LSAT Analytical Reasoning

1. There are five people - Sarah, Bill, Eric, Molly, Nick - scheduled for appointments at a doctor's office on a specific morning, plus a walk-in, Katie. There are five appointment slots: 9:30, 10:00, 10:30, 11:00, and 11:30. The following conditions apply:

Katie will only get a slot if one of the five people with an appointment does not show up.

Sarah is not scheduled for 10:00 or 11:00.

Eric is scheduled for 11:30.

Molly's appointment is immediately before Nick's.

LAST Test Study Guide with Practice Questions

1) Nick's appointment CANNOT be in which appointment slots?

9:30 or 10:30

9:30 or 10:00

10:00 or 11:00

10:00 or 11:30

9:30 or 11:30

2) Which one of the following is a possible ordering of the 5 people's appointments?

Sarah, Molly, Nick, Eric, Bill

Bill, Sarah, Molly, Nick, Eric

Sarah, Molly, Bill, Nick, Eric

Sarah, Molly, Nick, Bill, Eric

Molly, Nick, Bill, Sarah, Eric

3) If Sarah's appointment is at 10:30, which one of the following must be false?

Bill's appointment is at 11:00

Sarah's appointment is before Nick's

Nick's appointment is before Sarah's

Bill's appointment is after Sarah's

Molly's appointment is at 9:30

4) If Bill does not show up for his appointment, which possible appointment slot has opened up for Katie to take?

9:30 or 11:00

10:00 or 10:30

10:00 or 11:00

10:30 or 11:00

10:00 or 11:30

5) If Molly's appointment is at 10:00, then Bill's appointment must be at:

9:30

10:00

10:30

11:00

11:30

6) If Eric switches appointment times so that his appointment is now at 11:00, if none of the other conditions change, who now has the 11:30 appointment slot?

Bill or Molly

Katie or Sarah

Molly or Nick

Nick or Bill

Sarah or Bill

2. A group of six friends - Jack, Kimberly, Lee, Melissa, Nick, Olivia - go out to eat at a restaurant. They are seated evenly around a circular table based on the following conditions:

Melissa does not sit next to Jack.

Jack sits next to Olivia or Nick, but not both of them.

Kimberly sits next to Nick.

If Olivia sits next to Jack, then she doesn't sit next to Lee.

7) Of the following, which one is a possible seating arrangement of the six friends?

Kimberly, Nick, Jack, Olivia, Melissa, Lee

Lee, Melissa, Kimberly, Jack, Olivia, Nick

Melissa, Lee, Jack, Nick, Kimberly, Olivia

Lee, Melissa, Jack, Nick, Kimberly, Olivia

Lee, Olivia, Jack, Kimberly, Nick, Melissa

8) If Jack sits next to Kimberly, then which one of the following pairs of people must be seated next to each other?

Lee and Nick

Melissa and Nick

Jack and Nick

Melissa and Kimberly

Olivia and Kimberly

9) If Jack and Olivia sit next to each other, then Lee CANNOT sit next to both:

Jack and Nick

Jack and Kimberly

Nick and Melissa

Jack and Melissa

Kimberly and Nick

10) If Jack sits next to Olivia, then which of the following is a complete and accurate list of the people who could also sit next to Jack?

Lee

Nick, Melissa

Lee, Melissa

Lee, Kimberly

Lee, Nick, Kimberly

11) Which of the following must be false if Jack sits next to Nick?

I. Kimberly sits next to Lee.

II. Nick sits directly opposite Melissa.

III. Lee sits next to Jack and Olivia.

I only

III only

I and II only

II and III only

I, II, and III

12) If Olivia sits next to Nick, then which of the following must be true:

Melissa sits next to Nick and Lee.

Nick sits next to Kimberly and Lee.

Olivia sits next to Nick and Jack.

Lee sits next to Olivia and Jack.

Melissa sits next to Jack and Lee.

Answers

1. There are five time slots for the appointments at 9:30, 10:00, 10:30, 11:00, and 11:30.

9:30   10:00   10:30   11:00   11:30

First, the conditions should be diagramed. Start with the most restrictive condition and build from there. This is condition #3; Eric must have the 11:30 appointment slot.

9:30   10:00   10:30   11:00   11:30

Eric

The second most restrictive is condition #2; Sarah cannot have the 10:00 or 11:00 appointment slot. Since Eric is already in the 11:30 slot, this leaves two possible slots for Sarah.

9:30	10:00	10:30	11:00	11:30
Sarah				Eric

9:30	10:00	10:30	11:00	11:30
Sarah		Eric		

Next we add condition #4; Molly's appointment slot is immediately before Nick's. If Sarah has the 10:30 appointment, then there is only one place Molly and Nick's appointments can be.

9:30	10:00	10:30	11:00	11:30
Molly	Nick	Sarah		Eric

However, if Sarah has the 9:30 then there are two possible places for Molly and Nick's appointments.

9:30	10:00	10:30	11:00	11:30
Sarah	Molly	Nick		Eric

9:30	10:00	10:30	11:00	11:30
Sarah		Molly	Nick	Eric

Condition #1 does not figure into any of the diagrams since Katie is only included if one of the other patients cancels, so the only thing left is to fill in the blanks with Bill's appointment into the three final diagrams.

Diagram #1

9:30	10:00	10:30	11:00	11:30
Molly	Nick	Sarah	Bill	Eric

Diagram #2

9:30	10:00	10:30	11:00	11:30

Sarah   Molly   Nick   Bill   Eric

Diagram #3

9:30   10:00   10:30   11:00   11:30

Sarah   Bill   Molly   Nick   Eric

1) E. Looking at the three diagrams, Nick can have an appointment at 10:00, 10:30, or 11:00. So 9:30 and 11:30 or E is the correct answer.

