

Grade 8 - Square Roots and Cube Roots - Test

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

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

This 20-point test checks square roots, cube roots and equations of the form x squared or x cubed equals p (Common Core 8.EE.A.2). Work alone, show every step, and write each final answer clearly. You have 45 minutes. Calculators are not needed unless a question says so.

About this test

- Grade: Grade 8
- Chapter: Square Roots and Cube Roots
- Standards: 8.EE.A.2
- Time: 45 minutes
- Total: 20 points

Question 1 - Evaluate roots [2 pts]

- Evaluate $\sqrt{169}$. (1 point)
- Evaluate $\sqrt[3]{343}$. (1 point)

Question 2 - Roots of fractions [2 pts]

- Evaluate $\sqrt{\frac{9}{49}}$. (1 point)
- Evaluate $\sqrt[3]{\frac{1}{64}}$. (1 point)

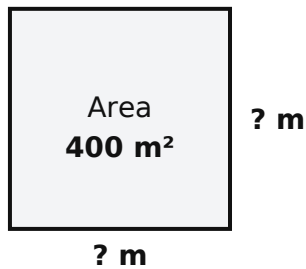
Question 3 - Solve [3 pts]

- Solve $x^2 = 81$. (1 point)
- Solve $x^3 = 125$. (1 point)
- Is $x = 9$ the only solution of part a? Explain. (1 point)

Question 4 - Solve with a coefficient [2 pts]

Solve $5x^2 = 80$.

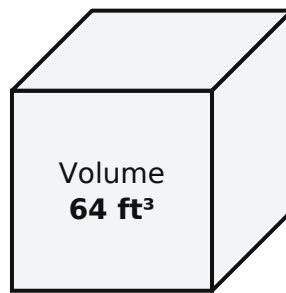
Question 5 - Square plot [3 pts]



A square plot of land with area 400 square meters.

Find the side length of the plot, then the length of fence needed to enclose it.

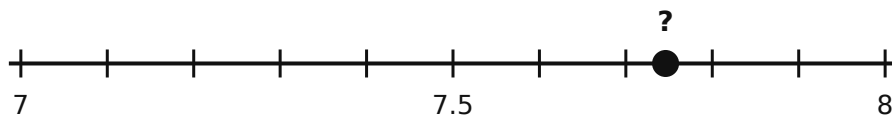
Question 6 - Cube tank [3 pts]



Cube-shaped tank.

A cube-shaped tank holds 64 cubic feet of water. Find its edge length and the area of its square base.

Question 7 - Estimate [3 pts]



The point ? marks the square root of 60.

- Between which two integers is $\sqrt{60}$? (1 point)
- Estimate $\sqrt{60}$ to the nearest tenth. (1 point)
- Is $\sqrt{60}$ rational? Explain. (1 point)

Question 8 - Two solutions [2 pts]

Explain why $x^2 = 9$ has two solutions but $x^3 = 8$ has one real solution. Use numbers in your explanation.