

Questions 1-4 refer to the following passage:

When the goalie has been chosen, the Smalltown Bluebirds hockey team has a starting lineup that is selected from two groups:

First Group: John, Dexter, Bart, Erwin

Second Group: Leanne, Roger, George, Marlene, Patricia

When deciding on the players in the lineup, the coach considers the following requirements:

Two players are always chosen from the first group, while three are chosen from the second group.

George will only start if Bart also starts.

Dexter and Bart will not start together.

If George starts, Marlene won't start.

The four fastest players are: John, Bart, George and Patricia

Three of the four fastest players will always be chosen.

1. If George is in the starting lineup, who must also start?

- A. Marlene or John
- B. Dexter or Leanne
- C. Dexter or John
- D. John or Patricia
- E. Marlene or Roger

2. Which of the following pairs cannot start together?

- A. Erwin and Dexter

- B. George and John
- C. Roger and John
- D. John and Bart
- E. Patricia and Marlene

3. If Marlene is on the starting lineup, which of the following players on the first group of players will also be starting?

- A. John
- B. John and Dexter
- C. John and Bart
- D. John, Dexter and Bart
- E. John, Erwin and Bart

4. Of the following hockey players, who must start?

- A. Patricia
- B. John
- C. George
- D. Marlene
- E. Bart

Questions 5-8 refer to the following passage:

On a popular children's television show, there are four little animals that make up the digitally animated "Creature Buddies." As digital creations, they can't make a live stage performance. So while the Creature

Buddies are on tour, each is represented by a puppet that is operated by a chief and an assistant puppeteer.

The Creature Buddies are: a dragon, gorilla, kangaroo, and tiger.

The Creature's Names are: Audrey, Hamish, Melville, and Rex.

The Chief Puppeteers are: Ben, Jill, Paul and Sue.

The Assistant Puppeteers are: Dave, Gale, Pam and Tom.

Melville isn't the puppet who is operated by Sue and her assistant Pam.

Hamish's chief puppeteer (who is not Jill) is assisted by Tom.

Ben is in charge of the dragon, but Jill doesn't have anything to do with the kangaroo.

Dave is the assistant puppeteer for the tiger.

Rex, whose chief puppeteer is Paul, isn't the gorilla (whose name is not Melville).

5. What is the name of the Dragon?

- A. Audrey
- B. Hamish
- C. Melville
- D. Rex
- E. Dave

6. Who is the assistant puppeteer for Melville?

- A. Dave
- B. Gale

C. Pam

D. Tom

E. Ben

7. Which chief puppeteer works with Tom?

A. Ben

B. Jill

C. Paul

D. Sue

E. Rex

8. What kind of animal does Gale work with?

A. Dragon

B. Gorilla

C. Kangaroo

D. Tiger

E. Lemur

Questions 9-12 refer to the following passage:

A chess tournament is occurring in the local community school, and the players at all four of the tables are engaged in their fourth game against their prospective opponents.

The players with white pieces are: David, Gerry, Lenny and Terry

The players with black pieces are: Don, Mike, Richie and Stephen

The scores are 3:0, 2.5:0.5, 2:1, 1.5:1.5

[note: tied games result in a score of 0.5 points for each player]

Lenny is playing at the table to the right of Stephen, who has lost all of his games until now.

Gerry is playing against Mike.

At least one game at table 1 has resulted in a tie.

Richie, who is not in the lead over his opponent, has not been in a tied game.

The player who is using the white pieces at table 4 is Terry; however, the current score at table 4 is not 2:1.

Don is leading his match after his last three games.

