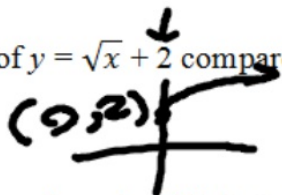


# Chapter 10 Practice Test

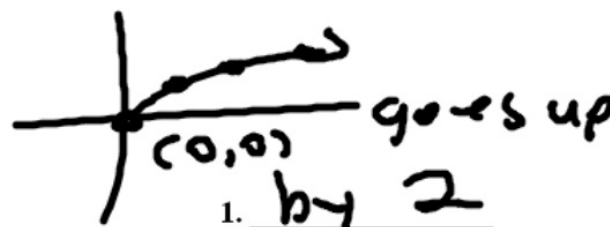
SCORE \_\_\_\_\_

Write the letter for the correct answer in the blank at the right of each question.

1. How does the graph of  $y = \sqrt{x} + 2$  compare to the parent graph?



x	y
0	0
1	1
4	2
9	3



1. by 2

2. Which expression has a domain of  $\{x | x \geq -1\}$ ?

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

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

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

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

2. F

$\sqrt{-1+1}$

For Questions 3–7, simplify each expression.

3.  $\sqrt{90}$



4.  $\frac{3}{5-\sqrt{2}}$

Handwritten rationalization process:  
 $(5-\sqrt{2})(5+\sqrt{2})$   
 $(a-b)(a+b) = a^2 - b^2$   
 $15 + 3\sqrt{2}$   
 $25 - 2$

3.  $3\sqrt{10}$

4.  $\frac{15+3\sqrt{2}}{23}$

5.  $6\sqrt{5} - 2\sqrt{5}$

5.  $4\sqrt{5}$

6.  $3\sqrt{12} + \sqrt{27} - 2\sqrt{20}$

⑥

$$3\sqrt{12} + \sqrt{27} - 2\sqrt{20}$$

10.2

$$3 \cdot 2 \cdot 3 \sqrt{4 \cdot 3} + \sqrt{3 \cdot 3 \cdot 3} - 2 \sqrt{4 \cdot 5}$$

$$6 \cdot 2 \cdot 3 \sqrt{3} + 3 \sqrt{3} - 4 \sqrt{5}$$

$$36\sqrt{3} + 3\sqrt{3} - 4\sqrt{5}$$

7.  $\sqrt{2}(\sqrt{6} + 3\sqrt{2})$

2 2.3 2.3  $\sqrt{3}$

8. Solve  $\sqrt{2x - 5} = 3$ .

9. Solve  $\sqrt{2x + 8} = x$ .

⑦

$$\sqrt{12} + 3\sqrt{4}$$

$$3 \sqrt{4} + 3 \cdot 2$$

$$2\sqrt{3} + 3 \cdot 2$$

5. \_\_\_\_\_

9  $\sqrt{3}$  - 4  $\sqrt{5}$

6. \_\_\_\_\_

7. 2  $\sqrt{3}$  + 6

8. \_\_\_\_\_

8. Solve  $\sqrt{2x - 5} = 3$ .

9. Solve  $\sqrt{2x + 8} = x$ .

⑧  $(\sqrt{2x - 5})^2 = (3)^2$

$$\begin{array}{r} 2x - 5 = 9 \\ + 5 \quad + 5 \\ \hline \end{array}$$

$$\frac{2x}{2} = \frac{14}{2}$$

8.  $x = 7$

8. Solve  $\sqrt{2x - 5} = 3$ .

9. Solve  $\sqrt{2x + 8} = x$ .

$$(\sqrt{2x+8})^2 = (x)^2$$

$$\begin{array}{r} 2x+8 = x^2 \\ -2x-8 \quad -2x-8 \\ \hline \end{array}$$

$$0 = x^2 - 2x - 8.$$

$$0 = (x+2)(x-4)$$

$$x = \cancel{-2}, 4$$

$$\begin{array}{r} -2 \\ -4 \quad 2 \\ -8 \end{array}$$

7. \_\_\_\_\_

8.  $x = 4$

$$x = \cancel{-2}$$

$$\sqrt{4} = -2$$

$$\sqrt{16} = 4$$

10. Find the length of the hypotenuse of a right triangle if  $a = 3$  and  $b = 4$ .

9. \_\_\_\_\_

11. Determine which side measures form a Pythagorean triple.

A 4, 5, 6

B 3, 4, 5

C 5, 11, 12

D 4, 8, 12

10.  $c = 5$

11. B

$$a^2 + b^2 = c^2$$

(10)

$$3^2 + 4^2 = c^2$$

$$9 + 16 = c^2$$

$$\sqrt{25} = c$$

$$5 = c$$

(11)

$$5^2 + 11^2 = 12^2$$

∴

$$25 + 121 = 144$$

No!

$$3^2 + 4^2 = 5^2$$

$$9 + 16 = 25 \text{ Yes!}$$