Chapter 10 Test, Form 2A

SCORE _____

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

1. How does the graph of $y = \sqrt{x} + 3$ compare to the parent graph?
 A translated up 3   **C** translated right 3
 B translated down 3   **D** translated left 3

1. _____**D**_____

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

2. _____**J**_____

For Questions 3-7, simplify each expression.

3. $5\sqrt{3} \cdot 2\sqrt{21}$
 A $70\sqrt{3}$ **B** $10\sqrt{63}$ **C** $49\sqrt{3}$ **D** $30\sqrt{7}$

3. _____**D**_____

4. $\sqrt{\dfrac{x^2}{12}}$

 F $\dfrac{x^2}{2\sqrt{3}}$ **G** $\dfrac{|x|\,\sqrt{3}}{6}$ **H** $\dfrac{x}{6}$ **J** $\dfrac{|x|}{\sqrt{12}}$

4. _____**G**_____

5. $\dfrac{5}{\sqrt{11}-\sqrt{6}}$
 A 1 **B** $\dfrac{5\sqrt{66}}{66}$ **C** $\sqrt{11} + \sqrt{6}$ **D** $\dfrac{5\sqrt{11}+ 5\sqrt{6}}{17}$

5. _____**C**_____

6. $\sqrt{18} - \sqrt{54} + 2\sqrt{50}$
 F $13\sqrt{2} - 3\sqrt{6}$ **G** $-4\sqrt{3} + 4\sqrt{5}$ **H** $-4\sqrt{3} - 4\sqrt{5}$ **J** $8\sqrt{2} - 3\sqrt{6}$

6. _____**F**_____

7. $(\sqrt{14} + \sqrt{3}\,)(\sqrt{6} - \sqrt{7}\,)$
 A $2\sqrt{5} - \sqrt{21} + 3 - \sqrt{10}$ **C** $\sqrt{21}$
 B $\sqrt{21} - 4\sqrt{2}$ **D** $\sqrt{21} + \sqrt{2}$

7. _____**B**_____

8. Solve $\sqrt{3x - 2} + 4 = 8$.
 F 12 **G** 6 **H** $\dfrac{2}{3}$ **J** $\dfrac{3}{2}$

8. _____**G**_____

9. Solve $\sqrt{7a + 32} = a + 2$.
 A -4 **B** 7 **C** $-4, 7$ **D** $-7, 4$

9. _____**B**_____

10. A right triangle has one leg that is 7 centimeters. The hypotenuse is 25 centimeters. Find the length of the other leg.
 F 15 cm   **G** $\sqrt{674}$ cm   **H** 24 cm   **J** $5\sqrt{7}$ cm

10. _____**H**_____

11. Determine which side measures form a right triangle.
 A 3, 8, 12   **B** 5, 9, 11   **C** 11, 13, 16   **D** 6, 8, 10

11. _____**D**_____

12. Find $m\angle B$ to the nearest tenth if $\sin B = \dfrac{1}{3}$.
 F $0.5°$ **G** $18.4°$ **H** $19.5°$ **J** $70.5°$

12. _____**H**_____

Chapter 10 Test, Form 2A *(continued)*
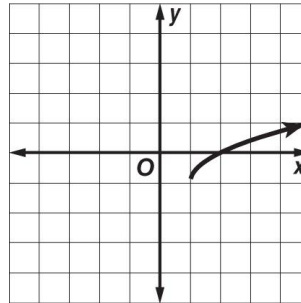
13. Determine which set of measures can be the lengths of the sides of a right triangle.

    A 3, 6, 9   **B** 1, 1, $\sqrt{2}$ **C** 3, 3, 4   **D** 1, 3, 7

13. **B**

14. What is the equation of the graph?

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

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

14. **G**

15. Simplify $2\sqrt{y} \cdot 5\sqrt{y} \cdot 2\sqrt{y}$.

    A $20y\sqrt{y}$ **B** $20\sqrt{y}$ **C** $20y^2\sqrt{y}$ **D** $20y^3$

15. **A**

16. What is the length of a diagonal of a rectangle with a length of 9 inches and a width of 3 inches?

    F 3.5 in.   **G** 9.5 in.   **H** 18 in.   **J** 90 in.

16. **G**

17. Determine which side measures form a right triangle.

    A 1, 2, 3   **B** 2, 3, 4   **C** 3, 4, 5   **D** 4, 5, 6

17. **C**

18. LADDERS A 16 foot ladder leans against a wall. The base of the ladder is 6 feet from where the wall meets the ground. How far up the wall does the ladder reach?

    F 14.8 ft   **G** 12.9 ft   **H** 144 ft   **J** 220 ft

18. **F**

For Questions 19 and 20, the leg opposite to acute ∠A in a right triangle measures 12 units, and the hypotenuse measures 19 units.

19. What is sin A?

    A $\frac{12}{19}$ **B** $\frac{19}{12}$ **C** 0.775   **D** 0.815

19. **A**

20. What is $m\angle A$?

    F 0.01°   **G** 32°   **H** 39°   **J** 51°

20. **H**

Bonus Find the length of a diagonal of a square if its area is 72 square meters.

B. **12 m**