

Unit 8: Pythagorean Theorem and Irrational Numbers

ADVANCED

Name: _____ Date: _____

Solve each problem and give your answer as an exact value in simplest form.

1. Evaluate $3 \times \sqrt{324} - \sqrt[3]{1728}$.

Answer: _____

2. Write $\sqrt{200}$ in simplest radical form.

Answer: _____

3. A right triangle has a hypotenuse of 61 and one leg of 60. Find the length of the other leg.

Answer: _____

4. Find the distance between the points $(-6, 5)$ and $(9, -3)$.

Answer: _____

5. A rectangular box has dimensions 8, 9, and 12. Find the length of its longest interior (space) diagonal.

Answer: _____

6. Solve for the positive value of x : $x^2 = 169/196$.

Answer: _____

7. Evaluate $\sqrt{1.44} + \sqrt[3]{0.008}$.

Answer: _____

8. The two legs of a right triangle are x and $x + 7$, and the hypotenuse is 17. Find x .

Answer: _____

9. Solve $x^3 = 3375$.

Answer: _____

10. What is the greatest integer that is less than $\sqrt{150}$?

Answer: _____

11. An isosceles right triangle has a hypotenuse of 10. Find the exact length of each leg in simplest radical form.

Answer: _____

12. Find the distance between the points $(1, 2, 2)$ and $(4, 6, 14)$ in 3D space.

Answer: _____