

## SECTION III

Time—35 minutes

23 Questions

**Directions:** Each group of questions in this section is based on a set of conditions. In answering some of the questions, it may be useful to draw a rough diagram. Choose the response that most accurately and completely answers each question and blacken the corresponding space on your answer sheet.

Questions 1–5

Six entertainers—Robinson, Shahpari, Tigay, Wu, Yeaton, and Zane—are being scheduled for the six performances on the opening day of a community festival. Each entertainer will perform at one of six times—in the morning at 9:00 A.M., 10:00 A.M., or 11:00 A.M., or in the afternoon at 2:00 P.M., 3:00 P.M., or 4:00 P.M.—with no two entertainers performing at the same scheduled time. The order in which the entertainers perform is subject to the following constraints:

Robinson must perform at some time before Zane.

Yeaton's performance must be the next performance after Wu's.

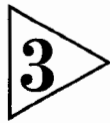
Tigay must perform in the afternoon.

Zane must perform in the morning.

1. Which one of the following could be the order, from first to last, in which the entertainers are scheduled to perform?

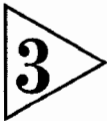
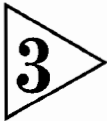
- (A) Robinson, Shahpari, Zane, Tigay, Wu, Yeaton
- (B) Robinson, Wu, Yeaton, Zane, Shahpari, Tigay
- (C) Robinson, Zane, Tigay, Shahpari, Wu, Yeaton
- (D) Shahpari, Robinson, Zane, Wu, Tigay, Yeaton
- (E) Wu, Yeaton, Zane, Shahpari, Tigay, Robinson

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2. If Wu is scheduled to perform in the morning, then which one of the following could be true?
- (A) Robinson is scheduled to perform at 10:00 A.M.
  - (B) Shahpari is scheduled to perform at 3:00 P.M.
  - (C) Tigay is scheduled to perform at 2:00 P.M.
  - (D) Yeaton is scheduled to perform at 3:00 P.M.
  - (E) Zane is scheduled to perform at 11:00 A.M.
3. Shahpari CANNOT be scheduled to perform at which one of the following times?
- (A) 9:00 A.M.
  - (B) 10:00 A.M.
  - (C) 11:00 A.M.
  - (D) 2:00 P.M.
  - (E) 3:00 P.M.
4. What is the earliest time that Wu could be scheduled to perform?
- (A) 9:00 A.M.
  - (B) 10:00 A.M.
  - (C) 11:00 A.M.
  - (D) 2:00 P.M.
  - (E) 3:00 P.M.
5. Which one of the following is a complete and accurate list of the entertainers who must be scheduled to perform in the afternoon?
- (A) Tigay
  - (B) Tigay, Wu
  - (C) Tigay, Yeaton
  - (D) Tigay, Wu, Yeaton
  - (E) Tigay, Shahpari, Yeaton

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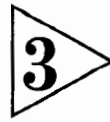
Questions 6–12

Exactly six of eight ceramic bowls, each crafted by exactly one of eight potters—Larsen, Mills, Neiman, Olivera, Park, Reigel, Serra, and Vance—will be displayed in a row in positions consecutively numbered 1 through 6, one bowl per position. The display is subject to the following conditions:

- If Larsen’s bowl is displayed, Mills’s bowl cannot be displayed.
- Park’s bowl can be displayed only if it is next to Olivera’s bowl and next to Serra’s bowl.
- Reigel’s bowl can be displayed only in either position 1 or position 6.
- Serra’s bowl cannot be displayed in either position 2 or position 4.
- Neiman’s bowl can be displayed only in position 5.

