

Grade 8 - Square Roots and Cube Roots - Worksheet

Common Core 8.EE.A.2 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

These 21 problems practice square roots, cube roots and equations of the form x squared or x cubed equals p (Common Core 8.EE.A.2). Each problem has its own space for work, so print the page and write directly on it.

The problems start with direct skill checks and grow harder as you go. Later items solve equations and apply roots to squares and cubes in real situations. Use the answer key afterwards to check every step.

Grade 8 · Common Core State Standards: **8.EE.A.2**

Exercise 1 - Square root

Evaluate $\sqrt{81}$.

Exercise 2 - Cube root

Find $\sqrt[3]{64}$.

Exercise 3 - Solve x squared

Solve $x^2 = 49$.

Exercise 4 - Solve x cubed

Solve $x^3 = 64$.

Exercise 5 - Larger perfect square

Find $\sqrt{196}$.

Exercise 6 - Larger cube root

Find $\sqrt[3]{216}$.

Exercise 7 - Bigger equation

Solve $x^2 = 225$.

Exercise 8 - Fraction cube

Find x if $x^3 = \frac{27}{64}$.

Exercise 9 - Fraction square

Find all values of x with $x^2 = \frac{49}{81}$.

Exercise 10 - Combine roots

Evaluate $\sqrt{36} + \sqrt[3]{8}$.

Exercise 11 - Estimate a cube root

Between which two integers is $\sqrt[3]{30}$? Explain.

Exercise 12 - Not a perfect square

Solve $x^2 = 20$. Give the exact answers and approximate them to the nearest hundredth.

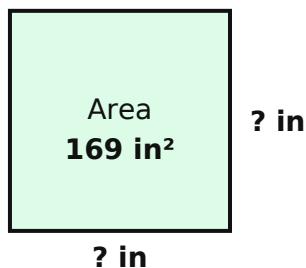
Exercise 13 - Two-step equation

Solve $2x^2 = 98$.

Exercise 14 - Cube with a coefficient

Solve $4x^3 = 108$.

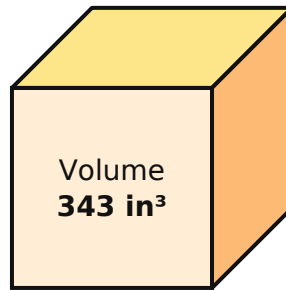
Exercise 15 - Square tile



A square tile with area 169 square inches.

A square floor tile has an area of 169 square inches. Find the side length.

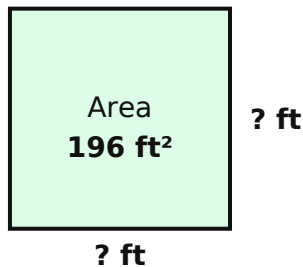
Exercise 16 - Shipping cube



A cube-shaped box with volume 343 cubic inches.

A cube-shaped shipping box holds 343 cubic inches. Find the edge length.

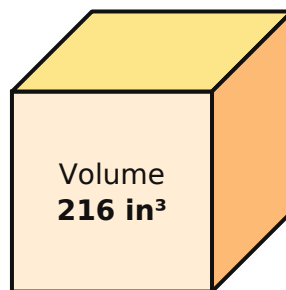
Exercise 17 - Garden fence



Diego's square garden.

Diego's square garden has an area of 196 square feet. How many feet of fence does he need to go around it?

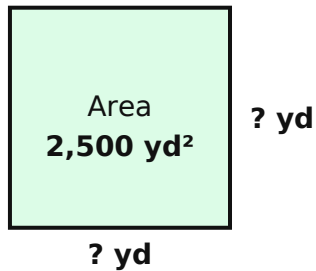
Exercise 18 - Gift box surface



A cube-shaped gift box.

A cube-shaped gift box has volume 216 cubic inches. Find its edge, then find the area of wrapping paper that covers all 6 faces.

Exercise 19 - Jogging lap



Priya's square park.

Priya jogs 3 laps around the edge of a square park that has an area of 2,500 square yards. How far does she jog?

Exercise 20 - Compare

A square has area 90 square centimeters and a cube has volume 90 cubic centimeters. Which has the longer side or edge? Estimate each to the nearest tenth.

Exercise 21 - Explain

Jamal says the equation $x^2 = 36$ has only one solution because $\sqrt{36} = 6$. Is he correct? Explain.