

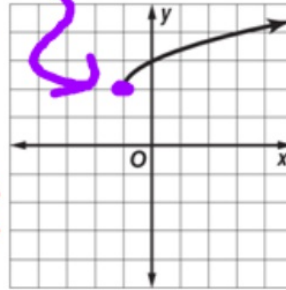
13. What is the equation of the graph?

F $y = \sqrt{x+2} + 1$

G $y = \sqrt{x-2} + 1$

H $y = \sqrt{x+1} + 2$

J $y = \sqrt{x-1} + 2$



$2 = \sqrt{-1+1} + 2$

13. H

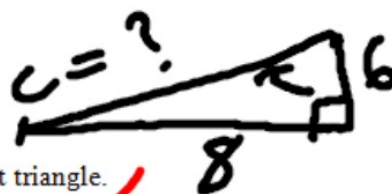
14. Simplify $2\sqrt{x} \cdot 5\sqrt{x} \cdot 3\sqrt{x}$.

$30\sqrt{x^3}$
 $x \cdot x \cdot x$

$30x\sqrt{x}$

15. What is the length of a diagonal of a rectangle with a length of 8 meters and a width of 6 meters?

$6^2 + 8^2 = c^2$



$36 + 64 = \sqrt{100}$
 $= 10$

15. 10

16. Determine which side measures form a right triangle.

A 10, 24, 28

B 13, 17, 21

C $\sqrt{3}, \sqrt{4}, \sqrt{5}$

D 5, 12, 13

$\sqrt{3}^2 + \sqrt{4}^2 = \sqrt{5}^2$
 $3 + 4 = 5$

$5^2 + 12^2 = 13^2$
 $25 + 144 = 169$

16. D

Graph each function, and compare to the parent graph. State the domain and range. **1–4. See margin.**

1. $y = -\sqrt{x}$

2. $y = \frac{1}{4}\sqrt{x}$

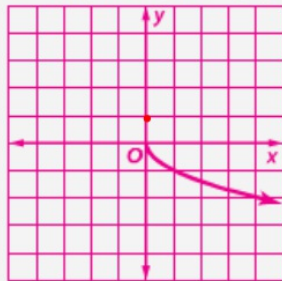
3. $y = \sqrt{x} + 5$

4. $y = \sqrt{x + 4}$

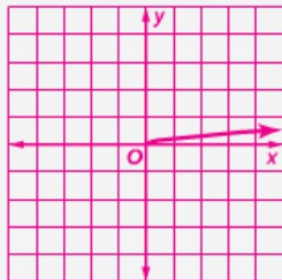
5. **MULTIPLE CHOICE** The length of the side of a square is given by the function $s = \sqrt{A}$, where A is the area of the square. What is the perimeter of a square that has an area of 64 square inches? **C**

- A 64 inches
- B 8 inches
- C 32 inches
- D 16 inches

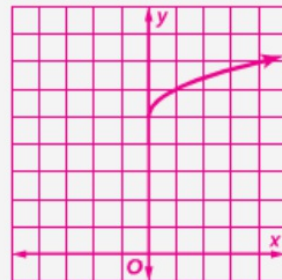
1. reflected across the x -axis;
 $D = \{x \mid x \geq 0\}$, $R = \{y \mid y \leq 0\}$



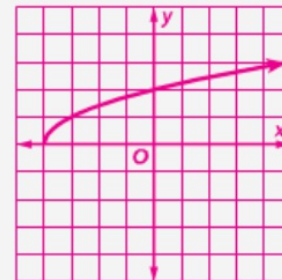
2. compressed vertically;
 $D = \{x \mid x \geq 0\}$, $R = \{y \mid y \geq 0\}$



3. translated up 5 units; $D = \{x \mid x \geq 0\}$, $R = \{y \mid y \geq 5\}$



4. translated left 4 units; $D = \{x \mid x \geq -4\}$
 $R = \{y \mid y \geq 0\}$



15. What is the length of a diagonal of a rectangle with a length of 8 meters and a width of 6 meters?



16. Determine which side measures form a right triangle.

- A 10, 24, 28 B 13, 17, 21 C $\sqrt{3}, \sqrt{4}, \sqrt{5}$ D 5, 12, 13

17. **SAILING** A 12-foot cable attached to the top of the mast of a sailboat is fastened to a point on the deck 4 feet from the base of the mast. What is the height of the mast?



Bonus: Find out when you take the test 😊

$$\begin{aligned}
 4^2 + x^2 &= 12^2 \\
 16 + x^2 &= 144 \\
 -16 & \quad -16 \\
 \hline
 x^2 &= 128
 \end{aligned}$$

$$x = \sqrt{128}$$

17. _____

B. _____

$$\begin{array}{r}
 128 \\
 \overline{) 128} \\
 2 \cdot 64 \\
 \hline
 8\sqrt{2}
 \end{array}$$

Simplify each expression.

