

Name: _____

1. What is the value of the following expression?

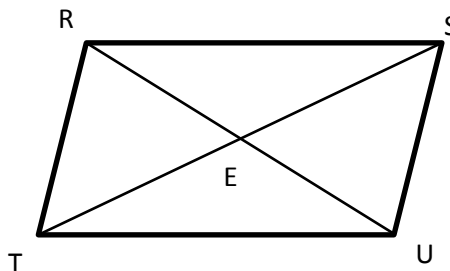
$$|-20| - |15|$$

2. Simplify $\frac{(4x^4y)^2}{(2x^2y)^2}$

3. The depth of the water in a tank is 180 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. 105 ft
 - b. 76 ft
 - c. 2.8 ft
 - d. 86 ft

4. Parallelogram RSTU is given. The length of ST is 24 meters and length of RU is 34 meters. What is the length of SE?

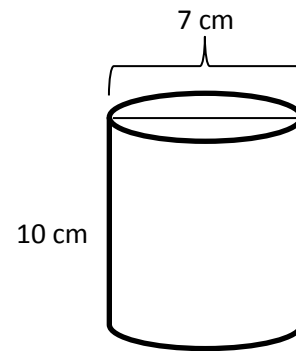
- a. 17 meters
- b. 12 meters
- c. 10 meters
- d. 14 meters



5. The total cost of taking a taxi from downtown Pittsburgh to Club Manion is \$50. The taxi charges a flat fee of \$10, plus \$4.00 per mile. Using the given equation $50 = 4.00m + 10$, about how many miles did was the taxi ride?
- a. 15
 - b. 12.5
 - c. 4
 - d. 10

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

- a. $70\pi \text{ cm}^3$
- b. $122.5\pi \text{ cm}^3$
- c. $384.65\pi \text{ cm}^3$
- d. $490\pi \text{ cm}^3$



7. The price of a new couch after a 25% discount is \$2301.75. What was the original price?

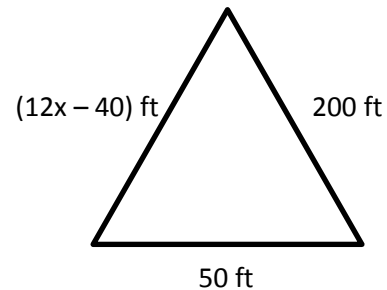
- a. \$575.44
- b. \$1726.31
- c. \$2887.19
- d. \$3069.00

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

- a. Increased by 2
- b. Multiplied by 2
- c. Increased by 4
- d. Multiplied by 4

9. If the perimeter of the triangle is 450 ft, what is the value of x ?

- a. 13.3
- b. 20
- c. 25
- d. 36

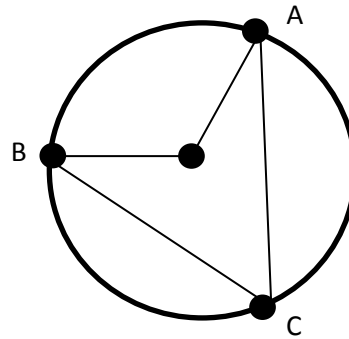


10. What is the slope of a line parallel to $y = -\frac{3}{4}x - 5$

- a. $\frac{3}{4}$
- b. $\frac{4}{3}$
- c. $-\frac{3}{4}$
- d. $-\frac{4}{3}$

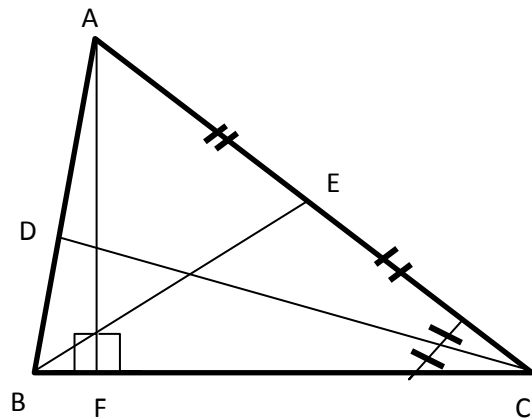
11. The measure of arc BA is 84° . Find the measure of $\angle BCA$.

- a. 42
- b. 84
- c. 28
- d. 168



12. Name the following parts of the triangle.

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



13. Factor and find the values for x.

$$x^2 - 7x + 12 = 0$$

- a. $x = 3$ or $x = 4$
- b. $x = 3$ or $x = -4$
- c. $x = -3$ or $x = 4$
- d. $x = -3$ or $x = -4$

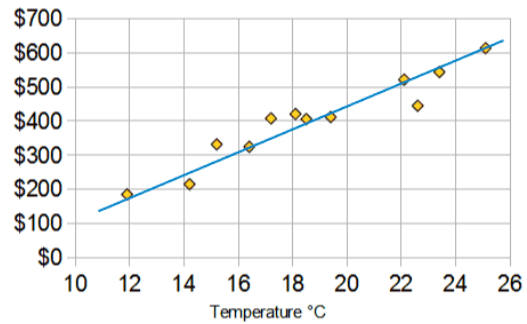
14. Which pair of equations are perpendicular lines?

