

Finding the Volume of Rectangular Prisms

Grade 6 math · Test · Standards: 6.G.A.2

Name: _____ Date: _____ Class: _____

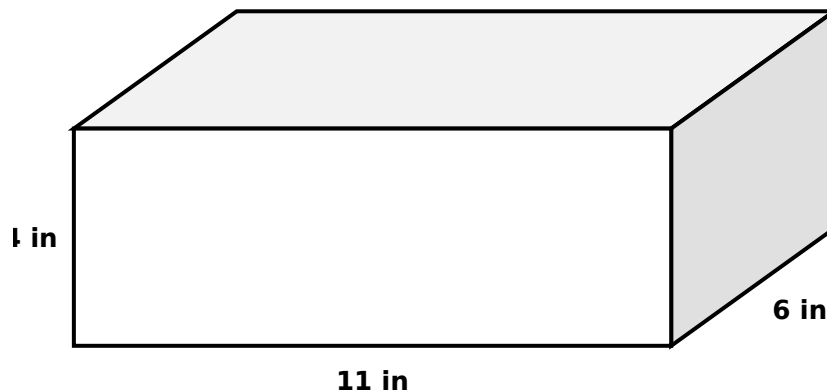
This test checks standard 6.G.A.2. Find the volume of right rectangular prisms with whole-number, fractional and decimal edges. Show the product or the cube count, and write cubic units. The test is worth 20 points and should take 45 minutes.

Standards: 6.G.A.2 · **Level:** Grade 6

Time: 45 minutes · 8 questions · Total: 20 points · Calculator: as allowed by your teacher

Question 1 Volume of a box (2 points)

Find the volume of the box.



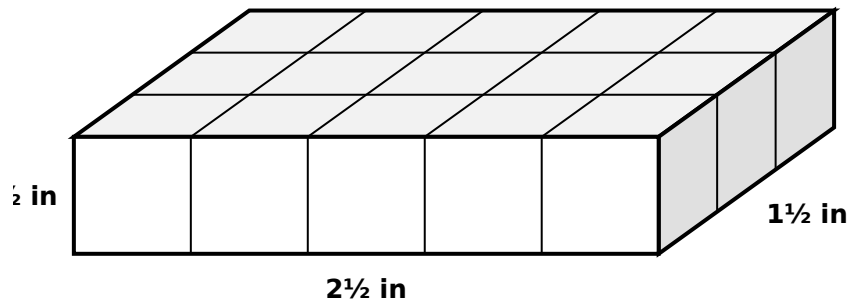
Box for Question 1.

Question 2 Fractional edges (3 points)

Find the volume of a prism that is $3\frac{1}{2}$ feet long, 2 feet wide and $1\frac{1}{2}$ feet tall.

Question 3 Packing with half-inch cubes (3 points)

Leah fills a flat jewelry tray exactly with tiny cubes that are $\frac{1}{2}$ inch on every edge, as the drawing shows.



The tray, packed with tiny cubes.

- How many tiny cubes does the tray hold? (1 point)
- What is the volume of one tiny cube? (1 point)
- Use both answers to give the total volume of the tray. (1 point)

Question 4 Missing height (2 points)

A prism has a volume of 252 cubic centimeters, a length of 9 centimeters and a width of 7 centimeters. Find its height.

Question 5 Storage bin (3 points)

A storage bin has a base area of 15.5 square feet and a height of 4 feet.

- Find the volume of the bin. (1 point)
- The bin is filled to $\frac{3}{4}$ of its height. Find the volume of the contents. (2 points)

Question 6 Raised garden bed (3 points)

A raised garden bed is 8 feet long, 3 feet wide and $1\frac{1}{2}$ feet deep. A bag of soil holds 2 cubic feet and costs \$5.40.

- Find the volume of the bed. (1 point)
- Find the number of bags needed. (1 point)
- Find the cost of the soil. (1 point)

Question 7 Comparing two boxes (2 points)

Box A measures 9 cm by 5 cm by 4 cm. Box B measures 7 cm by 5 cm by 5 cm. Which box holds more, and by how much?

Question 8 Cube with a decimal edge (2 points)

Find the volume of a cube with edges of 1.5 feet.