

Chapter 12 Test Review

Name: _____

Section 12.1: Functions Involving Square Roots

Find the domain of the function.

1.) $y = 6\sqrt{x}$

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

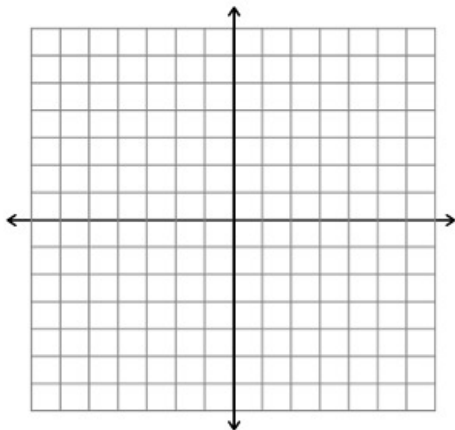
3.) $y = 3\sqrt{x - 1}$

4.) $y = \sqrt{x + 2}$

Graph the function. Find the domain and range.

5.) $y = \sqrt{x} + 2$

x	y

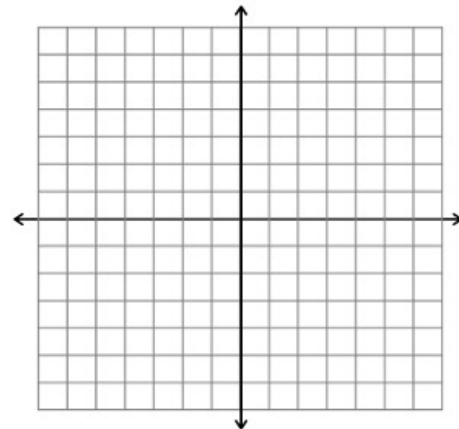


Domain: _____

Range: _____

6.) $y = 2\sqrt{x - 1}$

x	y



Domain: _____

Range: _____

Section 12.2: Operations with Radical Expressions

Simplify the expression.

7.) $5\sqrt{7} + 2\sqrt{7}$

8.) $2\sqrt{6} - \sqrt{6}$

9.) $\sqrt{18} \cdot \sqrt{5}$

10.) $\sqrt{3} \cdot \sqrt{75}$

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

12.) $\sqrt{2}(\sqrt{8} - 4)$

13.) $\frac{5}{\sqrt{7}}$

14.) $\sqrt{\frac{10}{3}}$

Section 12.3: Solving Radical Equations

Solve the radical equation. Check for extraneous solutions.

15.) $2\sqrt{x} + 7 = 19$

16.) $4\sqrt{3x + 3} = 24$

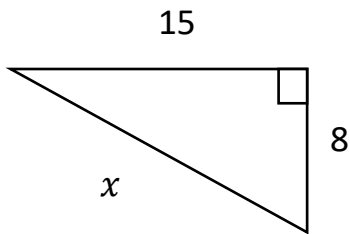
$$17.) \sqrt{6x - 2} - 3 = 7$$

$$18.) \sqrt{3x + 8} = \sqrt{x + 4}$$

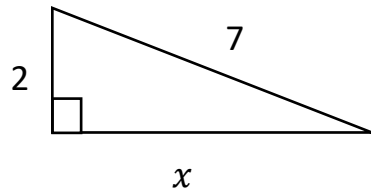
Section 12.6: The Pythagorean Theorem and Its Converse

Find the missing side length of the right triangle.

19.)



20.)



Let a and b represent the lengths of the legs of a right triangle and let c represent the length of the hypotenuse. Find the unknown length.

21.) $a = 14, c = 21$

22.) $a = 10, b = 24$

Determine whether the triangle with the given side lengths is a right triangle.

23.) 3, 9, 10

24.) 12, 16, 20

Section 12.7/8: The Distance and Midpoint Formula

Find the distance between the two points.

25.) $(-6, -2), (-3, -5)$

26.) $(-5, 8), (2, 4)$

27.) $(7, 12), (-7, -4)$

28.) $(-1, 9), (0, 7)$

Find the midpoint between the two endpoints.

29.) $(5, 1), (1, -5)$

30.) $(2, 3), (4, 1)$

31.) $(-3, -3), (6, 7)$

32.) $(-4, -2), (10, -6)$

FORMULAS: $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
 $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$