2) D. This is solved by simply comparing each choice to the diagrams until one matches. A is incorrect since Eric isn't in the 11:30 slot, B and E are incorrect since Sarah can't be in the 10:00 or 11:00 slots, and C is incorrect since Nick must come immediately after Molly. D is the correct answer as it matches the second diagram.

3) B. Since the question specifies that Sarah's appointment is at 10:30, the first diagram is the one to use. While each answer could be compared the diagram until one that doesn't match is found, the easier way is to notice that B and C are exact opposites and so one of them must be the correct answer. Looking at the first diagram, Nick's appointment comes before Sarah's making B false and thus the correct answer.

4) C. Condition #1 states that Katie only gets an appointment if one of the others cancels, so since Bill has canceled this means that is slot is open. Looking at the diagrams for where Bill's appointment is, this means that either 10:00 or 11:00 has opened up and that C is the correct answer.

5) D. Look at each of the three diagrams and find the one where Molly's appointment is at 10:00, which is the second diagram. In the second diagram Bill's appointment is at 11:00 making D the correct answer.

6) E. This one actually changes one of the conditions and requires a new diagram. Eric's appointment is moved from 11:30 to 11:00.

9:30   10:00   10:30   11:00   11:30

Eric

The question asks who is now in the 11:30 and condition #4 requiring Molly and Nick's appointments to be back to back meaning that neither of them can fill that time slot. This leaves Sarah and Bill as possibilities and E as the correct answer. 2. To diagram this problem, translate the conditions into symbols. Condition #1, Melissa does not sit next to Jack, translates into ~(MJ). Condition #2, Jack sits next to Olivia or Nick, but not both of them, translates into JO e/or JN. Condition #3, Kimberly sits next to Nick, translates into KN. And Condition #4, If Olivia sits next to Jack, then she doesn't sit next to Lee, translates into OJ -> ~(OL). So the symbol translations of the conditions for this problem are:

~(MJ)

JO e/or JN

KN

OJ -> ~(OL)

Next, draw a visual representation of the table, the questions states that they are sitting evenly around a circular table:
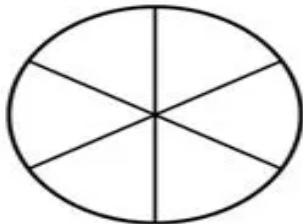

Or simply:
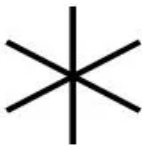
7) C. Simply compare each answer choice to the conditions; A breaks JO e/or JN, B breaks KN, D breaks ~(MJ), and E breaks OJ -> ~(OL). Only C doesn't break any of the conditions making it the correct answer.

8) A. Start off by placing Jack and Kimberly into their spots at the table, the specific spots don't matter as long as they are next to each other. Next place Nick next to Kimberly to satisfy condition #3 - KN. Since

condition #2, JO e/or JN, requires that either Olivia or Nick sits next to Jack and Nick is already placed at the table two seats away from Jack, place Olivia next to Jack. Condition #4, OJ -> ~(OL), prevents Lee from sitting next to Olivia since she is already sitting next to Jack, so place Lee next to Nick to leave a space between Olivia and Lee. And finally place Melissa in the only remaining empty space.
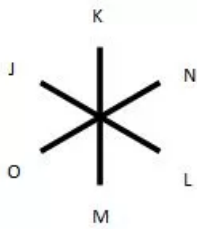
Now it's an easy matter of comparing each answer choice to the diagram and seeing that only the pair in choice A are seated next to each other.

9) E. There is no need to diagram this problem. Looking at the answer choices, it's immediately clear that E breaks condition #3, KN, and is thus the answer.

10) D. Condition #1, ~(MJ), eliminates B and C, and condition #2, JO e/or JN, eliminates E, leaving only A and D as possibilities. Lee is an option in both of those choices, so the only question is whether or not a diagram can be constructed in which Kimberly sits next to Jack without breaking any of the conditions.
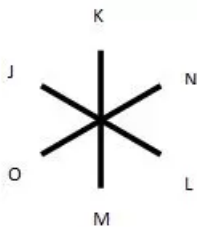

This is easy since the diagram from answer #2 shows that Kimberly can sit next to Jack in this scenario making D the correct answer.

11) A. This one requires a diagram before any answer choices can be eliminated. First, place Jack and Nick next to each other on the diagram and Kimberly on the other side of Nick due to condition #3 - KN. Lee must sit on the other side of Jack, since condition #1, ~(MJ), prevents Melissa from sitting there and condition #2, JO e/or JN, prevents Olivia from sitting there. Olivia and Melissa cannot be placed on the diagram as they could each go in either seat.
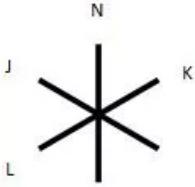
I. is false since Lee is sitting across from Kimberly, not beside her. Since Olivia and Melissa could go in either of the remaining seats, it cannot be determined whether II. or III. are true or false, and since the question asks which ones of the three MUST be false, the correct answer is only I. and thus A.

12) C. First place Olivia next to Nick on the diagram and Kimberly on the other side of Nick due to condition #3 - KN. Next Jack is placed next to Olivia due to condition #2 - JO e/or JN. Melissa cannot be placed next to Jack due to condition #1, ~(MJ), so Lee goes next to Jack and Melissa takes the other empty seat.
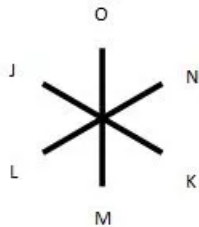
Now simply compare the diagram to the answer choices and only Olivia sits between Nick and Jack appears on the diagram making C the correct answer.