9. What table is Stephen playing at, and what is the score at that table?

- A. Table 1, 2.5:1.5
- B. Table 1, 3:0
- C. Table 2, 3:0
- D. Table 2, 2.5:1.5
- E. Table 3, 2:1

10. Whose score is highest?

- A. Mike
- B. Stephen
- C. Richie
- D. David

E. Lenny

11. Which player has black pieces and is tied?

A. Mike

B. David

C. Richie

D. Don

E. Terry

12. Who is the winning player at table 4?

A. Don

B. Terry

C. David

D. Gerry

E. Richie

Question 13 refers to the following passage:

Larry has purchased a device that the manufacturer claims will reduce the fuel consumption in his car. After a month has passed, Larry determines that his mileage currently rests at 17 miles per gallon. Larry's best friend, Steve, owns the exact same make and model car, and has calculated his mileage at 23 miles per gallon. Steve's car does not have the device that Larry purchased one month ago. Larry then makes the conclusion that the manufacturer of the device's claim is not true.

13. Which of the following statements would cause Larry's conclusion to be the weakest?

- A. Though Larry has the same make and model of car as Steve, Larry's car is 15 years older.
- B. Larry was driving in the city, whereas Steve drives the highway.
- C. Larry purchases a lower grade of gasoline than Steve.
- D. Steve lied, he actually only gets 15 miles per gallon.
- E. Before buying the device, Larry had never before calculated the mileage of his car.

Questions 14-17 refer to the following passage:

A petrochemical plant manufactures a range of hazardous chemical products and must therefore follow strict guidelines concerning how each of the chemicals may interact with one another on a daily basis. The plant processes five different chemicals every week. Three of these chemicals can be processed on any given day.

Xenon may be processed any day except for every other Monday and every other Thursday.

Oxygen can be processed only on Tuesdays and Wednesdays.

Liquid hydrogen may be processed on Mondays, Wednesdays and Fridays.

Sulfur dioxide can't be processed on Fridays.

Methane can't be processed on Wednesday.

14. What are the three chemicals that can be processed on any given Monday?

- A. Liquid hydrogen, xenon, and oxygen
- B. Methane, oxygen, and sulfur dioxide
- C. Methane, xenon, and oxygen
- D. Sulfur dioxide, methane, and liquid hydrogen
- E. Xenon, oxygen, and sulfur dioxide

15. Which weekday is most likely to be impossible for three chemicals to be processed in one day?

- A. Monday
- B. Tuesday
- C. Wednesday
- D. Thursday
- E. Friday

16. There are three chemicals that can be processed on a Friday. What are they?

- A. Oxygen, methane, and liquid hydrogen
- B. Liquid hydrogen, methane, and sulfur dioxide
- C. Liquid hydrogen, methane, and xenon
- D. Methane, oxygen, and xenon
- E. Liquid hydrogen, oxygen, and sulfur dioxide

17. On which days of the week can they process liquid hydrogen and only an additional two chemicals?

- A. Monday and Tuesday
- B. Tuesday and Thursday
- C. Wednesday and Friday
- D. Thursday and Friday
- E. Monday and Friday

Question 18 refers to the following passage:

In a lab, the scientists have been performing tests on pregnant lab rats with caffeine. These rats were given the equivalent amount of caffeine that a person would consume with six cups of coffee every day. The caffeine increase also increased the occurrence of birth defects. A media relations person told reporters that the government would not require warning labels on products that contain caffeine, as the testing was continuing and it may have different results in the future, and that the government did not want to lose credibility.

18. Of the following statements, which is the most in line with the statement that was made by the media relations person?

- A. A warning applying only to a small minority of people is inappropriate.
- B. Six cups of coffee per day is much higher than what a person typically drinks.
- C. The conclusive nature of studies that have been performed on animals is doubted.
- D. Studies on rats don't provide us with much data regarding birth defects in humans.
- E. The significance of birth defects due to the use of caffeine is unclear.

Questions 19-21 refer to the following passage:

At the local butcher's shop, there were five customers in the lineup. Each of the customers bought something different.

The first names of the customers were Annie, Jessica, Lily, Maggie, and Naomi. Their last names were Bore, Hazlitt, Piggott, Sowter, and Trotter. The available products were Cumberland sausage, pork chops, pork pie, scotch eggs, and sliced ham.

Lily Piggott was served later than the customer who requested the sliced ham, but before Mrs. Sowter.