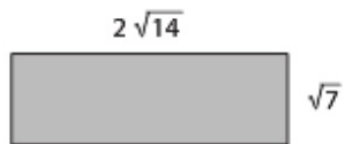
6. $5\sqrt{36}$ **30** $\rightarrow 5 \cdot 6$

7. $\frac{3}{1-\sqrt{2}}$ **$-3-3\sqrt{2}$**

8. $2\sqrt{3} + 7\sqrt{3}$ **$9\sqrt{3}$**

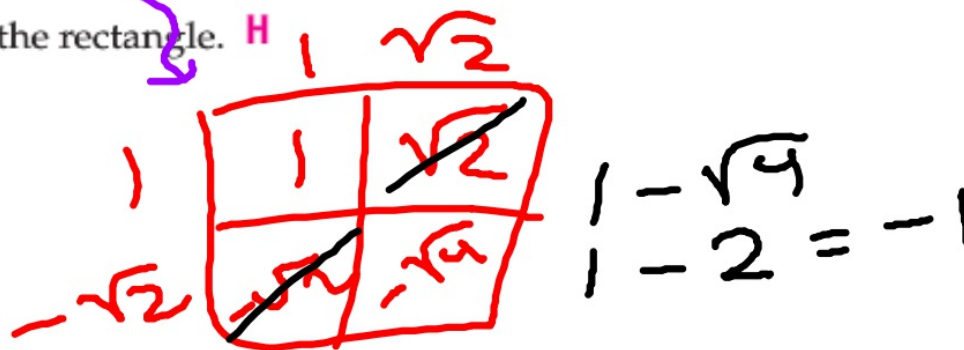
9. $3\sqrt{6}(5\sqrt{2})$ **$30\sqrt{3}$**

10. **MULTIPLE CHOICE** Find the area of the rectangle.



- F $7\sqrt{2}$
- G 14
- H $14\sqrt{2}$
- J $98\sqrt{2}$

⑦ $\frac{3}{(1-\sqrt{2})(1+\sqrt{2})}$
 $(a-b)(a+b) = a^2 - b^2$



$\frac{3 + 3\sqrt{2}}{1 - 2} = -1$

Solve each equation. Check your solution.

11. $\sqrt{10x} = 20$ **40**

12. $\sqrt{4x-3} = 6-x$ **3**

① $(3\sqrt{6})(5\sqrt{2})$
 $3 \cdot 5 \sqrt{6 \cdot 2}$
 $15 \cdot 2\sqrt{3}$
 $30\sqrt{3}$

Solve each equation. Check your solution.

11. $\sqrt{10x} = 20$ **40**

12. $\sqrt{4x-3} = 6-x$ **3**

13

$(6-x)(6-x)$

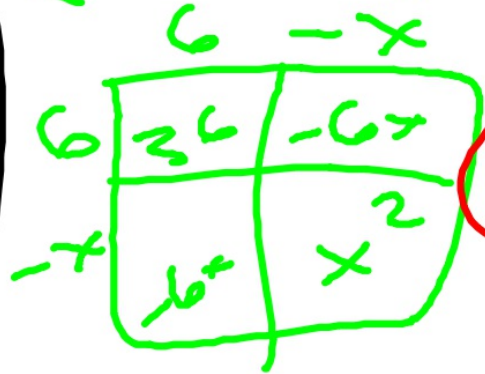
⑪ $(\sqrt{10x})^2 = (20)^2$

$$\frac{10x}{10} = \frac{400}{10}$$

$x = 40$

⑫

$(\sqrt{4x-3})^2 = (6-x)^2$

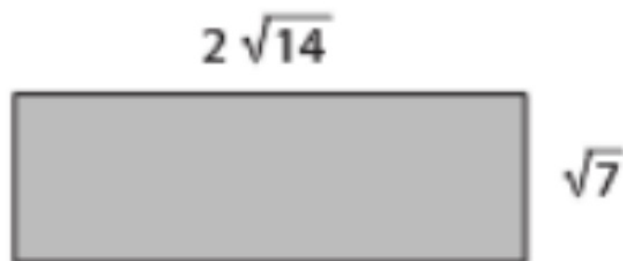


36 - x²
NO!!!

$$\begin{array}{r} 4x - 3 = x^2 - 12x + 36 \\ -4x + 3 \quad \quad \quad -4x + 3 \\ \hline \end{array}$$

$0 = x^2 - 16x + 39$
 $0 = (x-3)(x-13)$
 $x = 3, 13$

10. MULTIPLE CHOICE Find the area of the rectangle.



H

F $7\sqrt{2}$

G 14

H $14\sqrt{2}$

J $98\sqrt{2}$

$$2\sqrt{14} \cdot \sqrt{7}$$

$$= 2\sqrt{14 \cdot 7}$$

$$= 2 \cdot 7\sqrt{2}$$

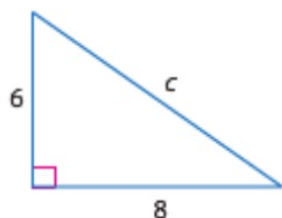
$$\sqrt{49} = 7$$

7 · 7

13. **PACKAGING** A cylindrical container of chocolate drink mix has a volume of about 162 in^3 . The radius of the container can be found by using the formula $r = \sqrt{\frac{V}{\pi h}}$, where r is the radius and h is the height. If the height is 8.25 inches, find the radius of the container. **about 2.5 in.**

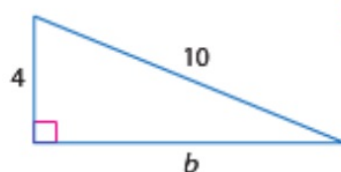
Find each missing length. If necessary, round to the nearest tenth.

14.



10

15.



9.2

$$6^2 + 8^2 = c^2$$
$$36 + 64 = c^2$$