Unit 7 Pythagorean Theorem Dugger Review [1595396]

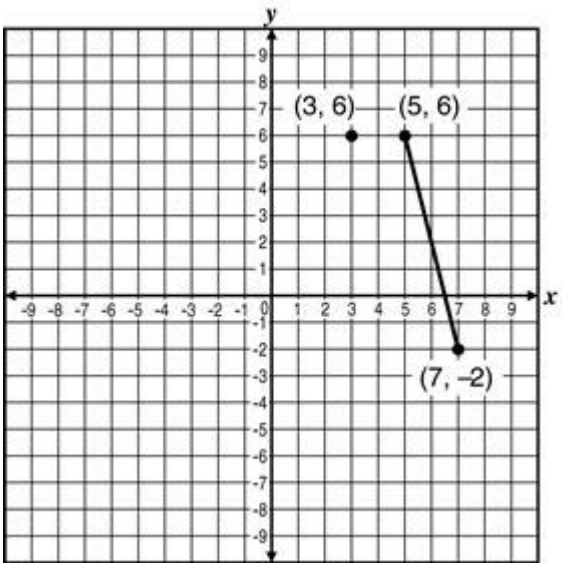
1. **Which of the following could be the lengths of the sides of a right triangle?**

   A. 5.1 cm, 3.4 cm, 8.5 cm
   B. 5.1 cm, 6.8 cm, 8.5 cm
   C. 5.1 cm, 8.5 cm, 8.5 cm
   D. 5.1 cm, 6.8 cm, 10.2 cm

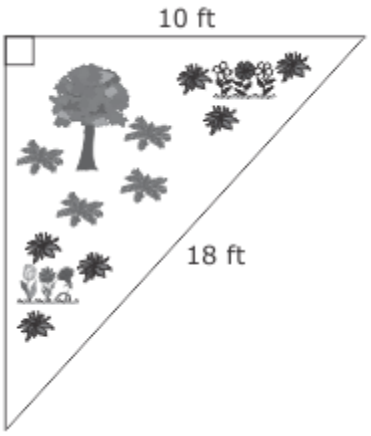
2. **Paul and Jamie are making necklaces to sell at a craft fair. The tools and other start-up materials cost $12.50. There is an additional cost of $3.25 per necklace. Which equation can be used to find the total cost, *c*, of making a certain number of necklaces, *n*?**

   A. $c = 3.25n$
   B. $c = 12.50n$
   C. $c = 12.50 + 3.25n$
   D. $c = 3.25 + 12.50n$

3. **What is the distance between Point $(3, 6)$ and the midpoint of the line segment connecting Points $(5, 6)$ and $(7, -2)$?**

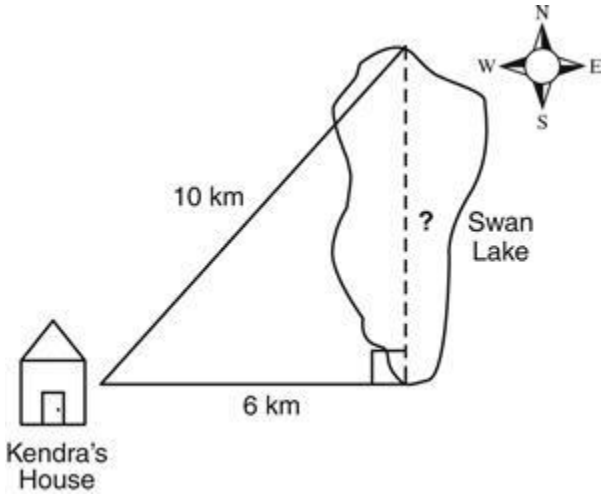


4. Molly wants to put a fence around an area. The fence will follow the diagram of the triangle shown below. About how much fence will she need? Round your answer to the nearest integer.