The second customer was Maggie.

The pork pie was purchased by the customer directly after Jessica.

Naomi was the woman who bought the scotch eggs; she was served after Annie.

The Cumberland sausage was requested by Mrs. Trotter.

Mrs. Hazlitt was the third in line.

The fourth customer in the line bought the pork chops.

19. What was purchased by the third person in line?

- A. Cumberland Sausage
- B. Pork pie
- C. Sliced ham
- D. Pork chops
- E. Scotch eggs

20. What was the last name of the person who purchased the pork pie?

- A. Trotter
- B. Bore
- C. Hazlitt
- D. Piggott
- E. Sowter

21. What place was Naomi in line?

- A. First

- B. Second
- C. Third
- D. Fourth
- E. Fifth

Answers and Explanations

1. D: John or Patricia. Of the four fastest-John, Bart, George, and Patricia-three are always chosen to start. If George is one as specified, that leaves John, Bart, and Patricia. Knowing George will only start if Bart also starts, if George is in the starting lineup, then Bart must also be. The other two fastest are John and Patricia; therefore, one of them is the third of the three out of the four fastest always chosen.
2. A: Erwin and Dexter. Bart must be starting because we know George is starting and will only start with Bart. Dexter and Bart will not start together, eliminating Dexter. Of the four fastest-John, Bart, George, and Patricia-we know Bart and George are starting; three of the four fastest are always chosen, leaving either John or Patricia, eliminating Erwin.
3. C: Marlene is starting and not among the four fastest, of whom three are always chosen; John and Bart-not just John (A)-are, leaving one more. Dexter is not one of the fastest, so it cannot be John and Dexter (B). Dexter and Bart never start together (D). John, Erwin, and Bart (E) are all three in the first group, from which only two are chosen. Of the fastest four, the choices here include only John and Bart.
4. E: Bart is the only one who must start in order for George (C) to start. If Bart does not start, then neither does George; but they are two of the four fastest players, of whom three are always chosen. If two of the four fastest didn't start, that would leave only two of the four fastest, not three.
5. B: Ben operates the Dragon; Paul operates Rex. Pam (NOT Dave) assists Sue, so they do not operate the Tiger, OR Melville; therefore, they operate the Gorilla, and Rex is the Kangaroo. Jill does NOT operate Hamish, so the Tiger she and Dave operate must be Melville. Therefore, Sue and Pam's Gorilla is Audrey; and Tom assists Ben with Hamish, the Dragon.

6. A: Dave is the assistant with the Tiger. Pam assists Sue with Audrey the Gorilla. By process of elimination, Gale assists Paul with Rex the Kangaroo, and Tom assists Ben with Hamish the Dragon, leaving Jill, who is assisted by Dave with the Tiger, whose name-the only name left-is Melville.

7. A: Tom assists with Hamish's chief puppeteer, who is not Jill (B). Paul (C) is chief puppeteer for the puppet Rex,* not Hamish. Sue (D) is chief puppeteer working with assistant Pam, not Tom. *Rex (E) is not a chief puppeteer at all, but rather a Kangaroo puppet.

8. C: Gale works to assist chief puppeteer, Paul, with the Kangaroo puppet named Rex. The Dragon (A) puppet named Hamish is operated by Ben and his assistant Tom. The Gorilla (B) puppet named Audrey is operated by Sue and her assistant Pam. The Tiger (D) puppet named Melville is operated by Jill and her assistant Dave. The passage does NOT include a lemur (E) puppet at all.

9. C: Stephen has lost all his games until now, so the score must be 3:0 in favor of his opponent. This narrows the choices down to (B) or (C). At least one game at table 1 has resulted in a tie, but Stephen has lost all of his games, so he must be at table 2 (C).

10. D: Assuming the players and scores are each listed consecutively by table, the leading player at table 1 is David, with the highest score of 3.

