

Name: _____

1. What is the value of the following expression?

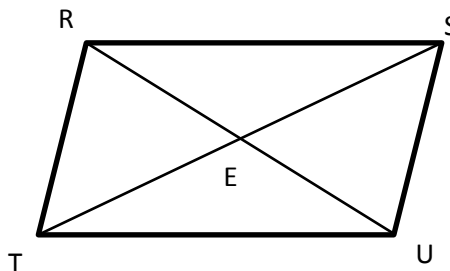
$$|22| - |-10|$$

2. Simplify $\frac{(6x^3y^5)^2}{(3xy)^2}$

3. The depth of the water in a tank is 205 ft. Each month the depth drops by 25% of the previous month's level. What is the closest depth at the end of month 3?
- a. 12 ft
 - b. 86 ft
 - c. 63 ft
 - d. 56 ft

4. Parallelogram RSTU is given. The length of ST is 28 meters and length of RU is 38 meters. What is the length of SE?

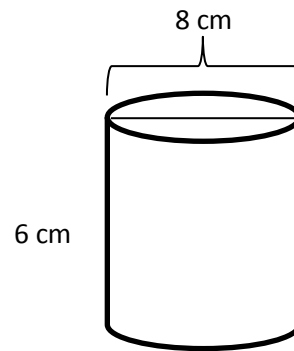
- a. 19 meters
- b. 17 meters
- c. 16 meters
- d. 14 meters



5. The total cost of taking a taxi from downtown Pittsburgh to Club Manion is \$50. The taxi charges a flat fee of \$15, plus \$3.25 per mile. Using the given equation $50 = 3.25m + 15$, about how many miles did the taxi ride?
- a. 15
 - b. 11
 - c. 16
 - d. 9

6. A cylinder is shown to the right. What is the volume of the cylinder?

- a. $96\pi \text{ cm}^3$
- b. $150\pi \text{ cm}^3$
- c. $600\pi \text{ cm}^3$
- d. $360\pi \text{ cm}^3$



7. The price of a new couch after a 15% discount is \$1059.95. What was the original price?

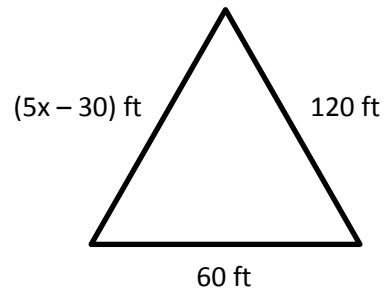
- a. \$155.88
- b. \$883.32
- c. \$1299.00
- d. \$1247.00

8. If the radius of a circle is quadrupled, what change is made to the circumference?

- a. Increased by 4
- b. Multiplied by 4
- c. Increased by 6
- d. Multiplied by 6

9. If the perimeter of the triangle is 350 ft, what is the value of x ?

- a. 25
- b. 30
- c. 35
- d. 40

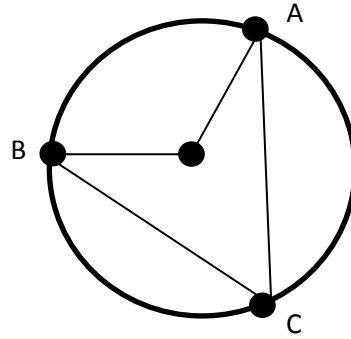


10. What is the slope of a line parallel to $y = \frac{2}{3}x - 5$?

- a. $-\frac{2}{3}$
- b. $-\frac{3}{2}$
- c. $\frac{2}{3}$
- d. $\frac{3}{2}$

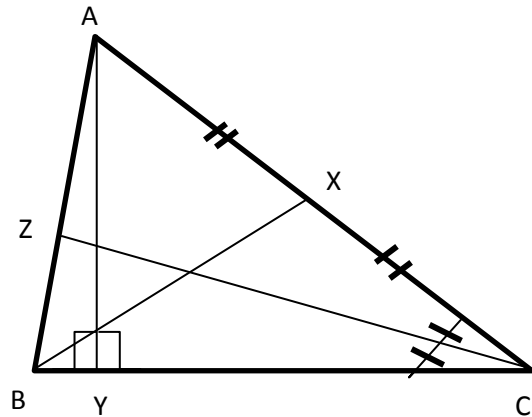
11. The measure of arc BA is 256° . Find the measure of $\angle BCA$.

