

Section I

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 1–6

Four boys—Fred, Juan, Marc, and Paul—and three girls—Nita, Rachel, and Trisha—will be assigned to a row of five adjacent lockers, numbered consecutively 1 through 5, arranged along a straight wall. The following conditions govern the assignment of lockers to the seven children:

Each locker must be assigned to either one or two children, and each child must be assigned to exactly one locker.

Each shared locker must be assigned to one girl and one boy.

Juan must share a locker, but Rachel cannot share a locker.

Nita's locker cannot be adjacent to Trisha's locker.

Fred must be assigned to locker 3.

1. Which one of the following is a complete and accurate list of the children who must be among those assigned to shared lockers?
 - (A) Fred, Juan
 - (B) Juan, Paul
 - (C) Juan, Marc, Paul
 - (D) Juan, Marc, Trisha
 - (E) Juan, Nita, Trisha
2. If Trisha is assigned to locker 3 and Marc alone is assigned to locker 1, then which one of the following must be true?
 - (A) Juan is assigned to locker 4.
 - (B) Juan is assigned to locker 5.
 - (C) Paul is assigned to locker 2.
 - (D) Rachel is assigned to locker 2.
 - (E) Rachel is assigned to locker 5.
3. If the four boys are assigned to consecutively numbered lockers and Juan is assigned to locker 5, then which one of the following is a complete and accurate list of lockers each of which CANNOT be a shared locker?
 - (A) locker 2
 - (B) locker 4
 - (C) locker 1, locker 2
 - (D) locker 1, locker 4
 - (E) locker 2, locker 4
4. Once Rachel has been assigned to a locker, what is the maximum number of different lockers each of which could be the locker to which Juan is assigned?
 - (A) one
 - (B) two
 - (C) three
 - (D) four
 - (E) five
5. If the first three lockers are assigned to girls, which one of the following must be true?
 - (A) Juan is assigned to locker 1.
 - (B) Nita is assigned to locker 3.
 - (C) Trisha is assigned to locker 1.
 - (D) Juan is assigned to the same locker as Trisha.
 - (E) Paul is assigned to the same locker as Trisha.
6. If lockers 1 and 2 are each assigned to one boy and are not shared lockers, then locker 4 must be assigned to
 - (A) Juan
 - (B) Paul
 - (C) Rachel
 - (D) Juan and Nita
 - (E) Marc and Trisha

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Questions 7–13

A music store carries exactly ten types of CDs—both new and used of each of jazz, opera, pop, rap, and soul. The store is having a sale on some of these types of CDs. The following conditions must apply:

Used pop is on sale; new opera is not.

If both types of pop are on sale, then all soul is.

If both types of jazz are on sale, then no rap is.

If neither type of jazz is on sale, then new pop is.

If either type of rap is on sale, then no soul is.

7. Which one of the following could be a complete and accurate list of the types of CDs that are on sale?
 - (A) new jazz, used jazz, used opera, used pop, new rap
 - (B) new jazz, used pop, used rap, new soul
 - (C) used opera, used pop, new rap, used rap
 - (D) used opera, new pop, used pop, new soul
 - (E) used jazz, used pop, new soul, used soul
8. If new soul is not on sale, then which one of the following must be true?
 - (A) New rap is not on sale.
 - (B) New rap is on sale.
 - (C) Used opera is not on sale.
 - (D) At least one type of jazz is not on sale.
 - (E) At least one type of pop is not on sale.
9. If both types of jazz are on sale, then which one of the following is the minimum number of types of new CDs that could be included in the sale?
 - (A) one
 - (B) two
 - (C) three
 - (D) four
 - (E) five
10. Which one of the following CANNOT be true?
 - (A) Neither type of opera and neither type of rap is on sale.
 - (B) Neither type of jazz and neither type of opera is on sale.
 - (C) Neither type of opera and neither type of soul is on sale.
 - (D) Neither type of jazz and neither type of soul is on sale.
 - (E) Neither type of jazz and neither type of rap is on sale.
11. If neither type of jazz is on sale, then each of the following must be true EXCEPT:
 - (A) Used opera is on sale.
 - (B) New rap is not on sale.
 - (C) Used rap is not on sale.
 - (D) New soul is on sale.
 - (E) Used soul is on sale.
12. If new soul is the only type of new CD on sale, then which one of the following CANNOT be true?
 - (A) Used jazz is not on sale.
 - (B) Used opera is not on sale.
 - (C) Used rap is not on sale.
 - (D) Used soul is on sale.
 - (E) Used soul is not on sale.
13. If exactly four of the five types of used CDs are the only CDs on sale, then which one of the following could be true?
 - (A) Used jazz is not on sale.
 - (B) Used opera is not on sale.
 - (C) Used rap is not on sale.
 - (D) Neither type of jazz is on sale.
 - (E) Neither type of rap and neither type of soul is on sale.

