NAME Key DATE _____ PERIOD _____

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?

1. Moves up 2 units

2. Which expression has a domain of $\{x \mid x \geq -1\}$?
F $y = \sqrt{x+1}$ G $y = \sqrt{x-1}$ H $y = \sqrt{x} + 1$ J $y = \sqrt{x} - 1$

2. F

For Questions 3–7, simplify each expression.

3. $\sqrt{90}$

3. $3\sqrt{10}$

4. $\frac{3}{5-\sqrt{2}}$ $\frac{(5+\sqrt{2})}{(5+\sqrt{2})} = \frac{15+3\sqrt{2}}{25-2}$

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

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

5. $4\sqrt{5}$

6. $3\sqrt{12} + \sqrt{27} - 2\sqrt{20}$
$12\sqrt{3} + 3\sqrt{3} + 4\sqrt{5}$

6. $15\sqrt{3} + 4\sqrt{3}$

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

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

8. Solve $\sqrt{2x-5} = 3$. $2x - 5 = 9$, $2x = 14$

8. $x = 7$

9. Solve $\sqrt{2x+8} = x$.
$x^2 - 2x - 8 = 0$ $(x+2)(x-4)$
$4, -2$

9. $x = -2, 4$

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

10. $c = 5$

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

11. B

$3^2 + 4^2 = c^2$
$9 + 16 = 25$

NAME Key DATE PERIOD

Chapter 10 Practice Test (continued)

$1^2+(\sqrt{3})^2=2^2$

12. Determine which set of measures can be the lengths of the sides of a right triangle. $1+3=4$

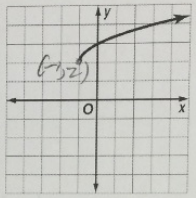
A 2, 3, 5 **B** 4, 6, 7 **C** 10, 12, 13 **D** $1, \sqrt{3}, 2$

12. D

13. What is the equation of the graph?

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

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



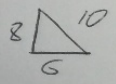
13. H

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

$30x\sqrt{x}$

14. $30x\sqrt{x}$

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



15. 10

16. Determine which side measures form a right triangle.

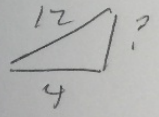
A 10, 24, 28 **B** 13, 17, 21 **C** $\sqrt{3}, \sqrt{4}, \sqrt{5}$ **D** 5, 12, 13

16. D

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?

$16+x^2=144$

$x^2=128$



$x=\sqrt{128}$

$x=\sqrt{128}$

17. ≈ 11.32

Bonus: Find out when you take the test ☺

B.