

Grade 5 - Volume of Rectangular Prisms - Worksheet

Common Core 5.MD.C.3, 5.MD.C.4, 5.MD.C.5 · maths-pdf.fr/en/

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

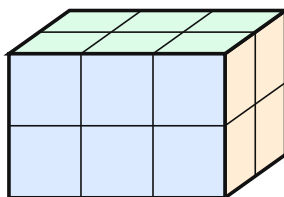
This worksheet has 20 problems on volume (5.MD.C.3, 5.MD.C.4 and 5.MD.C.5). You will count unit cubes, use $V = l \times w \times h$ and $V = B \times h$, find missing edges, and find the volume of solids made from two prisms.

The first problems use pictures and small numbers. The last six are word problems about tanks, boxes, pools and planters. Write cubic units in every answer.

Grade 5 · Common Core State Standards: **5.MD.C.3, 5.MD.C.4, 5.MD.C.5**

Exercise 1 - Count the cubes

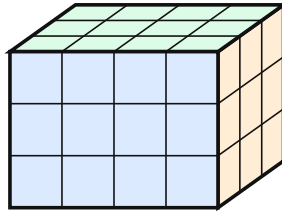
Solve. The prism is built from unit cubes. Find its volume in cubic units.



A rectangular prism.

Exercise 2 - Layers of cubes

Solve. A prism is 4 cubes long, 3 cubes wide and 3 cubes high. (a) How many cubes are in each layer? (b) How many layers are there? (c) What is the volume?



A rectangular prism.

Exercise 3 - Volume in cubic feet

Find the volume of a prism with length 5 ft, width 3 ft and height 2 ft.

Exercise 4 - Volume in cubic centimeters

Find the volume of a prism that is 6 cm long, 4 cm wide and 5 cm high.

Exercise 5 - Volume in cubic inches

Find the volume of a prism with length 8 in, width 2 in and height 7 in.

Exercise 6 - Base area times height

Solve. The area of the base of a prism is 24 square units and its height is 5 units. Find the volume.

Exercise 7 - Using the base area

Solve. A prism has a base with an area of 18 square inches. Its height is 4 inches. Find its volume.

Exercise 8 - Find the height

Solve. A prism has volume 90 cm^3 , length 6 cm and width 5 cm. Find its height.

Exercise 9 - Find the missing edge

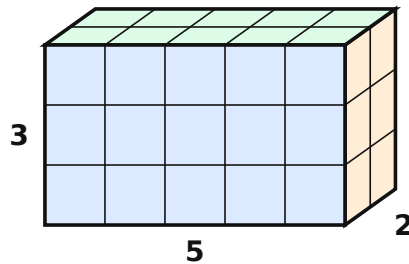
Solve. The base of a box has an area of 15 square feet. The volume of the box is 105 cubic feet. Find the height.

Exercise 10 - Volume of a cube

Solve. A cube has edges that are 4 m long. Find its volume.

Exercise 11 - Prism from a picture

Find the volume of the prism. Each small cube is 1 cubic unit.



A rectangular prism.

Exercise 12 - Fish tank

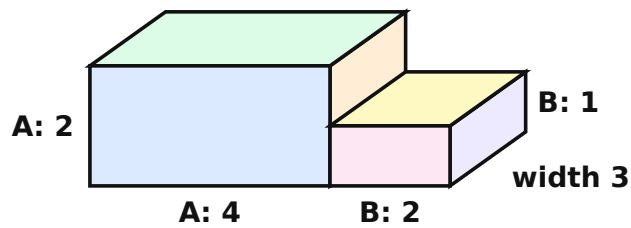
Solve. Maya's fish tank is 20 inches long, 10 inches wide and 12 inches high. What is its volume?

Exercise 13 - Compare two boxes

Solve. Box A is 3 in by 7 in by 4 in. Box B is 6 in by 5 in by 3 in. Which box has the greater volume, and by how much?

Exercise 14 - Two prisms joined

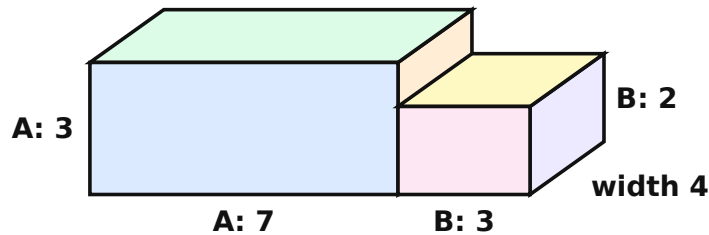
Solve. A solid is made of two rectangular prisms, as shown. Find the volume of the whole solid.



A composite solid made of prism A and prism B.

Exercise 15 - Step-shaped solid

Find the volume of the solid made of two rectangular prisms.



A composite solid made of prism A and prism B.

Exercise 16 - Packing cubes

Solve. Sofia's shipping box is 12 in by 9 in by 6 in. She packs it with cubes that are 3 inches on each edge. How many cubes fit?

Exercise 17 - Filling a pool

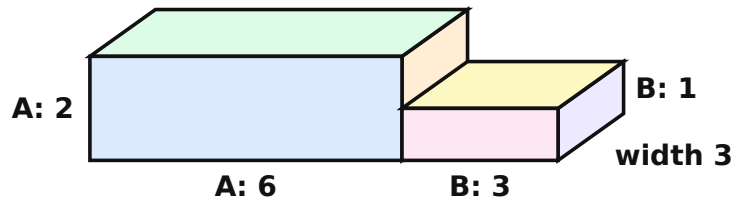
Solve. A pool is 20 ft long, 10 ft wide and 4 ft deep. It is filled with water to $\frac{3}{4}$ of its volume. How many cubic feet of water are in the pool?

Exercise 18 - Storage bin

Solve. A storage bin holds 360 cubic inches. It is 12 inches long and 6 inches wide. How tall is the bin?

Exercise 19 - Planter soil

Solve. Diego builds a planter from two boxes joined together: one is 6 ft by 3 ft by 2 ft, and the other is 3 ft by 3 ft by 1 ft. Soil costs \$4 for each cubic foot. How much does it cost to fill the planter?



A composite solid made of prism A and prism B.

Exercise 20 - Cubes in a box

Solve. Ethan fills a box that is 10 cm by 8 cm by 6 cm with cubes that are 2 cm on each edge. (a) How many cubes fit in one layer? (b) How many layers are there? (c) How many cubes fit in all?