- a. 82
- b. 164
- c. 328
- d. 128



12. Name the following parts of the triangle.

- a. Median _____
- b. Altitude _____
- c. Angle bisector _____



13. Factor and find the values for x.

$$x^2 + 4x - 12 = 0$$

- a. $x = 6$ or $x = 2$
- b. $x = -6$ or $x = -2$
- c. $x = -6$ or $x = 2$
- d. $x = 6$ or $x = -2$

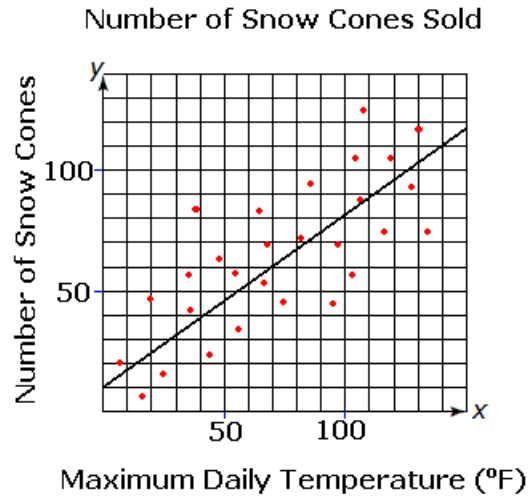
14. Which pair of equations are perpendicular lines?

- a. $y = 2x + 3$; $y = 2x + 3$
- b. $y = 2x$; $y = 2$
- c. $y = 2x + 3$; $y = \frac{1}{2}x + 3$
- d. $y = 2x + 3$; $y = -\frac{1}{2}x + 3$

15. If 216 cups of coffee can be made from 9 pounds of coffee, how many cups can be made from 27 pounds of coffee?
- 648
 - 576
 - 288
 - 144
16. Factor $16x^2 - 100$
- $(4x + 10)(4x + 10)$
 - $(4x + 10)(4x - 10)$
 - $(4x - 10)(4x - 10)$
 - $(16x - 10)(x + 10)$
17. What is the solution for $-10 < 3x + 8 < 35$.
- $-6 < x < 9$
 - $-6 \leq x \leq 9$
 - $9 < x < 6$
 - $x < 12$
18. What is the equation of the line that contains the points (0, 3) and (5, 4).
- $y - 2x = -13$
 - $2x + 2y = 6$
 - $x - 2y = -13$
 - $y - 2x = -6$
19. Multiply the following: $-2x^3(x^3 + 5x^2 - 3x + 7)$
- $2x^9 + 10x^6 - 6x^3 + 14x^3$
 - $-2x^6 - 10x^5 + 6x^4 - 14x^3$
 - $2x^6 - 10x^5 + 6x^4 + 14x^3$
 - $-2x^9 - 10x^6 + 6x^3 - 14x^3$

20. The graph shows a line of best fit for data collected on the number of snow cones sold as a function of the maximum daily temperatures. What is the equation of the line of best fit?

- a. $y = \frac{-4}{3}x$
- b. $y = \frac{4}{3}x$
- c. $y = \frac{5}{7}x + 10$
- d. $y = \frac{-5}{7}x + 10$



21. Simplify $(7)^{-3}$

- a. -343
- b. -21
- c. $\frac{1}{343}$
- d. $\frac{1}{-343}$

22. The cost of a 5 bedroom house in Myrtle Beach is \$121,991.95. If 5 couples are to split the cost evenly, what is the cost per couple?

