

LSAT LOGIC GAMES

For each game, explain your reasoning using a diagram.

GAME 1: RENNA THE DETECTIVE

A detective by the name of Renna has three suspects she suspects for murder: Tek, Liz, Jon. Each suspect has an alibi. Tek claims to have been at his mother's birthday party during the crime (his mother testifies to this). Liz claims to have been at work (her boss testifies to this). Jon claims to have been at home watching TV (his roommate testifies to this).

Detective Renna has concluded the following:

- Either Liz's boss, or Tek's mom, or Jon's roommate are lying.
- If the crime occurred earlier than 10PM, then either Liz's boss or Tek's mom is lying.
- If the crime occurred after 10PM then either Jon's roommate or Liz's boss is lying.

Which of the following inferences would follow necessarily from Renna's conclusions:

- Liz's boss is lying.
- If Tek's mom is not lying, then Liz's boss is lying.
- If Jon's roommate is not lying, then Liz's boss is lying.
- If the crime occurred after 10PM, then Tek's **mom** is telling the truth.
- none of the above.

GAME 2: THE COLORFUL CLOSET

A closet contains 5 numbered hangers (1, 2, 3, 4, and 5) in that order. Each of the hangers has a colored dress on it (R, B, V, G, Y). The dresses are hung in such a way that they meet the following conditions:

- The R dress is a lower number than the B dress.
- The B dress is either in place 2 or 3.
- If the G dress is immediately next to the Y dress, then the B dress is on hanger 2.

Which of the following is a matching of numbered hangers to colored dresses that meets the conditions stated above?

- R1, V2, B3, G4, Y5
- V1, B2, R3, G4, Y5
- R1, G2, Y3, B4, V5
- G1, Y2, V3, R4, B5
- R1, G2, B3, Y4, V5

GAME 3: THE BOXING TOURNAMENT

Suppose four boxers A, B, C, and D will compete in a tournament that has the following rules:

- Fights are run simultaneously and sequentially. For example, if A fights B then C would fight D at the same time.
- If a boxer loses to another boxer, the loser is eliminated from the tournament and will not fight any other boxers.
- Boxers will either win or lose a fight. There are no draws, no split decisions, etc.
- If a boxer wins a fight, then the boxer will compete in another fight against another boxer that is still in the tournament.

Next, consider the following conditions:

- If A fights C, then A will win provided this is the first fight of both A and C.
- If D fights C or A in the first fight, then D will win this first fight.
- D will win D's second fight if and only if D fights A in the second fight.
- B wins B's second fight if and only if (B fights A in the first fight and D in the second fight).

Which of the following can be true?

- Fight 1: A defeats C, D defeats B. Fight 2: A defeats D.
- Fight 1: B defeats C, D defeats A. Fight 2: B defeats D.
- Fight 1: A defeats B, D defeats C. Fight 2: D defeats A.
- Fight 1: B defeats D, C defeats A. Fight 2: B defeats C.
- Fight 1: B defeats A, D defeats A. Fight 2: D defeats B.

GAME 4: THE BOMB

There is a bomb with 6 different color wires (R, G, B, V, Y, O). In order to defuse the bomb, all of the wires must be cut. However, if the wires are cut in an incorrect sequence, the bomb will explode. That is, if the bomb violates any of the conditions below, it will explode:

- The B wire must be cut immediately after the Y wire.
- The R wire must be either the first, third, or sixth wire cut.
- If the B and R wires are first, second, or third wires cut, as soon as both of the wires are cut, then the O wire must be cut immediately.
- When the G wire is cut, the O wire must be cut anytime before the B wire.

Which one of the following sequences of wire cutting will **not** lead to an explosion?

- RYBVOG
- GOBYVR
- GBROYV
- YVRGOB
- OVGYBR

CIRCUS MANAGEMENT

The manager of a circus has two types of shows. The human shows are the clowns and the sword swallower. The animal shows are the elephants, giraffes, and lions (Abbreviations: C = clowns, S = sword swallowers, E = elephants, G = giraffes, L = lions). The manager is trying to determine an acceptable order for the circus show. If the show is not in an acceptable order, the manager will need to close the circus. An acceptable order is met provided it meets all of the following conditions:

- The clowns must appear before the elephant (but not necessarily immediately before).
- All of the animals must appear after the sword swallower.
- Some (at least one) animal must appear before the clowns.
- Which one of the following is an acceptable order for the circus?

- (a) SGECL
- (b) SLCEG
- (c) CESLG
- (d) SCEGL
- (e) CSELG

COMPETITIONS

Tek competes in the following **six** competitions: chess (C), basketball (B), soccer (S), tennis (T), hockey (H), and dance (D). Although there are six competitions, he **places** in the top 5 of each competition (1, 2, 3, 4, 5). Tek's placement is *consecutive* in these competitions if and only if his place number (1, 2, 3, 4, 5) is consecutive (e.g. 1st and 2nd are consecutive placements but 1st and 3rd are not). Concerning Tek's placement:

- Tek places higher in chess than in basketball ($C > B$).
- Tek places higher in hockey than in dance ($H > D$).
- Tek's placement in chess and basketball are consecutive (C-B or B-C).
- Tek's placement in soccer and tennis are consecutive (S-T or T-S).

Suppose now that Tek places higher in basketball than in hockey ($H > B$) and higher in hockey than in tennis ($H > T$). Which **one** of the following allows for determining the exact placement of all six of his competitions?

- A) Tek places higher in soccer than tennis
- B) Tek placed 4th in dance
- C) Tek places higher in dance than in tennis.
- D) Tek places higher in tennis than soccer
- E) Tek placement in dance is the same as tennis