

Grade 7 - Area, Volume and Surface Area - Worksheet

Common Core 7.G.B.6 · maths-pdf.fr/en/

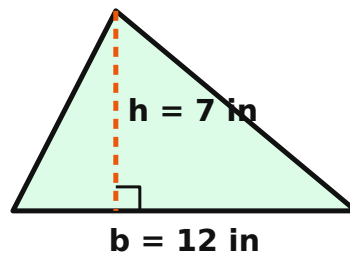
Name: _____ Class: _____ Date: ____/____/____

These 20 problems practice the area of triangles, quadrilaterals, and polygons, and the volume and surface area of right prisms, including composite figures (Common Core 7.G.B.6). They start with the basic skill, move to different kinds of numbers and multistep work, and end with six word problems set in everyday situations such as shopping, sports, and travel.

Show every step of your work, and use the answer key only after you have tried each problem.

Grade 7 · Common Core State Standards: **7.G.B.6**

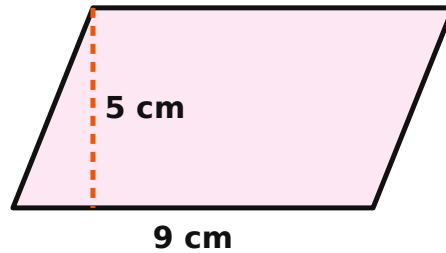
Exercise 1 - Triangle area



A triangle.

Find the area of a triangle with base 12 in and height 7 in.

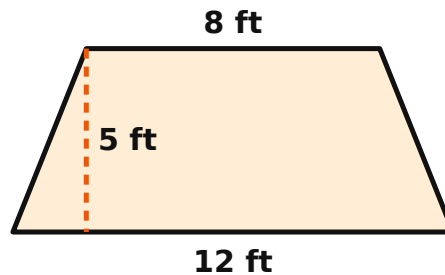
Exercise 2 - Parallelogram area



A parallelogram.

Find the area of a parallelogram with base 9 cm and height 5 cm.

Exercise 3 - Trapezoid area



A trapezoid.

Find the area of a trapezoid with bases 8 ft and 12 ft and a height of 5 ft.

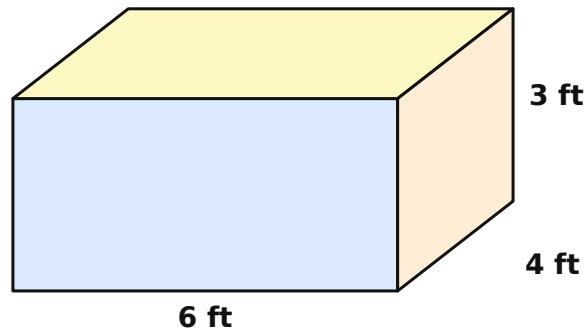
Exercise 4 - Right triangle

A right triangle has legs of 6 in and 8 in. Find its area.

Exercise 5 - Prism volume

Find the volume of a rectangular prism that is 5 in long, 4 in wide, and 3 in high.

Exercise 6 - Prism surface area



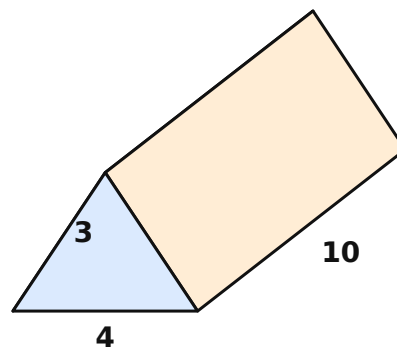
A box.

Find the surface area of a rectangular prism that is 6 ft long, 4 ft wide, and 3 ft high.

Exercise 7 - Cube

A cube has edges of 5 cm. Find its volume and its surface area.

Exercise 8 - Triangular prism volume



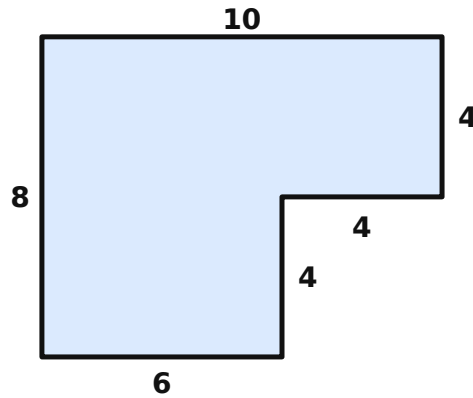
A triangular prism.

A triangular prism has a base that is a triangle with base 4 in and height 3 in. The prism is 10 in long. Find its volume.

Exercise 9 - Triangular prism surface

The same triangular prism has triangle sides of 3 in, 4 in, and 5 in and is 10 in long. Find its surface area.

Exercise 10 - L-shaped area



An L-shaped figure.

An L-shaped figure is made by removing a 4-by-4 square from a 10-by-8 rectangle. Find its area.

Exercise 11 - Fractional dimensions

A box is 2.5 ft long, 4 ft wide, and $1\frac{1}{2}$ ft high. Find its volume.

Exercise 12 - Missing dimension

A prism has a volume of 96 cubic inches. Its base is 8 in by 4 in. Find its height.

Exercise 13 - Composite polygon

A figure is a 9-by-4 rectangle with a triangle of base 9 and height 3 attached on top. Find the total area.

Exercise 14 - Fish tank

A fish tank is 20 in long, 10 in wide, and 12 in tall. It is filled to $\frac{3}{4}$ of its height. Find the volume of the water.

Exercise 15 - Wrapping a gift

A gift box is 12 in by 8 in by 5 in. Find the least amount of paper needed to cover it with no overlap.

Exercise 16 - Roof shingles

A roof has two identical sloped faces, each a triangle with base 24 ft and height 9 ft. A bundle of shingles covers 33 square feet. How many bundles must be bought to cover both faces?

Exercise 17 - Garden bed

A garden bed is shaped like a trapezoid with parallel sides of 10 ft and 14 ft and a height of 6

ft. Soil is spread 0.5 ft deep. Find the area and the volume of soil.

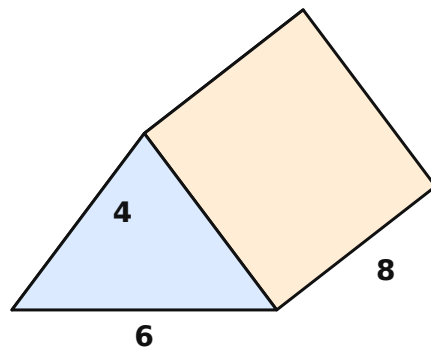
Exercise 18 - Painting a room

A room is 12 ft by 10 ft with 8-ft walls. A door of 21 square feet and a window of 15 square feet are not painted. One gallon of paint covers 400 square feet. Find the wall area to paint and the number of gallons.

Exercise 19 - Swimming pool

A pool is 30 ft long, 15 ft wide, and 5 ft deep. One cubic foot holds about 7.5 gallons. Find the volume and the number of gallons the pool holds.

Exercise 20 - Tent fabric



The tent.

A tent is a triangular prism. The triangular end has a base of 6 ft and a height of 4 ft, with two slanted sides of 5 ft. The tent is 8 ft long. Find the volume, and the fabric needed for the two ends and the two slanted sides (no floor).