

Math I:

Placement Test:

Name: _____

Date: _____

- Numbers and Operation,
- Patterns, Algebra and Functions
- Geometry,
- Measurement
- Statistics and probability

Part I:

Multiple choice: Please answer these questions by circle one of the four choices.

1. Which of the following equations can be used to define the numbers hours (H) in a day (D)?

- a. $H = 12 + D$
- b. $H = D / 12$
- c. $H = D / 24$
- d. $H = 24 * D$

2. Solve the expressions $a^x - \frac{(b*c)}{d}$; for $a = 2, b = 10, c = 5, d = 2$ and $x = 3$

- a. 24
- b. 8
- c. -17
- d. -5

3. Simplify the following radical expression; $\sqrt{(8)} + \sqrt{(72)}$

- a. $\sqrt{15}$
- b. $8\sqrt{2}$
- c. $3\sqrt{2}$
- d. $6\sqrt{2}$

4. If a ship in a 3in. : 4 ft. scale drawing is 12 inches long, how long is the actual ship?

- a. 16 ft.
- b. 12 ft.
- c. 9 ft.
- d. 36 in.

5. What is the most simplified for of the following expression: $12ab(a^2 + 2ab + 4) - 24a^2b^2$

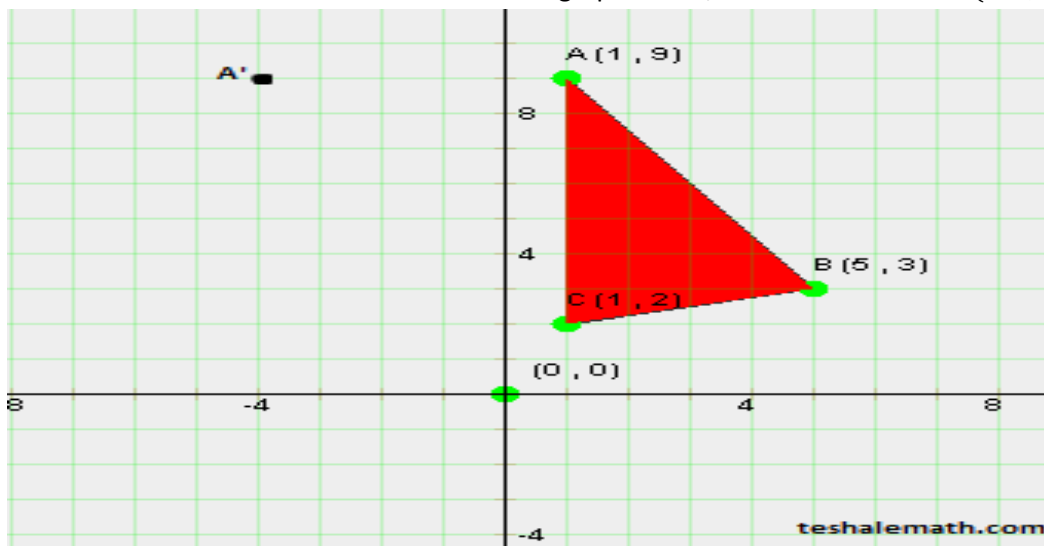
- a. $12ab$
- b. $12a^2b + 4$
- c. $12a^3b + 48ab$
- d. ab^2

6. What is the slope of a line that passes through the point $(2, -6)$ and $(1, -5)$?
- 5
 - 1
 - 4
 - 2
7. Find the x-intercept and y-intercept of the line $3x + 4y = 12$
- x-int = 4 and y-int = -3
 - x-int = -4 and y-int = -3
 - x-int = -2 and y-int = 5
 - x-int = 4 and y-int = 3
8. A circle with radius of 6 cm is enlarged to be a circle with radius of 15 cm . What scale factor was used to dilate the small circle into becoming the large circle?
- 0.4
 - 4.5
 - 2.5
 - 9.0
9. Annie made a chocolate cake in the shape of a cube with sides 3 inches. What is the approximate surface area of the cake?
- 9 square inches
 - 12 square inches
 - 81 square inches
 - 54 square inches
10. Teshale tossed a coin four times in his math class. What is the probability that he will get exactly one head and three tails (in any order)?
- $\frac{1}{16}$
 - $\frac{1}{4}$
 - $\frac{1}{2}$
 - $\frac{3}{4}$
11. 10 years from now, Teshale will be twice as old as his brother's age 5 years ago. If his brother is 24 years old now, how old is Teshale now?
- 28 years old
 - 38 years old
 - 20 years old
 - 19 years old
12. What is the scientific notation form for 0.000321
- $3.21 * 10^5$
 - $0.321 * 10^{-3}$
 - $3.21 * 10^{-4}$
 - $32.1 * 10^{-5}$

