Name _____ Date _____

# CHAPTER 7 TEST Review- Real Numbers

## Section 7.1- Finding Square Roots

**Find the TWO square roots of the number.**

**1.** 16                                          **2.** 100                                          **3.** 196

**Find the square root(s).**

**4.** $\sqrt{169}$                          **5.** $\sqrt{\dfrac{4}{225}}$                          **6.** $-\sqrt{12.25}$

**Evaluate the expression. (Carefully showing your steps)**

**7.** $2\sqrt{36} + 9$                  **8.** $8 - 11\sqrt{\dfrac{25}{121}}$          **9.** $3\left(\sqrt{\dfrac{125}{5}} - 8\right)$

**10.** A trampoline has an area of $49\pi$ square feet. What is the diameter of the trampoline?   Formula for the area of a circle is $\rho r^2$

## Section 7.2 – Finding Cube Roots

**Find the cube root.**

**11.** $\sqrt[3]{27}$                          **12.** $\sqrt[3]{-64}$                          **13.** $\sqrt[3]{-\dfrac{125}{216}}$

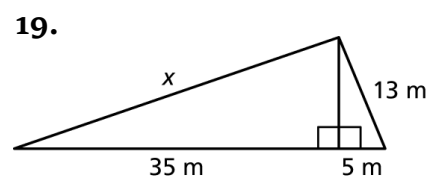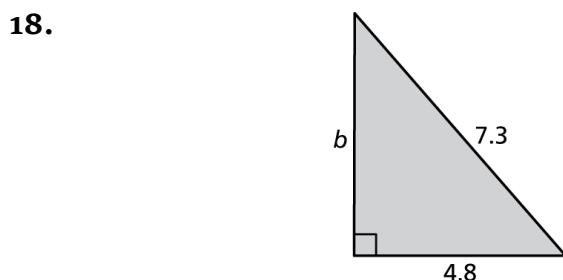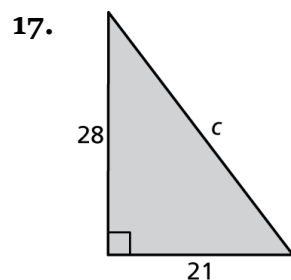**Evaluate the expression.**

**14.** $10 - \left(\sqrt[3]{12}\right)^3$

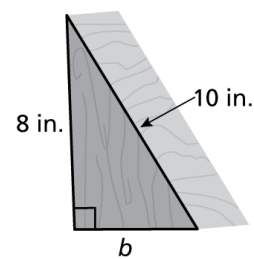**15.** $2\sqrt[3]{512} + 10$

**16.** The volume of a cube is 1000 cubic inches. What is the edge length of the cube?

## Section 7.3- The Pythagorean Theorem

**Find the missing length of the triangle.**

**17.**



28

c

21

**18.**



b

7.3

4.8

**19.**



x

13 m

35 m

5 m

**20.** In wood shop, you make a bookend that is in the shape of a right triangle. What is the base $b$ of the bookend?



10 in.

8 in.

b

## Section 7.4- Approximating Square Roots

**Estimate the square root to the nearest (a) integer and (b) tenth.**

**21.** $\sqrt{8}$

**22.** $\sqrt{60}$

**23.** $-\sqrt{\dfrac{172}{25}}$

**Which number is greater? Explain.**

**24.** $\sqrt{88}, 12$

**25.** $-\sqrt{18}, -6$

**26.** $14.5, \sqrt{220}$

**27.** The velocity in meters per second of a ball that is dropped from a window at a height of 10.5 meters is represented by the equation $v = \sqrt{2(9.8)(10.5)}$. Estimate the velocity of the ball. Round your answer to the nearest tenth.
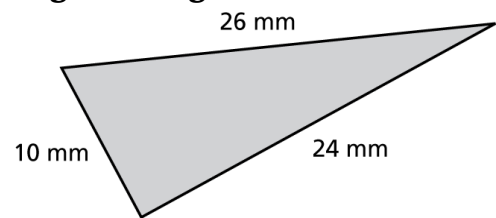
## Section 7.5- Using the Pythagorean Theorem

**Tell whether the triangle with the given side lengths is a right triangle.**

**28.**



14 yd    10 yd    18 yd

**29.**



26 mm    10 mm    24 mm
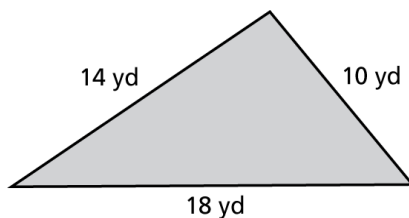
**30.** 4 m, 4.2 m, 5.8 m

**31.** 31 in., 35 in., 16 in.

**Find the distance between the two points.**

**32.** $(2, 1), (-3, 6)$

**33.** $(-6, -4), (2, 2)$

**34.** $(-9, 3), (-5, -8)$

**35.** The cross-section of a wheelchair ramp is shown. Does the ramp form a right triangle?



25 in.

313 in.

312 in.