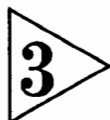
6. Which one of the following could be the display of bowls, listed by potter’s name, in order from position 1 through position 6?
- (A) Larsen, Mills, Serra, Park, Olivera, Reigel
  - (B) Larsen, Neiman, Olivera, Park, Serra, Vance
  - (C) Mills, Olivera, Park, Serra, Reigel, Vance
  - (D) Reigel, Park, Serra, Olivera, Neiman, Mills
  - (E) Serra, Park, Olivera, Vance, Larsen, Reigel

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7. If Neiman's bowl and Park's bowl are both displayed, which one of the following is a potter whose bowl could be displayed in position 1?
- (A) Larsen
  - (B) Park
  - (C) Reigel
  - (D) Serra
  - (E) Vance
8. If Larsen's bowl is displayed in position 6 and Olivera's bowl is displayed in position 2, which one of the following must be true?
- (A) Mills's bowl is displayed in position 3.
  - (B) Serra's bowl is displayed in position 1.
  - (C) Serra's bowl is displayed in position 3.
  - (D) Vance's bowl is displayed in position 1.
  - (E) Vance's bowl is displayed in position 3.
9. If Park's bowl is displayed in position 4, then the bowl displayed in position 2 must be
- (A) Larsen's, Mills's, or Vance's
  - (B) Larsen's, Neiman's, or Vance's
  - (C) Larsen's, Serra's, or Vance's
  - (D) Mills's, Reigel's, or Vance's
  - (E) Mills's, Serra's, or Vance's
10. If Larsen's bowl is displayed in position 1 and Olivera's bowl is displayed in position 4, which one of the following is a potter whose bowl CANNOT be displayed?
- (A) Neiman
  - (B) Park
  - (C) Reigel
  - (D) Serra
  - (E) Vance
11. Which one of the following is a potter whose bowl must be displayed?
- (A) Neiman
  - (B) Olivera
  - (C) Park
  - (D) Reigel
  - (E) Vance
12. If Neiman's bowl, Park's bowl, and Reigel's bowl are all displayed, which one of the following must be true?
- (A) Neiman's bowl is displayed next to Reigel's bowl.
  - (B) Neiman's bowl is displayed next to Vance's bowl.
  - (C) Olivera's bowl is displayed next to Reigel's bowl.
  - (D) Olivera's bowl is displayed next to Vance's bowl.
  - (E) Serra's bowl is displayed next to Vance's bowl.

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Questions 13–17

Four employees—Jackson, Larabee, Paulson, and Torillo—are to select from among four offices—W, X, Y, and Z. The order in which they select, from first to fourth, is to be decided by a random drawing. Each employee has ranked the offices from first (highest) to fourth (lowest) as follows:

Jackson: Y, X, Z, W

Larabee: X, Z, W, Y

Paulson: Y, Z, X, W

Torillo: X, Y, Z, W

The following restrictions must apply:

Each employee selects an office that has not been selected previously.

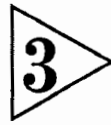
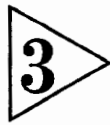
Each employee selects only one office.

Each employee selects the office that he or she ranks highest among the unselected offices.

13. Which one of the following is a possible matching of employees with the offices they select?

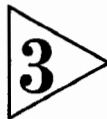
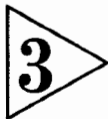
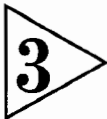
- (A) Jackson: W; Larabee: Y; Paulson: X; Torillo: Z
- (B) Jackson: Z; Larabee: X; Paulson: W; Torillo: Y
- (C) Jackson: X; Larabee: W; Paulson: Z; Torillo: Y
- (D) Jackson: Y; Larabee: W; Paulson: X; Torillo: Z
- (E) Jackson: Y; Larabee: Z; Paulson: X; Torillo: W