11. A: David (B) has white pieces, not black. Richie (C) has black pieces, but has NOT been in a tied game. Don (D) is currently leading his match and so is not tied. Terry (E) has white pieces, not black. By process of elimination, the only choice left is Mike, who has black pieces (A).

12. A: Currently, after three games with the fourth game in progress not scored yet, Don is leading his match and Richie (E) is not in the lead. Terry (B) is identified as playing at table 4, but no further information is given. No information is given about David (C) or Gerry (D) regarding who is winning at table 4.

13. E: To determine whether the device increased/decreased/did not change his car's mileage, Larry would need a baseline measurement of his car's average mileage before installing the device. Without this baseline to compare with post-installation mileage, Larry's conclusion is unsubstantiated. Car ages (A), city vs. highway driving (B), gasoline grades (C), and Steve's lying (D) would all affect mileages, but

are immaterial when Larry cannot compare his car's current mileage to its mileage before device installation.

14. D: Xenon cannot be processed every other Monday. Oxygen is only processed on Tuesdays and Wednesdays, eliminating Mondays. The remaining three may be processed on any given Monday: Sulfur dioxide on any days except Fridays, methane on any days except Wednesdays, and liquid hydrogen on Mondays, Wednesdays, and Fridays.

15. D: Thursdays are most difficult, because Xenon cannot be processed every other Thursday, and oxygen (processed only on Tuesdays and Wednesdays) and liquid hydrogen (processed only on Mondays, Wednesdays, and Fridays) both cannot be processed on Thursdays. Mondays (A) are only restricted against processing xenon (alternate Mondays) and oxygen. Tuesdays (B) are only restricted against processing liquid hydrogen. Wednesdays (C) are only restricted against processing methane. Fridays (E) are only restricted against processing sulfur dioxide.

16. C: Liquid hydrogen is processed Monday, Wednesday, and Friday. Methane is processed any day except Wednesday. Xenon is not processed on alternate Mondays and Thursdays, but on all other days including Friday. Oxygen [(A), (D), (E)] is processed Tuesday and Wednesday, not Friday. Sulfur dioxide [(B), (E)] is not processed on Friday.

17. E: Liquid hydrogen is only processed on Monday, Wednesday, and Friday. Of these three days, on Wednesday liquid hydrogen and an additional three chemicals-xenon, oxygen, and sulfur dioxide-may be processed. On Monday, liquid hydrogen plus sulfur dioxide and methane can be processed. On Friday, liquid hydrogen plus xenon and methane can be processed.

18. E: With testing in progress, results are not yet definitive. The passage never indicates that preliminary results apply only to a small minority (A). Six cups of coffee daily is not necessarily higher than what many people drink, which the passage also does not identify (B). While generalizability of animal results to humans is doubted by many (C), the media relations person did NOT cite this objection, OR limited application of rat studies to human birth defects (D).

19. C: It helps to make a chart/table with cells for first name, surname, place in line, and food, first filling in the information given and then identifying the missing pieces through matching and elimination: Jessica Trotter was first in line and bought Cumberland sausage. Maggie Bore was second and bought

pork pie. Annie Hazlitt was third and bought sliced ham. Lily Piggott was fourth and bought pork chops. Naomi Sowter was fifth and bought scotch eggs.

20. B: The pork pie was purchased by Maggie Bore, the second in line following the first customer, Jessica Trotter. Following them were (3) Annie Hazlitt, buying sliced ham; (4) Lily Piggott, buying pork chops; and (5) Naomi Sowter, buying scotch eggs. By arranging the given information in a table by first name, surname, place in line, and food, one can fill in the missing pieces through elimination and matching.

21. E: Naomi Sowter was fifth in line, buying scotch eggs after Lily Piggott, who was fourth, buying pork chops and followed Annie Hazlitt, who was third and bought sliced ham. Maggie Bore was second in line, preceding Annie Hazlitt and buying pork pie after Jessica, who was first in line and bought Cumberland sausage. Arranging known first names, surnames, places in line, and purchases into cells/boxes in a table/chart makes it easier to match/eliminate to induce/deduce missing pieces.