

Grade 6 · Volume of Rectangular Prisms · Worksheet

Common Core 6.G.A.2 · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

This worksheet gives Grade 6 students ten problems on the volume of rectangular prisms, including prisms with fractional edge lengths and packing with unit cubes. The problems start with whole-number edges and move toward missing dimensions and mixed numbers.

The last three problems are word problems about a fish tank, shipping boxes, and a sandbox. Every problem practices Common Core standard 6.G.A.2. Write each formula, show the substitution, and label every answer in cubic units.

Grade 6 Common Core: 6.G.A.2

Problem 1: Whole-number edges

Find the volume of a rectangular prism that is 6 ft long, 4 ft wide, and 3 ft tall.

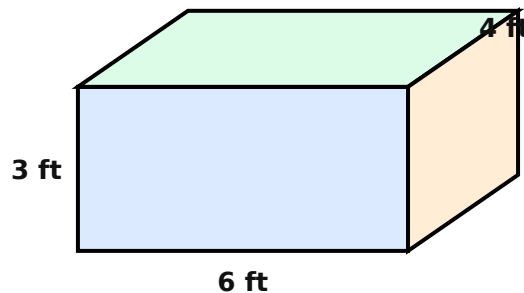


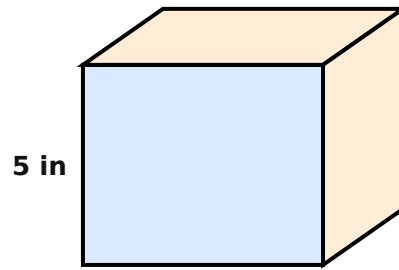
Figure for Problem 1.

Problem 2: Box volume

Find the volume of a box with length 7 in, width 5 in, and height 2 in.

Problem 3: Base area times height

A prism has a base area of 24 in^2 and a height of 5 in. Find its volume.



base area $B = 24 \text{ sq in}$

Figure for Problem 3.

Problem 4: Fractional width

Find the volume of a prism that is 4 in long, $\frac{1}{2} \text{ in}$ wide, and 3 in tall.

Problem 5: Packing with cubes

A prism is 1 in long, $\frac{3}{4} \text{ in}$ wide, and $\frac{1}{2} \text{ in}$ tall. It is packed with cubes that have edges of $\frac{1}{4} \text{ in}$.
 (a) How many cubes fit? (b) What is the volume of one cube? (c) What is the volume of the prism?

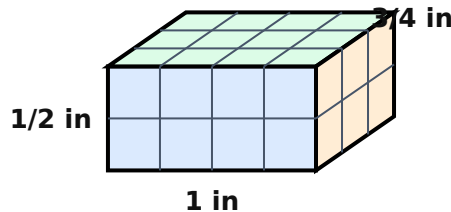


Figure for Problem 5.

Problem 6: Missing height

A prism has a volume of 150 ft^3 , a length of 10 ft , and a width of 5 ft . Find its height.

Problem 7: Mixed-number edges

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

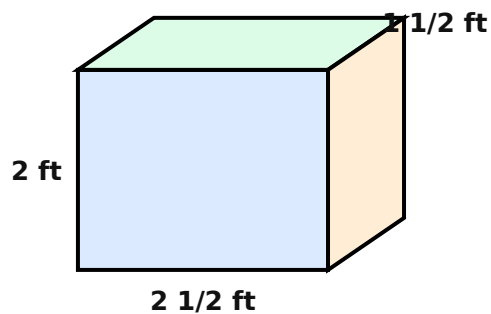


Figure for Problem 7.

Problem 8: Aquarium

Jamal's fish tank is a rectangular prism 20 in long, 10 in wide, and 12 in tall. The water is 9 in deep. Find the volume of the water, and then the volume of water that must be added to fill the tank.

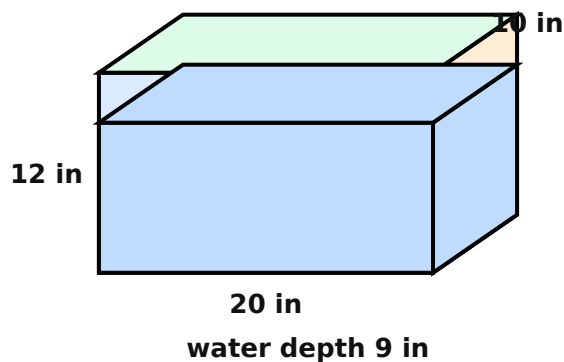


Figure for Problem 8.

Problem 9: Storage boxes

Shipping boxes are $2\frac{1}{2}$ ft by 2 ft by $1\frac{1}{2}$ ft. A storage space is 10 ft by 6 ft by 3 ft. How many boxes fit in the space with no gaps?

Problem 10: Sandbox

A sandbox is 6 ft long and $4\frac{1}{2}$ ft wide. Maya fills it with sand to a depth of $\frac{3}{4}$ ft. Sand costs \$4 per cubic foot. Find the volume of sand and the total cost.

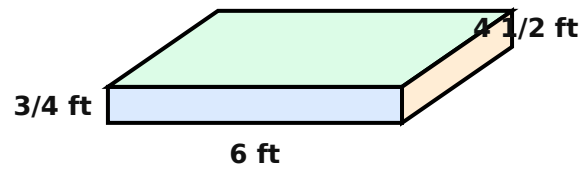


Figure for Problem 10.