- a. \$ 24,398.39
- b. \$ 27,779.50
- c. \$ 38,394.68
- d. \$ 12,199.20

23. Where would $\sqrt{34}$ be on a number line?



24. Solve for x: $20x - 27 = 8x + 9$

- a. 2
- b. -3
- c. 3
- d. $\frac{1}{2}$

25. The manager at the local Sheetz completed a survey to see how many people buy MTO's. 5 out of 15 people who came into Sheetz bought an MTO. If a total of 1089 people come to sheetz, how many should we expect to buy an MTO?

- a. 240
- b. 374
- c. 420
- d. 363

26. Simplify $(-2x^4 + 3x^3 + 3x) - (x^3 + 5x^2 - 3x + 7)$

- a. $-2x^4 + 3x^3 + 7$
- b. $-3x^4 + 8x^3 + 3x + 5x^2 + 7$
- c. $-2x^4 + 2x^3 - 5x^2 + 6x - 7$
- d. $2x^4 - 2x^3 + 5x^2 - 6x + 7$

27. From the given data, write an equation of the line.

X	2	3	4	6
Y	3	5	7	11

- a. $y = x + 1$
- b. $y = x^2 + 2$
- c. $y = x + 3$
- d. $y = 2x - 1$

28. Which set of points is a solution of the 2 equations?

$$x - 4y = -2$$

$$-2x + 3y = -6$$

- a. (6, 2)
- b. (7, 3)
- c. (2, 6)
- d. (7, 3)

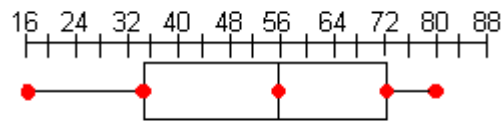
29. The following data represents the temperatures for the month of December.

-1 11 16 -3 20 15 40 11 19 -2 11 11 12 15

Find the mean, median, and mode.

- a. Mean: _____
- b. Median: _____
- c. Mode: _____

30. The Exit Exam tests scores are represented by the following data:

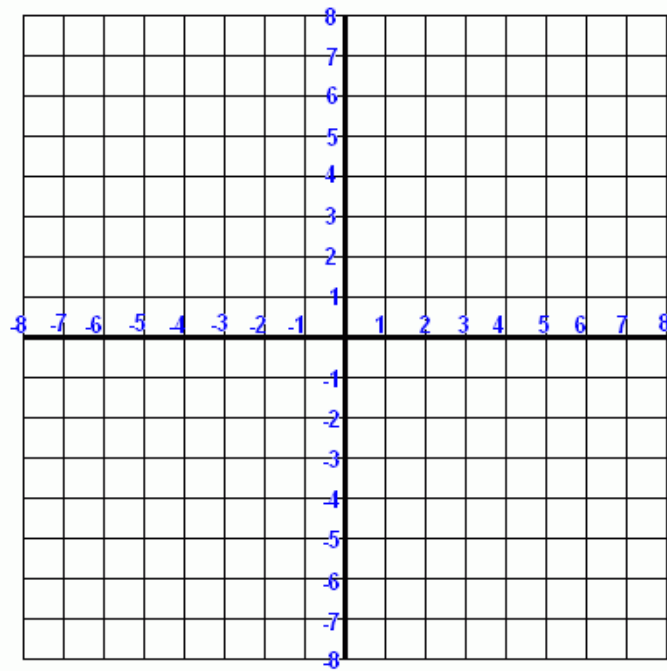


Which of the following lists the lower quartile, median, and upper quartile (in that order)?

- a. 16, 56, 80
- b. 35, 56, 72
- c. 16, 35, 56
- d. 56, 72, 80

Open-Ended Response:

A.) Graph $-2x + y \geq -4$ on the grid below. Show all work and explain your steps.



B.) Explain how you could use the graph from part A to determine if $(1, -5)$ is a solution.

C.) Determine, using Algebra, if $(1, 3)$ is a solution of the inequality. Show all work.