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14. Which one of the following must be true?
- (A) At most one of the employees selects the office he or she ranks first.
  - (B) At most one of the employees selects the office he or she ranks second.
  - (C) At least one of the employees selects the office he or she ranks first.
  - (D) At least one of the employees selects the office he or she ranks second.
  - (E) At least one of the employees selects the office he or she ranks third.
15. Which one of the following could be true?
- (A) Exactly two of the employees each selects the office he or she ranks third.
  - (B) Exactly two of the employees each selects the office he or she ranks fourth.
  - (C) Exactly three of the employees each selects the office he or she ranks second.
  - (D) Exactly three of the employees each selects the office he or she ranks third.
  - (E) Exactly three of the employees each selects the office he or she ranks fourth.
16. If Paulson selects office W, then which one of the following could be true?
- (A) Exactly two of the employees each selects the office he or she ranks second.
  - (B) Exactly two of the employees each selects the office he or she ranks third.
  - (C) Exactly three of the employees each selects the office he or she ranks first.
  - (D) Jackson selects office X.
  - (E) Larabee selects office Z.
17. Which one of the following must be true?
- (A) Jackson does not select office X.
  - (B) Larabee does not select office W.
  - (C) Larabee does not select office Z.
  - (D) Torillo does not select office X.
  - (E) Paulson does not select office X.

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Questions 18–23

Exactly five volunteers—Haddad, Joslin, Kwon, Molina, and Nash—are being assigned to three community committees—X, Y, and Z. Each committee will have three volunteers assigned to it, with each volunteer on a committee holding exactly one of three positions—leader, secretary, or treasurer.

The following conditions apply:

If Nash is assigned to a committee, Nash must be the leader for that committee.

Molina must be assigned to exactly one committee.

Kwon must be assigned to Y but cannot be assigned to Z.

Joslin must be the secretary for Y but cannot be assigned to X or Z.

18. Which one of the following could be the assignment of volunteers to Z?

- (A) leader: Haddad; secretary: Molina;  
treasurer: Joslin
- (B) leader: Joslin; secretary: Haddad;  
treasurer: Molina
- (C) leader: Kwon; secretary: Haddad;  
treasurer: Molina
- (D) leader: Molina; secretary: Nash;  
treasurer: Haddad
- (E) leader: Nash; secretary: Molina;  
treasurer: Haddad

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19. If Kwon is assigned to be treasurer for exactly two of the committees, then any of the following could be true EXCEPT:
- (A) Haddad is assigned to be leader for Y.
  - (B) Haddad is assigned to be secretary for Z.
  - (C) Haddad is assigned to be treasurer for X.
  - (D) Molina is assigned to be treasurer for Z.
  - (E) Nash is assigned to be leader for Y.
20. Each of the following must be true EXCEPT:
- (A) Haddad is assigned to X.
  - (B) Haddad is assigned to Y.
  - (C) Kwon is assigned to X.
  - (D) Molina is assigned to Z.
  - (E) Nash is assigned to X.
21. If Kwon is assigned to be leader for exactly one of the committees, then for which of the committees is the assignment of volunteers to positions fully determined?
- (A) X only
  - (B) Y only
  - (C) X and Y, but not Z
  - (D) Y and Z, but not X
  - (E) X, Y, and Z
22. The assignment of volunteers to committees and positions is fully determined if which one of the following is true?
- (A) Haddad is assigned to be leader for exactly one of the committees.
  - (B) Haddad is assigned to be secretary for exactly two of the committees.
  - (C) Haddad is assigned to be treasurer for all three of the committees.
  - (D) Kwon is assigned to be treasurer for exactly two of the committees.
  - (E) Nash is assigned to be leader for all three of the committees.
23. Which one of the following, if substituted for the condition that Molina must be assigned to exactly one committee, would have the same effect in determining the assignment of volunteers to committees?
- (A) Haddad must be assigned to more committees than Molina.
  - (B) Joslin must be assigned to more committees than Molina.
  - (C) Kwon must be assigned to more committees than Molina.
  - (D) Molina must be assigned to more committees than Haddad.
  - (E) Nash must be assigned to more committees than Molina.

## S T O P

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK ON THIS SECTION ONLY.  
DO NOT WORK ON ANY OTHER SECTION IN THE TEST.