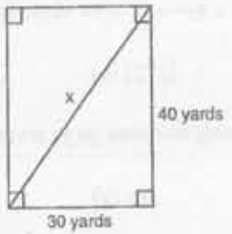
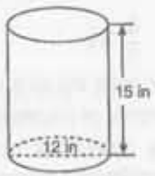
11. Tanya runs diagonally across a rectangular field that has a length of 40 yards and a width of 30 yards, as shown in the accompanying diagram. What is the length of the diagonal, in yards, that Tanya runs?



(1) 50 (3) 70
(2) 60 (4) 80

11 _____

12. A cylindrical container has a diameter of 12 inches and a height of 15 inches, as illustrated in the accompanying diagram. What is the volume of this container to the *nearest tenth* of a cubic inch?



(Not drawn to scale)

(1) 6,785.8 (3) 2,160.0
(2) 4,241.2 (4) 1,696.5

12 _____

13. What is an equation for the line that passes through the coordinates (2, 0) and (0, 3)?

(1) $y = -\frac{3}{2}x + 3$ (3) $y = -\frac{2}{3}x + 2$

(2) $y = -\frac{3}{2}x - 3$ (4) $y = -\frac{2}{3}x - 2$

13 _____

14. Which situation should be analyzed using bivariate data?
(1) Ms. Saleem keeps a list of the amount of time her daughter spends on her social studies homework.
(2) Mr. Benjamin tries to see if his students' shoe sizes are directly related to their heights.
(3) Mr. DeStefan records his customers' best video game scores during the summer.
(4) Mr. Chan keeps track of his daughter's algebra grades for the quarter.

14 _____

15. An electronics store sells DVD players and cordless telephones. The store makes a \$75 profit on the sale of each DVD player (d) and a \$30 profit on the sale of each cordless telephone (c). The store wants to make a profit of at least \$255.00 from its sales of DVD players and cordless phones. Which inequality describes this situation?

(1) $75d + 30c < 255$ (3) $75d + 30c > 255$
(2) $75d + 30c \leq 255$ (4) $75d + 30c \geq 255$

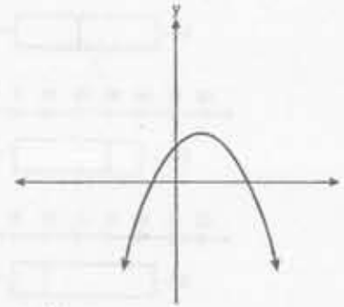
15 _____

16. What is the slope of the line containing the points (3, 4) and (–6, 10)?

(1) $\frac{1}{2}$ (2) 2 (3) $-\frac{2}{3}$ (4) $-\frac{3}{2}$

16 _____

17. Which type of graph is shown in the accompanying diagram?
(1) absolute value
(2) exponential
(3) linear
(4) quadratic



17 _____

18. The expression $\frac{9x^4 - 27x^6}{3x^3}$ is equivalent to

(1) $3x(1-3x)$ (2) $3x(1-3x^2)$ (3) $3x(1-9x^5)$ (4) $9x^3(1-x)$

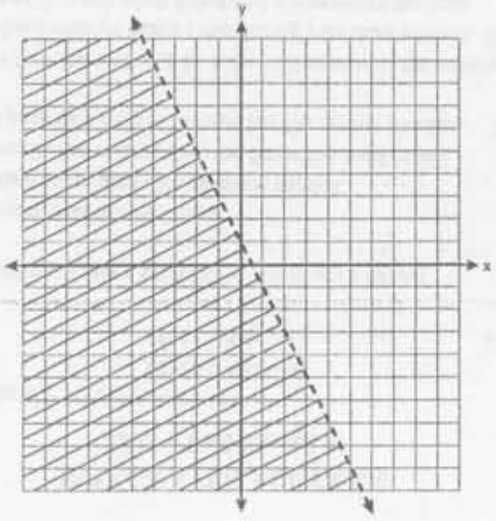
18 _____

19. Daniel's Print Shop purchased a new printer for \$35,000. Each year it depreciates (loses value) at a rate of 5%. What will its approximate value be at the end of the fourth year?

(1) \$33,250.00 (3) \$28,507.72
(2) \$30,008.13 (4) \$27,082.33

19 _____

20. Which inequality is represented by the accompanying graph?



(1) $y < 2x + 1$
(2) $y < -2x + 1$
(3) $y < \frac{1}{2}x + 1$
(4) $y < -\frac{1}{2}x + 1$

20 _____