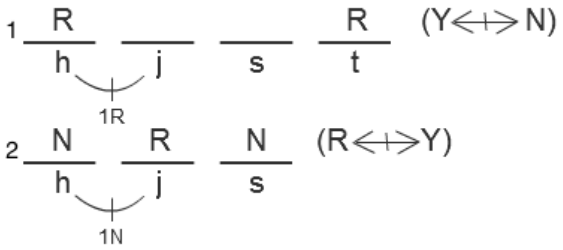
Mannequin 2's hat and jacket must be red and navy.

Why? Mannequin 2 already wears navy. They can't wear a red and yellow hat and jacket, because then they would wear all three colors.

E is **CORRECT.**

Question 11

If Mannequin 2 wears a red jacket, their hat must be navy. If their hat were yellow, they'd be wearing all three colors.



This forces mannequin 1 to wear the red hat. One of mannequin 1's hat or jacket must be red. (Otherwise they will wear all three colors, or wear the same color for their hat and jacket)

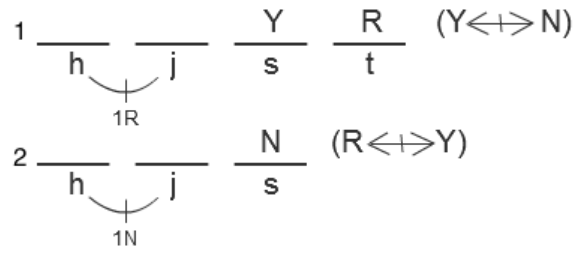
B is **CORRECT.**

A and **C** must be false.

D and **E** could be true, but don't have to be. Mannequin 1's skirt could be any color, depending on the color of their jacket.

Question 12

This is similar to question 10. Mannequin 1 has to wear the yellow skirt, because mannequin 2 is already wearing a navy skirt.

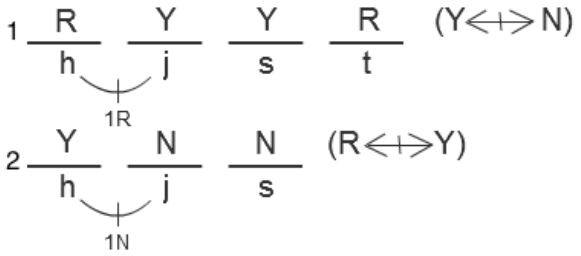


One mannequin will wear the yellow hat, and the other wears the yellow jacket.

We can't have the mannequins wearing all three colors. Mannequin 1 is wearing yellow, so their hat and jacket must be red and yellow (in either order).

Mannequin 2 is wearing navy and yellow, so they can't wear a red hat or red jacket.

Here's one way to arrange things. But know that you can reverse the colors of the hat and jacket (e.g. RY or YR for mannequin 1).



B is **CORRECT.** Mannequin 1 can wear the yellow jacket, and red hat, or vice-versa.

A is wrong. If mannequin 1 wore navy, he would be wearing all three colors.

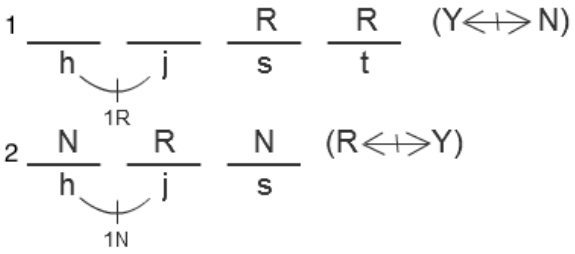
C is wrong. Mannequin 1 needs to wear the yellow skirt, because mannequin 2 can't.

D and **E** are wrong because mannequin 2 can't wear red for this question. They're already wearing navy and yellow.

Question 13

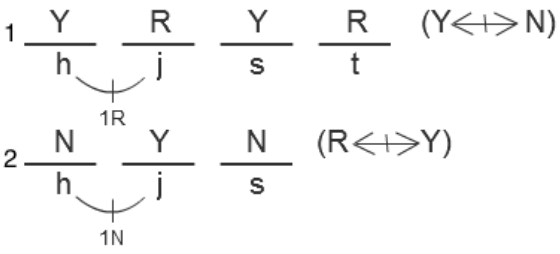
Mannequin 1 can only wear a red or a yellow shirt. That means there are only two possibilities for this game. I found this question difficult to solve without drawing local diagrams, but easy to solve once you draw them.

Here's what happens if mannequin 1 wears a red skirt.



Mannequin 2 wears a jacket to match, and they wear a navy hat, because they can't wear all three colors. We can't say much about mannequin 1's hat and jacket.

Here's what happens if mannequin 1 wears a yellow skirt.