13. What is the value of x if x represents an integer between $\sqrt{80}$ and $\sqrt{86}$

- a. 3
- b. 4
- c. 9
- d. 81

14. What is the translated coordinate of B on the graph below, if A is translated to $A'(-4, 9)$?



- a. $B'(3, 5)$
- b. $B'(0, 3)$
- c. $B'(5, -2)$
- d. $B'(0, -2)$

15. What is the value of q that makes the proportions true?

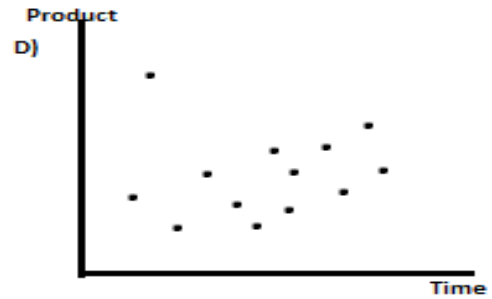
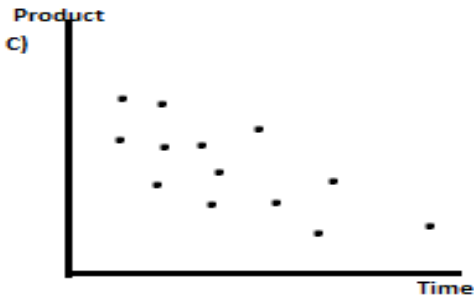
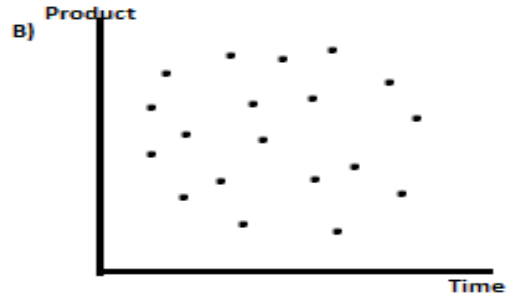
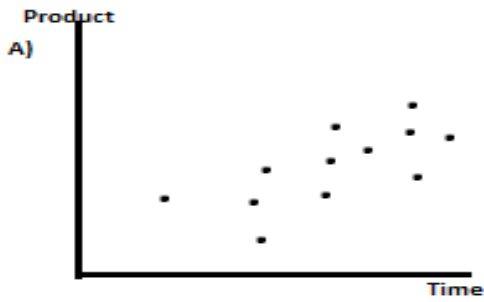
$$\frac{2-3q}{4} = -\frac{3}{5}$$

- a. 15
- b. $\frac{22}{15}$
- c. 4
- d. $\frac{1}{3}$

16. Rectangle ABCD has 24 inches perimeter. If the rectangle is dilated by $\frac{1}{3}$, what is the new rectangles perimeter?

- a. 72 inches
- b. 48 inches
- c. 8 inches
- d. 216 inches

17. Which one of the following graphs below has no correlation?



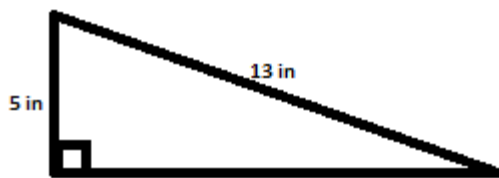
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18. Which function represents the table below?

X	Y
-2	4
0	3
2	2
4	1
6	0

- a. $Y = 1/2x + 3$
- b. $Y = 2x - 3$
- c. $Y = -1/2x + 3$
- d. $Y = 2x$

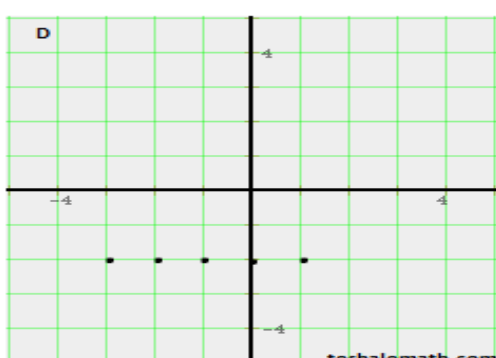
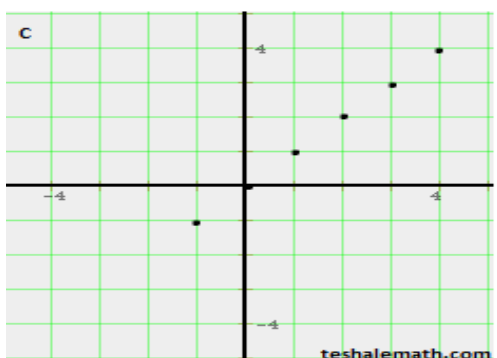
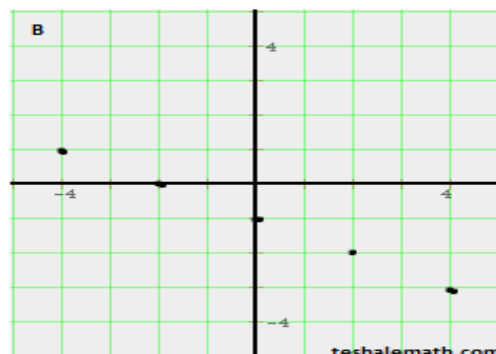
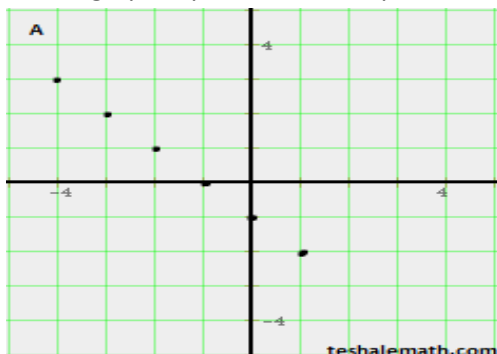
19. What is the area of the triangle below?



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- a. 30 in^2
- b. $\frac{65}{2} \text{ in}^2$
- c. 25 in^2
- d. 65 in^2

20. Which graph represents all the points on the line $y = -x - 1$



Part II:

Please show all your work on a separate piece of paper:

21. Simplify the expression: $2(3x) - 3(2y - x) + 5z - 3(2x - 2y)$

22. Simplify the exponential expression: $x^3 * x^5 * x^{-2}$

23. Simplify the difference: $\frac{4}{6} - 2\frac{3}{5}$

24. Solve the following equations: $2(x - 3) + 3x = (3x + 6) - 8$

25. Find the surface area of a rectangular prism with
 $Length = 5in, Width = 4in$ and $Height = 8in$