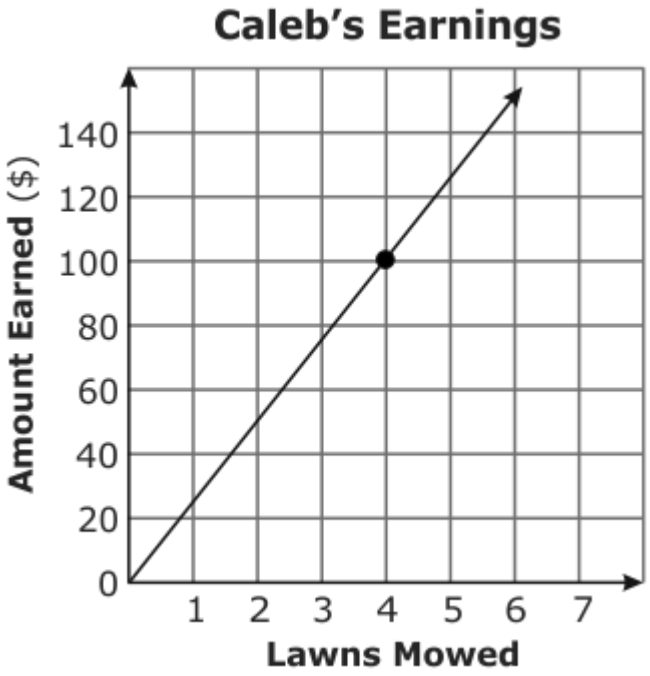


5. A triangle has sides that measure 5 units, 12 units, and 13 units. Is this triangle a right triangle?

6. Kendra lives 10 km from the northern tip of Swan Lake and 6 km from the southern tip of Swan Lake. Find the ?.



7. Taylor uses the equation $y = 20x$ to calculate the amount she earns mowing x lawns. The graph below shows the amount Caleb earns mowing lawns.



Which statement is true?

A. Taylor and Caleb earn the same amount per lawn.

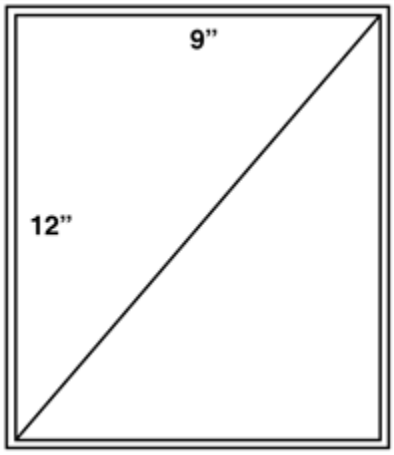
B. Taylor earns $5 more per lawn than Caleb.

C. Caleb earns $5 more per lawn than Taylor.

8. Use the number line to determine the value graphed.

$$A.\sqrt{6},\ \ B.\sqrt{7},\ \ C.\sqrt{46},\ \ D.\sqrt{52}$$

9. A rectangular glass window is divided into two equivalent right triangles by a diagonal brace. What is the length of the diagonal brace?



10. What value of x satisfies the equation $\frac{-4x-2}{6} = -3$

11. Two functions are represented below.

Function 1:

$4x - 2y = -2$

Function 2:

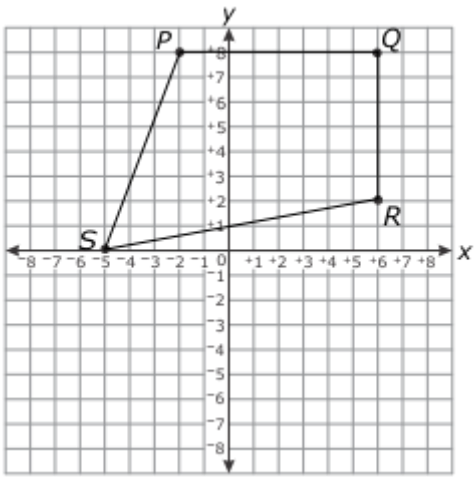
x	y
-1	3
0	1
1	-1
2	-3

Which statement is true about the *y*-intercepts of the functions?

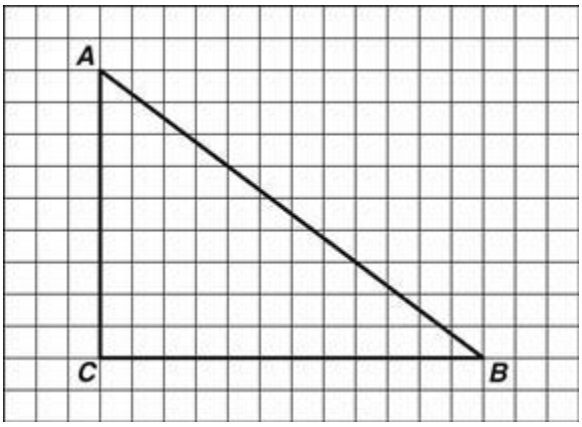
A. At least one of the functions does not have a y-intercept.
B. Function 1 and Function 2 have *y*-intercepts that are equal.
C. Function 1 has a *y*-intercept that is less than the *y*-intercept of Function 2.

