## Section 11
30 Minutes   25 Questions

1. Kelly's raise increased his salary by what percent ?

   (1) Kelly's raise was $1,200.
   (2) Kelly's raise increased his taxes to $1,700.

2. Mouse population X doubles every week. How many weeks from now will population X first exceed 1,000,000 ?

   (1) The mouse population is now 65,536.
   (2) Fifteen weeks ago the mouse population was 2.

3. If no student took test T more than once, how many students took test T ?

   (1) The average (arithmetic mean) of the students' scores on test T was 72.
   (2) The sum of he students' scores on test T was 2,232.

4. if $\triangle$ denotes an operation, what is the value of $(a \triangle b) \triangle c$?

   (1) $a \triangle b = 5$
   (2) $5 \triangle c = 3$

5. If $x + 2y = 6$, what is the value of x ?

   (1) $2x + y = 9$
   (2) $3x + 2y = 14$

6. Is $\dfrac{x}{8} = \dfrac{3}{4}$

   (1) $x > 5.5$
   (2) $x < 7$

7. Last year $\dfrac{4}{5}$ of the applicants for a job on a police force passed the physical xamination. If $\dfrac{3}{4}$ of the applicants who passed the physical examination also passed the written examination, how many of the applicants passed both examinations ?

   (1) The number of applicants who did not pass either examination was equal to the number who passed the written examination only.
   (2) There was a total of 100 applicants.

8. Is the integer n even ?

   (1) $n^2 - 1$ is odd.
   (2) $\sqrt{n}$ is an integer.

9. If today is Carol's birthday, how old is Carol?
   (1) 6 years ago she was half her present age.
   (2) 3 years from now she will be 3 times as old as she was 7 years ago.

10. If $x, y,$ and z are positive, what is the value of x ?

    (1) $x + y = z + y$
    (2) $z - y = 4 - y$

11. Is x an integer ?

(1) $\dfrac{2}{3}x$ is an integer.

(2) $x - 4$ is an integer.

12. If $y > 0$, is y greater than x ?

(1) $3x = 2y$
(2) $x + y = 5$

13. Did the population of Country S increase by less than 20 percent from 1965 to 1975 ?

(1) The population of Country S in 1965 was 180 million.
(2) The population of Country S in 1975 was 1.17 times what it was in 1965.

14. If a and b are positive integers, is $\dfrac{a}{b} = \dfrac{2}{3}$?

(1) $3a = 2b$
(2) For integers m and n, $a = 2m$ and $b = 3n$

15. $G, P,$ and S are animal species. What is the average life span, in year, of S ?

(1) The average life span of S is twice that of P and $\dfrac{4}{5}$ that of G.

(2) The average life span of G is 30 years longer than that of P and 10 years longer than that of S.

16. If point X is inside a circle with center O and radius 2, is point Y inside the same circle?

(1) $OX = 1$
(2) $XY = 2\dfrac{1}{2}$

17. Four dollar amounts, $w, x, y,$ and z, were invested in a business. Which amount was greatest'?

(1) $y < z < x$
(2) x was 25 percent of the total of the four investments.

18. If the measures of' the three interior angles of a triangle are $y°$, $15x°$, and $18x°$, what is the value of y ?

(1) $x = 5$
(2) $15x + y = 90$

19. What is the average (arithmetic mean) of x and y ?

(1) $\dfrac{x}{2} + \dfrac{y}{2} = 10$
(2) $x = 2y$

20. How many bags of grass seed were used for rectangular lawn X ?
(1) Lawn X has a perimeter of 720 feet.
(2) One bag of grass seed was used for each 5,000 square feet of lawn X

21. If x and y are positive. is $y < 2$?

(1) $x > 2y$
(2) $x < y + 2$

22. If n is a positive integer, is n divisible by at least six positive integers?

   (1) n is the product of three different prime numbers.

   (2) $n = 30$

23. A car traveled a distance of d miles in t minutes at an average rate of r miles per minute. What is the ratio of d to r?

   (1) $t = 30$

   (2) $d = 25$

24. If b is the product of three consecutive positive integers $c, c + 1,$ and $c + 2$, is b a multiple of 24 ?

   (1) b is a multiple of 3,

   (2) c is odd.

25. If x is a positive number, what is the value of x ?

   (1) $| x - 2 | = 1$

   (2) $x^2 = 4x - 3$

Section 12
30 Minutes   25 Questions

1. What is the total number of employees in the per-sonnel and data processing divisions of Company S ?

   (1) The number of employees in the data processing division is 3 more than twice the number of employees in the personnel division.

   (2) The number of employees in the data process-ing division is 15.

2. If x and y are integers, is $x + y$ divisible by 6 ?

   (1) x is divisible by 6.

   (2) y is divisible by 6.
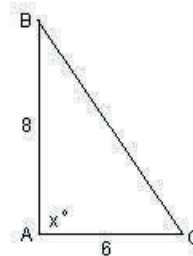
3. In the figure above, what is the length of segment BC ?

   (1) $x = 90$

   (2) The perimeter of $\triangle$ABC is 24.

4. Of the books that are standing upright along the top shelf of a bookcase, some are $\frac{1}{2}$-inch thick and the rest

are $\frac{3}{4}$-inch thick. What is the total number of books standing upright along the top shelf ?

(1) Half of these books are $\frac{1}{2}$-inch thick.

(2) The total thickness of all of these books is 25 inches.

5. In the terminating decimal equivalent of d, what is the number of nonzero digits to the right of the deci-mal point?

(1) $d = 5 + \frac{416}{1,000}$

(2) The terminating decimal equivalent of d has one nonzero digit to the left of the decimal point.

6. In a given class, what is the average (arithmetic mean) height per pupil ?

(1) The average (arithmetic mean) height of the girls in the class is 61 inches.

(2) The average (arithmetic mean) height of the boys in the class is 64 inches.

7. Richard's salary is greater than $25,000. Is Amy's salary greater than Brian's salary?

(1) Brian's salary is 125 percent of Richard's salary, and Amy's salary is greater than 130 percent of Richard's salary.

(2) Richard's salary is 75 percent of Amy's salary but is 80 percent of Brian's salary.

8. Are integers r and s consecutive ?

(1) r is odd and s is even.
(2) r - s = 1

9. There are exactly 6 teams in league X. What was the total number of games played by the 6 teams last season?

(1) Each team in league X played each of the other teams at least once.

(2) No team in league X played more than 7 games.