Mannequin 2 wears the yellow jacket to match, and they're forced to wear a navy hat. Otherwise they would wear all three colors.

Mannequin 1 has to wear a yellow hat and red jacket. Why? They can't wear navy, because they're already wearing yellow and red. And Mannequin 2 is already wearing the yellow jacket.

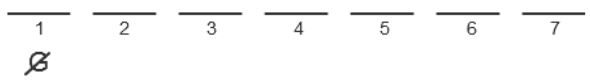
The only thing that both diagrams have in common is that mannequin 2 always wears the navy hat. **C** is **CORRECT.**

A is wrong because Mannequin 1 doesn't have to wear the yellow hat in the first diagram. **B, D** and **E** are proven wrong by the second diagram.

Game 3 - Language Awards
Questions 14-19

Setup

This game is a mix of linear and sequencing. By combining the rules, we can see that this game is very restricted.



The main diagram should have seven spaces. I've added the first rule: G can't go first.

Here are the next two rules. H is before K, and L is before J.

H — K

L — J

We can combine the fourth and fifth rules with these.

I'll explain what this picture means. The box shows F and H go beside each other, and the handle on top shows that their order is reversible. Think of it like a suitcase handle -- you can pick up the box and turn it around.

So 

means FH or HF. The same is true of KL.

We know H is before K. So FH must be before KL. And KL is before J, since K is before J.

Simple, right? You can draw the whole game with one simple line. Just remember that G can't go first, and S can go anywhere.

Question 14

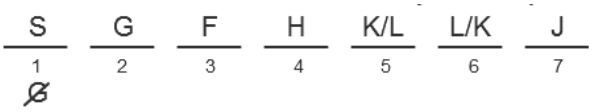
It's rare for a game *not* to start with a list question. It's usually a strong sign that you were supposed to combine the rules and make deductions.

In this case, our diagram makes it obvious that **A** is **CORRECT.** F comes before J.

The other answers involve G and S. Those awards can go practically anywhere, as long as G doesn't go first.

Question 15

We know from our diagram that KL and J have to come after H. So if H is fourth, KL and J fill the three spaces afterwards, and F goes third.



S goes first, because G can't.

A is wrong because there's no space for F after H.

B is wrong because F has to go third.

C is wrong because there's no space for J in 6.
L or K goes sixth.

D is wrong because L could also go in 5.

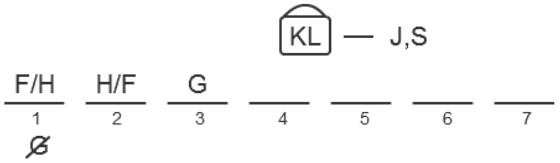
E is **CORRECT.** KL - J go after H, F goes beside H, and G can't go first.

Question 16

You should always draw local rule questions, and this is no exception.

If G is third, only FH can go 1st and 2nd. KL and J can't go first, because they go after FH.

And S can't fill spots 1 and 2 on it's own.



I've drawn KL - J, S above the diagram. I find this is a quick way to remind myself of which variables go after G. The comma indicates that there's no rule.

So if I had written "A, B, X" it would have meant that A, B and X come after G, in any order.

If I wrote "A-B, X" it would have meant that A comes before B, but X can go before, after or in the middle of them.

Try it yourself. It's an easy way to remember the rules and to see which variables go where.

A is wrong because F has to go in 1 or 2.

B is wrong because KL go before J. J can be presented sixth, at the earliest.

C is **CORRECT.** J can go sixth or seventh.

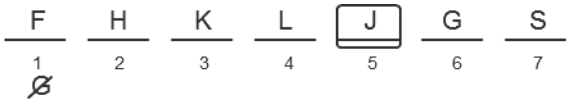
D is wrong because F or H goes second.

E is tricker to eliminate. If you put S fifth, the only open spaces are 4, 6 and 7. You need *two* spaces to place KL, but they have to come before J. So putting them in 6 and 7 won't work.

Question 17

The main diagram makes this easy.

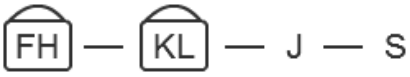
There are four variables in front of J. So J can go fifth at the earliest. This diagram shows one way things could work.



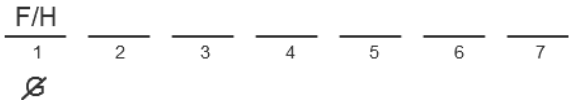
C is **CORRECT.**

Question 18

We have a new rule, and we should draw it.

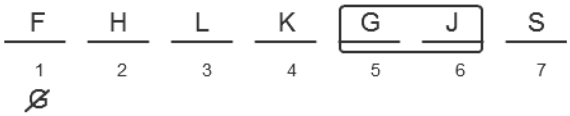


What does this tell us? F or H has to go first, since G can't.

