

Unit 8: Pythagorean Theorem and Irrational Numbers

CONCEPT

Name: _____ Date: _____

Solve each problem and write your exact answer on the line. Show your value only (a number, coordinate pair, or "yes"/"no").

1. Find $\sqrt{49}$.

Answer: _____

2. Find $\sqrt{9}$.

Answer: _____

3. Find the cube root of 8. (Solve $x^3 = 8$.)

Answer: _____

4. Find the cube root of 27. (Solve $x^3 = 27$.)

Answer: _____

5. A right triangle has legs of length 3 and 4. Find the length of the hypotenuse c , where $c^2 = 3^2 + 4^2$.

Answer: _____

6. A right triangle has legs of length 6 and 8. Find the length of the hypotenuse.

Answer: _____

7. A right triangle has one leg of length 5 and hypotenuse 13. Find the length of the other leg b , where $5^2 + b^2 = 13^2$.

Answer: _____

8. Solve for the positive value of x : $x^2 = 36$.

Answer: _____

9. Is the number $\sqrt{16}$ rational or irrational?
Answer 'rational' or 'irrational'.

Answer: _____

10. Is the number $\sqrt{2}$ rational or irrational?
Answer 'rational' or 'irrational'.

Answer: _____

11. Find the distance between the points $(0, 0)$ and $(3, 4)$ in the coordinate plane.

Answer: _____

12. A rectangular box has length 3, width 4, and height 12. Find the length of its space diagonal d , where $d^2 = 3^2 + 4^2 + 12^2$.

Answer: _____