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Questions 14–18

During a single week, from Monday through Friday, tours will be conducted of a company's three divisions—Operations, Production, and Sales. Exactly five tours will be conducted that week, one each day. The schedule of tours for the week must conform to the following restrictions:

Each division is toured at least once.

The Operations division is not toured on Monday.

The Production division is not toured on Wednesday.

The Sales division is toured on two consecutive days, and on no other days.

If the Operations division is toured on Thursday, then the Production division is toured on Friday.

14. Which one of the following CANNOT be true of the week's tour schedule?
- (A) The division that is toured on Monday is also toured on Tuesday.
 - (B) The division that is toured on Monday is also toured on Friday.
 - (C) The division that is toured on Tuesday is also toured on Thursday.
 - (D) The division that is toured on Wednesday is also toured on Friday.
 - (E) The division that is toured on Thursday is also toured on Friday.
15. If in addition to the Sales division one other division is toured on two consecutive days, then it could be true of the week's tour schedule both that the
- (A) Production division is toured on Monday and that the Operations division is toured on Thursday
 - (B) Production division is toured on Tuesday and that the Sales division is toured on Wednesday
 - (C) Operations division is toured on Tuesday and that the Production division is toured on Friday
 - (D) Sales division is toured on Monday and that the Operations division is toured on Friday
 - (E) Sales division is toured on Wednesday and that the Production division is toured on Friday
16. If in the week's tour schedule the division that is toured on Tuesday is also toured on Friday, then for which one of the following days must a tour of the Production division be scheduled?
- (A) Monday
 - (B) Tuesday
 - (C) Wednesday
 - (D) Thursday
 - (E) Friday
17. If in the week's tour schedule the division that is toured on Monday is not the division that is toured on Tuesday, then which one of the following could be true of the week's schedule?
- (A) A tour of the Sales division is scheduled for some day earlier in the week than is any tour of the Production division.
 - (B) A tour of the Operations division is scheduled for some day earlier in the week than is any tour of the Production division.
 - (C) The Sales division is toured on Monday.
 - (D) The Production division is toured on Tuesday.
 - (E) The Operations division is toured on Wednesday.
18. If in the week's tour schedule the division that is toured on Tuesday is also toured on Wednesday, then which one of the following must be true of the week's tour schedule?
- (A) The Production division is toured on Monday.
 - (B) The Operations division is toured on Tuesday.
 - (C) The Sales division is toured on Wednesday.
 - (D) The Sales division is toured on Thursday.
 - (E) The Production division is toured on Friday.

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Questions 19–23

A crew of up to five workers is to install a partition in at most three days. The crew completes five tasks in this order: framing, wallboarding, taping, sanding, priming. The crew is selected from the following list, which specifies exactly the tasks each person can do:

George: taping
 Helena: sanding, priming
 Inga: framing, priming
 Kelly: framing, sanding
 Leanda: wallboarding, taping
 Maricita: sanding
 Olaf: wallboarding, priming

The following conditions must apply:

At least one task is done each day.
 Taping and priming are done on different days.
 Each crew member does at least one task during the installation, but no more than one task a day.
 Each task is done by exactly one worker, completed the day it is started and before the next task begins.

19. Which one of the following could be a complete and accurate list of the members of the crew?
 - (A) George, Helena, Inga, Kelly
 - (B) George, Helena, Kelly, Leanda
 - (C) Helena, Inga, Kelly, Olaf
 - (D) Helena, Inga, Maricita, Olaf
 - (E) George, Helena, Leanda, Maricita, Olaf
20. If the installation takes three days, and if the same two crew members work on the first and third days, then which one of the following could be the pair of crew members who work on those two days?
 - (A) Helena and Inga
 - (B) Inga and Kelly
 - (C) Inga and Leanda
 - (D) Kelly and Olaf
 - (E) Leanda and Olaf
21. Each of the following could be a complete and accurate list of the members of the crew EXCEPT:
 - (A) Helena, Inga, Kelly, Maricita
 - (B) Inga, Kelly, Leanda, Olaf
 - (C) George, Helena, Inga, Leanda
 - (D) Inga, Leanda, Maricita, Olaf
 - (E) Kelly, Leanda, Maricita, Olaf
22. If the installation takes three days, and if the sanding is done on the third day, then which one of the following could be a list of all the crew members who work on the second day?
 - (A) Inga
 - (B) Kelly
 - (C) Olaf
 - (D) George and Helena
 - (E) Leanda and Olaf
23. Which one of the following could be a pair of members of the crew both of whom work on the same days as each other and each of whom perform two tasks?
 - (A) George and Maricita
 - (B) Helena and Kelly
 - (C) Inga and Leanda
 - (D) Kelly and Leanda
 - (E) Leanda and Olaf

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.