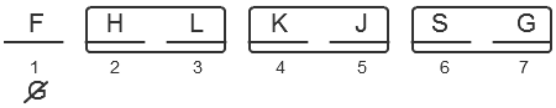


A is **CORRECT.** G would be first if it went before F.

This diagram proves **B** could be true.



This diagram proves **C, D** and **E** could be true.



If this game is still not intuitive, practice visually flipping the boxes in the main diagram. You need to know that KL could be LK. Once you understand that symbol intuitively, it's very powerful.

Question 19

I hate this question. Not only is it hard, but it's tough to explain. This is one of the hardest questions on the LSAT, so bear with me.

It's very possible to do this question slowly, of course. You probably figured out how to do it by drawing all the possibilities. But that's not useful when you only have 8:45 to do the game.

Think of all of the variables that have to be locked down to determine the order:

1. FH
2. KL
3. G
4. S

To be useful, an answer must lock as many of these into place as possible. Each answer gives us two new conditions.

To lock everything into a fixed position, each new condition in the answer has to take care of two things from that list.

So if a condition tells us H is before F, that's not very useful. It only takes care of one thing from the list.

Telling us that H is before L *is* useful. It gives us this order: FHLK.

We took care of two things from the list at once.

A is not useful, for example. It tells us that K is before L. That only affects one thing from the list.

B is also not useful. If H is before K, that automatically means F is before H. So the first condition was wasted.

C takes care of FH and KL, but it doesn't tell us where to put G and S.

D does it. If G is before F, that means G is before this entire chain:

S must go first, because G can't go first. No other variable can go before G when G is before F, because F is in front of the chain drawn above.

If G is before F, we know F is before H. So far, we have:

S - G - F - H

The second condition tells us that L is before J. That also lets us know that K is before L.

Since K is after H, we get this order:

S - G - F - H - K - L - J

D is **CORRECT.**

E doesn't do the trick. It's not useful to tell us that H is before F, that only deals with one condition from the list.

Test 29

Game 4 - Colorful Mannequins

Questions 20-24

Setup

This game is a mix of grouping and sequencing. We have to order the variables *and* say which of them go together in a group.

(You can draw the list of boys and girls if you want. I found it quickest just to look at the list in the game description)

I draw games for speed and efficiency. I rarely find it useful to draw rules in the order they're presented.

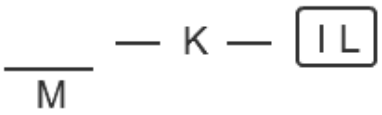
I start with simple rules, then focus on rules that can be combined with them.

It's easiest to explain by example. The first rule is the simplest:

IL are a group.

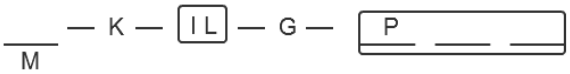
There's nothing we can do with the second rule right away, so I ignore it.

K is the first girl. That means she goes before IL (Iyanna is a girl).



Some boy goes before K, but we don't know who yet.

The fourth rule lets us connect the second rule to the rest of the diagram. So now we can add it. I try to draw things only once, if I can.

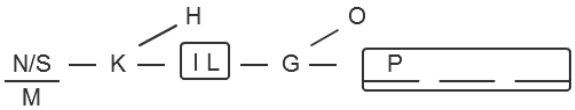


G comes after IL but before P. And the second rule tells us P is in a group with 2 other people.

We can add a few other things. H must come after K, because K is the first girl.

The last rule tells us that O is after G.

Now, who can be the boy(s) that goes before K? There are five boys: N, S, P, L, O. Everyone but N and S come after K. So the only boys that can go before K are N and S.

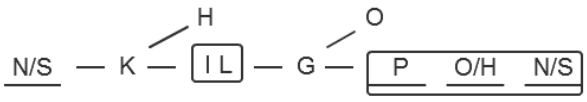


Make sense? We need at least one boy before K, and only N and S are free.

That diagram above is the main diagram. But we still have to figure out who can go with P. I'll show you a few sample scenarios to clarify how this game work in practice

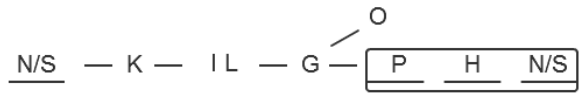
We know there are six classes (the first sentence of the setup). If you count up the different classes on the diagram, you'll see there are seven. That's too many.

But there's no mistake. This just means that at least one of H or O has to be in the same class as P. Here's how to draw it:



One of O and H goes with P, and so does one of N and S.

