GRADE 8 MATH · CLASSWORK · ADVANCED

Evaluate Cube Roots to Solve Problems

SCORE / 25

01 Part A · Practice

The cube root of n is the number that, used as a factor 3 times, equals n; the edge of a cube is the cube root of its volume.

EXAMPLE

A cube has a volume of 343 in.^{3}. Find the edge length.

1. $V = s^3$, so $s^3 = 343$.
2. $7 \cdot 7 \cdot 7 = 343$, so $\sqrt[3]{343} = 7$.
3. Each edge is 7 inches long.

1 ●○○ What is the cube root of −27?

2 ●○○ Evaluate $5\sqrt[3]{-64} - \sqrt[3]{27}$.

3 ●○○ What number, used as a factor three times, gives 1?

4 ●○○ Is 4,096 a perfect cube? If it is, find $\sqrt[3]{4{,}096}$.

5 ●○○ What is the cube root of $-\frac{8}{125}$?

6 ●○○ What number, used as a factor three times, gives −2197?

7 ●○○ Evaluate $5\sqrt[3]{-1000} - \sqrt[3]{125}$.

8 ●○○ Is 6 a perfect cube? If it is, find $\sqrt[3]{6}$.

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Preview - the full worksheet and its answer key are at primeworksheet.com