D. Function 1 has a *y*-intercept that is greater than the *y*-intercept of Function 2.

12. Find the perimeter of the quadrilateral PQRS.



13. Triangle *ABC* is shown on the grid below. Find the length of AB.

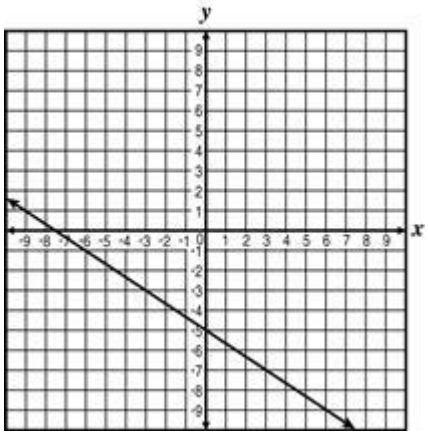


14. Which of the following numbers is irrational?

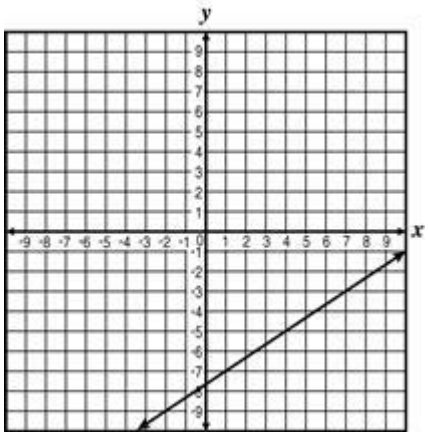
A. -6
B. -0.45
C. $\frac{2}{3}$
D. $\sqrt{10}$

15. Which graph best represents a line with a slope of $-\frac{2}{3}$ that passes through $(7, -3)$?

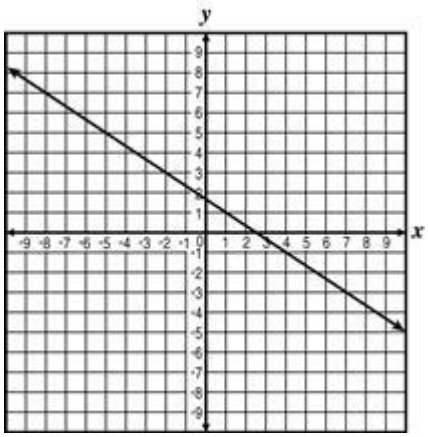
A.



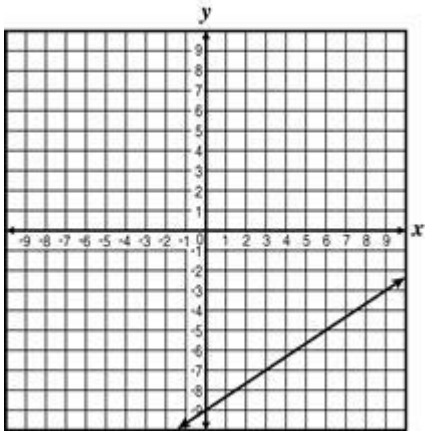
B.



C.

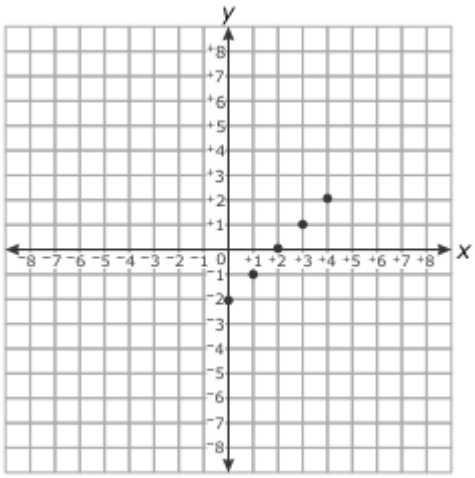


D.