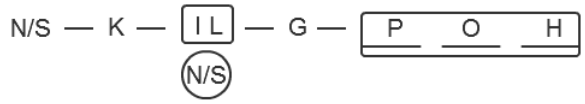
I left the other H and O on the diagram. It's not a problem to repeat variables, as long as you understand what they mean. Obviously if H is in the class with P, for example, then there's no separate class with H alone. It would look like this:



I didn't draw that separately when I did the game myself, because it's usually more effective to show several possibilities within the same diagram. But feel free to draw the separate diagrams.

So if H is with P, just ignore the H drawn after K.

Another possibility is that both O and H go with P. We still have one of N/S left to place. They can go anywhere. It's even possible to put both N and S before K.

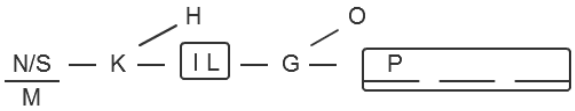


The circle around N/S means that one of either N or S can go anywhere.

Question 20

The first question is not a list question. This is very rare. It's almost always a sign the game was expecting you to combine the rules into one diagram.

It's true here. From our main diagram, we can see that only N or S could go first.



None of the girls can go first (third rule) including H, so **A** is wrong.

B is wrong because L is with I, after K.

C is wrong because O comes after G (fifth rule)

D is wrong because P comes after G (fourth rule)

E is **CORRECT.** Either S or N can go first.

Question 21

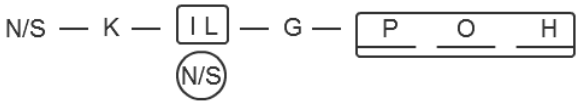
There are a couple of ways to solve this. The easiest is to eliminate answers.

P comes after G. So G can't be the last (sixth class). Any answer with "sixth" is wrong; we can eliminate **B** and **D.**

We also know that N/S, K and IL are before G. So G can be fourth at the earliest. **C** and **E** are wrong because they say G can go second.

A is **CORRECT.**

This scenario shows how G can go fourth or fifth.



If we put the spare N/S in front of G, G is fifth. If we put N/S after G, G is fourth.

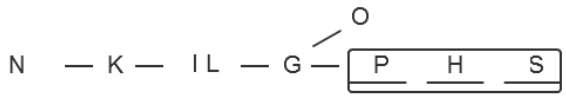
Question 22

The only people that can ever go with P are O, H and one of N/S.

That's enough to eliminate **A, C** and **D.** (G, K and L can never go with P.)

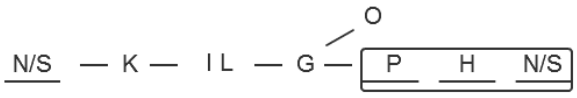
E is tempting. But N and S can't *both* go with P. One of them has to go before K.

D is **CORRECT.** This diagram shows you how it could go.



Question 23

If O is not with P, then our diagram looks like this:



H and one of N/S has to go with P, since no one else can.

The other N/S, K, IL and G all go before P.

A is wrong because both O's class and P's class come after G. So G is fourth.

B is wrong because H has to go with P.

C is wrong because G, O and P come after IL. So IL is third.

D is **CORRECT.** N could go with P, and P could go either fifth or sixth, depending on O.

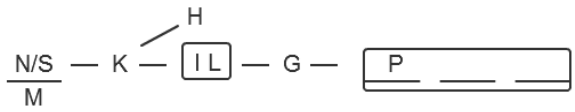
E is wrong because one of N/S goes before K and the other goes with P. S is either first, fifth or sixth.

Question 24

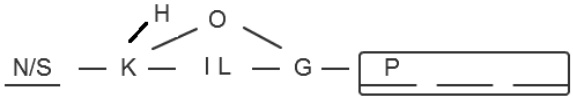
Many people freak out when the LSAT asks them to redraw a diagram. I've never understood why. Just remove the old rule, then draw in the new one.

If you're afraid to redraw your diagram, then you don't understand it well enough. Changing a diagram should be like changing the words in a sentence you wrote. You need to understand these symbols the way you understand a language.

I'll show you how to change this, in two steps.



I erased the line that connected G and O.

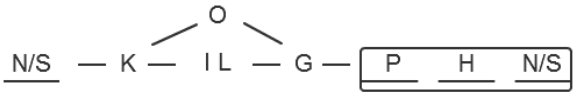


I added a new line that shows O is after K, and before G.

Done!

Well, almost. Now we have to see if there are any new deductions.

Who can we put with P? Only H and one of N/S are free to go anywhere. So they have to go with P.



So, from our diagram above, we can see H has to go in the last class, with P. **E** is **CORRECT.**

When I said you need to understand these symbols as well as you understand written language, I meant it.

Practice turning statements into diagrams and combining them. Do it until it's second nature. Then logic games will be much easier.