- a. $y = 4x + 3$; $y = 4x + 3$
- b. $y = 5x$; $y = 5$
- c. $y = 3x + 3$; $y = \frac{1}{3}x + 3$
- d. $y = 6x + 3$; $y = -\frac{1}{6}x + 3$

15. If 220 cups of coffee can be made from 4 pounds of coffee, how many cups can be made from 7 pounds of coffee?
- 125.7
 - 267
 - 385
 - 420
16. Factor $25x^2 - 81$
- $(5x + 9)(5x + 9)$
 - $(5x + 9)(5x - 9)$
 - $(5x - 9)(5x - 9)$
 - $(5x - 9)(5x + 9)$
17. What is the solution for $-10 < 5x - 10 < 35$.
- $0 < x < -9$
 - $0 \leq x \leq 9$
 - $0 < x < 9$
 - $x < 0$
18. What is the equation of the line that contains the points (2,5) and (7, 10).
- $y - 2x = 3$
 - $-x + y = 3$
 - $x - y = 3$
 - $y - 2x = -3$
19. Multiply the following: $-2x^2(2x^3 + 3x^2 - 4x + 5)$
- $4x^5 + 6x^4 - 8x^3 + 10x^2$
 - $-4x^6 - 6x^4 + 8x^2 - 14$
 - $4x^6 - 6x^4 - 8x^2 + 14$
 - $-4x^5 - 6x^4 + 8x^3 - 10x^2$

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. $y = \frac{-100}{3}x$
- b. $y = \frac{100}{3}x$
- c. $y = \frac{100}{3}x + 100$
- d. $y = \frac{-100}{3}x + 100$



21. Simplify $(-6)^{-4}$

- a. -1296
- b. 1296
- c. $\frac{1}{1296}$
- d. $\frac{1}{-1296}$

22. The cost of a 4 bedroom house in Myrtle Beach is \$121,966.84. If 4 couples are to split the cost evenly, what is the cost per couple?

- a. \$ 13,260.34
- b. \$ 15,245.86
- c. \$ 30,220.81
- d. \$ 30,491.71

23. Where would $\sqrt{39}$ be on a number line?



Figure 1



Figure 2



Figure 3



Figure 4

24. Solve for x: $25x + 29 = 15x + 9$

- a. 2
- b. -2
- c. 3.8
- d. 0.7

25. The manager at the local Sheetz completed a survey to see how many people buy MTO's. 4 out of 16 people who came into Sheetz bought an MTO. If a total of 1280 people come to sheetz, how many should we expect to buy an MTO?

- a. 64
- b. 201
- c. 320
- d. 5120

26. Simplify $(-3x^4 + 2x^3 + 4x) - (2x^3 + 5x^2 - 3x + 6)$

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

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

X	2	3	4	5
Y	3	6	9	12

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

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

$$x - 5y = -10$$

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

- a. (-2, 0)
- b. (0, -2)
- c. (2, 0)
- d. (0, 2)

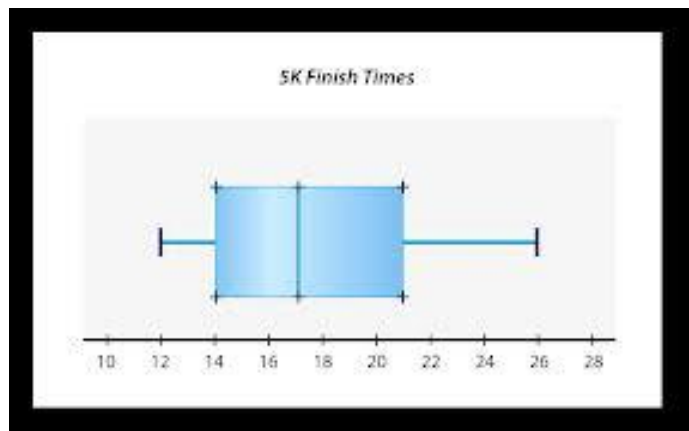
29. The following data represents the temperatures for the month of December.

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

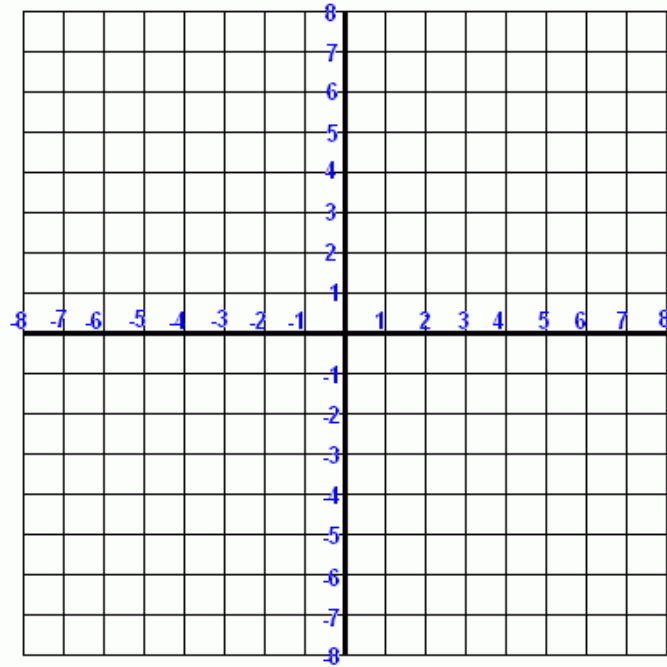


Which of the following lists the lower quartile, median, and upper quartile (in that order)?

- a. 21, 17, 14
- b. 12, 17, 26
- c. 14, 17, 21
- d. 14, 21, 26

Open-Ended Response:

A.) Graph $-3x + y \geq -7$ 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.