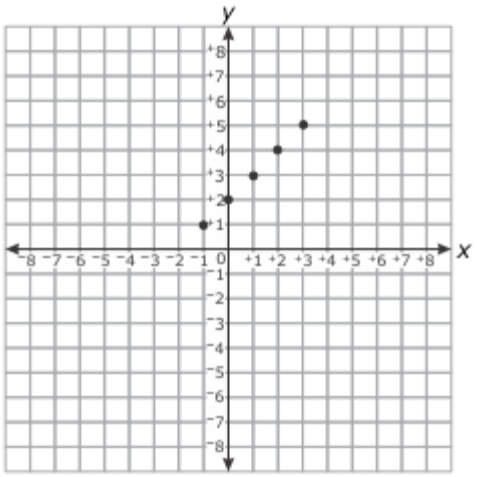


16. In which graph do all of the plotted points lie on the line $y = x + 2$?

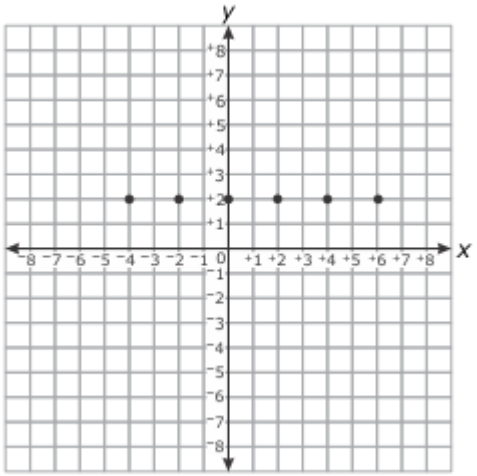
A.



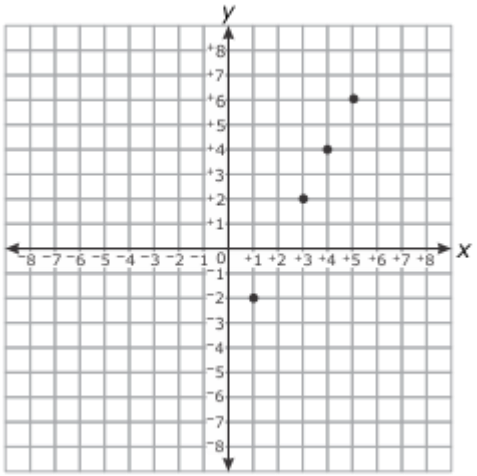
B.



C.



D.



17. Which relation is a function?

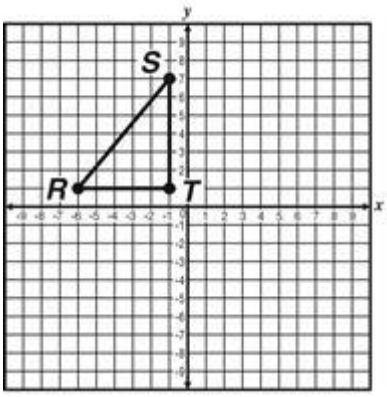
A. {(2, 6), (3, 9), (4, 12), (5, 15)}
B. {(-4, -8), (-4, -2), (4, 8), (4, 2)}

C. {(-3, -2), (-1, 0), (0, 1), (0, 4)}
D. {(2, 4), (2, 5), (3, 5), (3, 6)}

18. Which equation represents a nonlinear function?

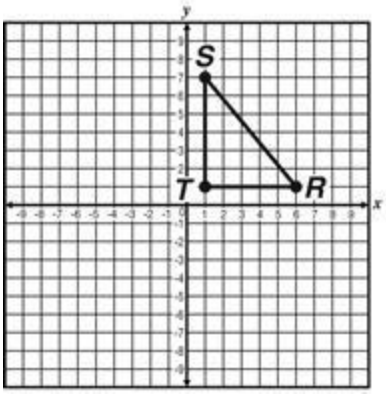
A. $y = \frac{x}{2} - 4$
B. $y = x^2 + \frac{3}{4}$
C. $y = \frac{4}{3} \times -\frac{2}{3}$
D. $y = -5x + 1$

19. **The graph below shows Triangle *RST*.**

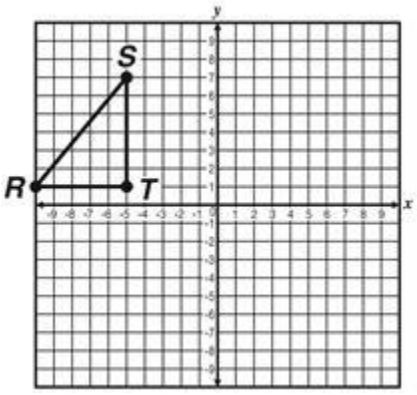


Which figure represents a reflection of Triangle *RST* over the *y*-axis?

