

## SQUARE ROOTS AND CUBE ROOTS

Apply your knowledge of square roots and cube roots to answer each question.

1. Which of the following is a true statement?

- a. Squaring a number is the same as multiplying the number by 2.
- b. Taking the cube root of a number is the inverse operation of raising a number to the 3<sup>rd</sup> power.
- c. Both a and b are true.
- d. Neither a nor b is true.

2. Joel needs to solve the equation below. Which describes the step he should take?

$$n^2 = 16$$

- a. Divide both sides by 2
- b. Take the square root of both sides
- c. Square both sides
- d. None of the above

3. Evaluate each expression in a-d.

a.  $(-9)^2 =$  \_\_\_\_\_

b.  $2^3 =$  \_\_\_\_\_

c.  $\sqrt{256} =$  \_\_\_\_\_

d.  $\sqrt[3]{125} =$  \_\_\_\_\_

In 4-7, use inverse operations to find the value of the variable needed to make the equation true.

4.  $x^2 = 169$   
\_\_\_\_\_

5.  $b^3 = 343$   
\_\_\_\_\_

6.  $n^2 = 625$   
\_\_\_\_\_

7.  $a^3 = 1,000$   
\_\_\_\_\_

8. Three students solved the equations shown. Use the clues to write the name of the student who solved each equation above the correct box.

$w^2 = 121$

$x^2 = 81$

$y^3 = 729$

- Huey and Liam's equation have the same solution.
- Nadia's equation has a solution that is greater than 10.
- Huey's equation can be solved by taking the cube root of both sides.

A pyramid has a square base with an area of 144 ft<sup>2</sup>. Mark each statement as true or false and correct any false statements.

\_\_\_\_\_ 9. The length of one side of the pyramid's base can be found using the equation  $s^2 = 144$ .

\_\_\_\_\_ 10. The length of one side of the pyramid's base is 72 feet.