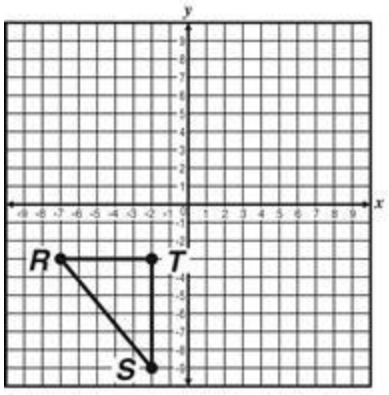
A.



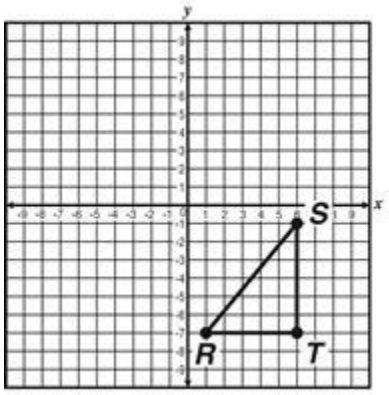
B.



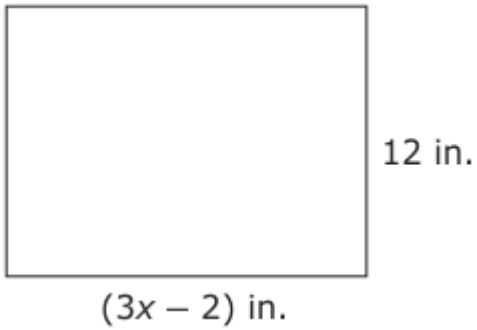
C.



D.



20. The perimeter of the rectangle below is 56 in.



What is the value of x?

21. Which function has a greater rate of change than the function that passes through the points given in the table below?

x	*y*
4	2
6	3
8	4

A. $3x-5y = 25$

B. $7y - 3x = 14$

C. $Y = 1 + \frac{1}{2}x$

22. Which table of values corresponds to the equation $y = 5x - 3$?

A.

x	*y*
0	–5
–1	–8
2	1
–3	–14

B.

x	*y*
0	0
–1	–2
2	4
–3	–6

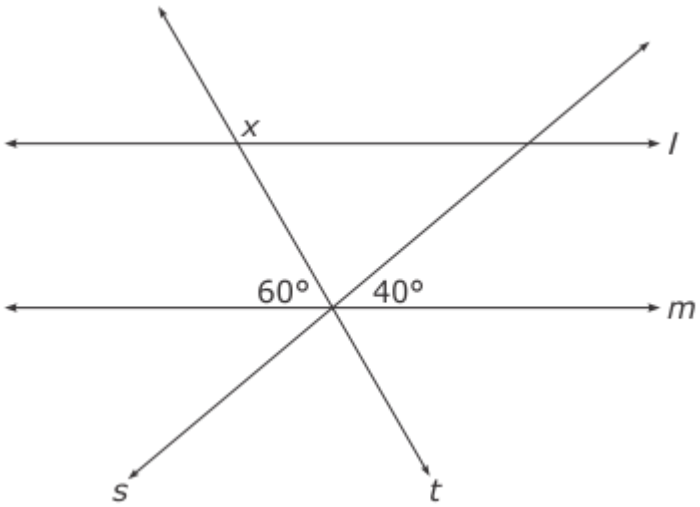
C.

x	*y*
0	–3
–1	2
2	7
–3	12

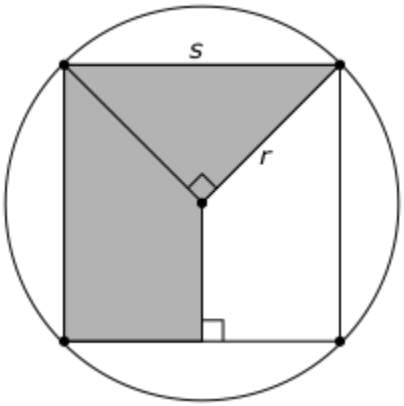
D.

x	*y*
0	–3
–1	–8
2	7
–3	–18

23. Lines *l* and *m* are parallel to one another and cut by transversals *s* and *t*. Find the value of x.



24. The figure below shows a square inscribed in a circle. The area of the shaded region is 2.5 square units. Find the area of the circle.



25. Which list of numbers is ordered from least to greatest?

A. $-8, -\sqrt{65}, -8.5$

B. $-8.5, -\sqrt{65}, -8$

C. $-\sqrt{65}, -8.5, -8$