

Finding the Area of Flat Shapes

Grade 6 math · Worksheet · Standards: 6.G.A.1

Name: _____ Date: _____ Class: _____

These twenty problems train standard 6.G.A.1: finding the area of triangles, parallelograms, trapezoids and composite polygons by composing them from rectangles and triangles.

Early problems use one formula with the dimensions given. Later problems ask for a missing height or base, split a polygon into pieces, and apply areas to painting, sod and fabric. Write every answer with square units.

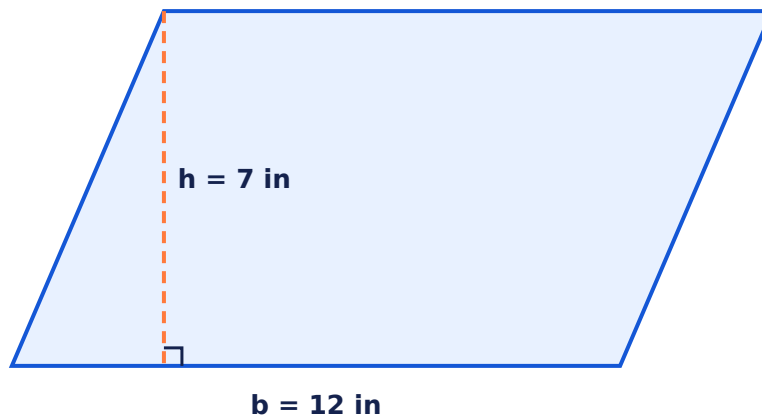
Standards: 6.G.A.1 · **Level:** Grade 6

Problem 1 Area of a rectangle (easy)

Find the area of a rectangular garden bed that is 14 feet long and 6 feet wide.

Problem 2 Area of a parallelogram (easy)

Find the area of the parallelogram.



Parallelogram with base 12 inches.

Problem 3 Area of a triangle (easy)

Find the area of a triangle with a base of 16 meters and a height of 5 meters.

Problem 4 Area of a right triangle (easy)

A right triangle has legs of 8 feet and 15 feet. Find its area.

Problem 5 Area of a trapezoid (easy)

A trapezoid has parallel sides of 5 meters and 9 meters, and a height of 6 meters. Find its area.

Problem 6 Missing height of a triangle (medium)

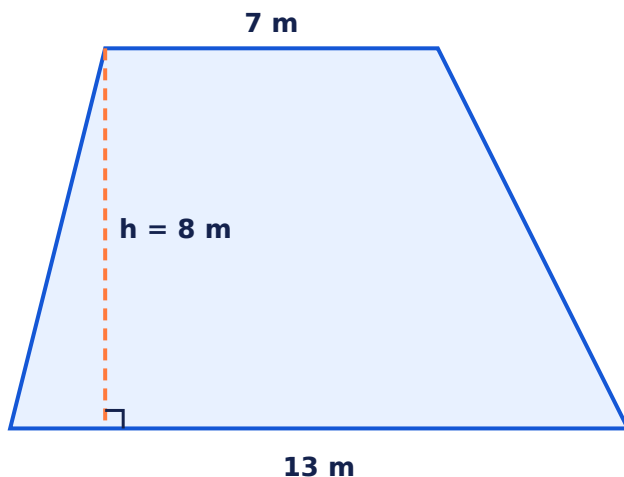
A triangle has an area of 48 square inches and a base of 16 inches. Find its height.

Problem 7 Missing base of a parallelogram (medium)

A parallelogram has an area of 117 square feet and a height of 9 feet. Find its base.

Problem 8 Trapezoid with a figure (medium)

Find the area of the trapezoid.



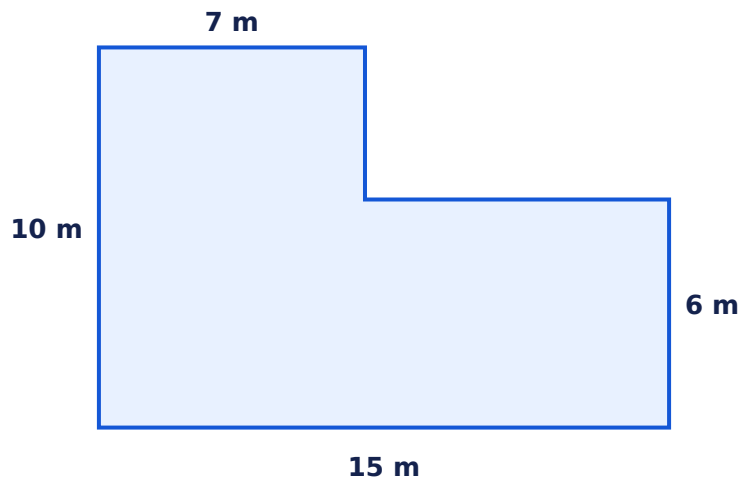
Trapezoid with parallel sides 7 m and 13 m.

Problem 9 Rhombus in four triangles (medium)

The diagonals of a rhombus are 10 inches and 24 inches long and cross at right angles. They cut the rhombus into four identical right triangles. Find the area of one triangle and the area of the rhombus.

Problem 10 L-shaped patio (medium)

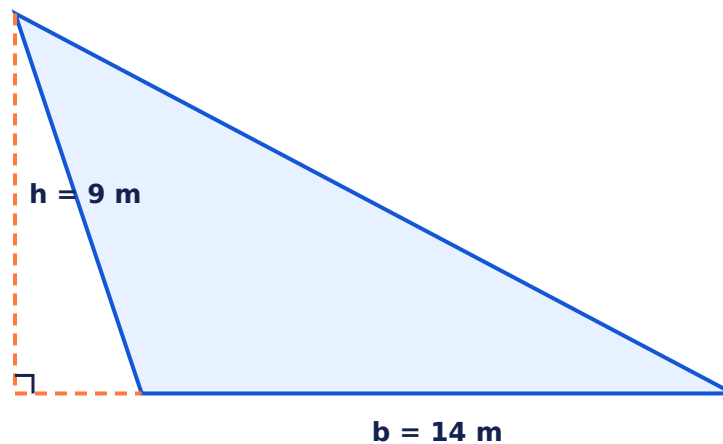
Find the area of the patio.



An L-shaped patio.

Problem 11 Obtuse triangle (medium)

Find the area of the triangle.



The height of an obtuse triangle falls outside it.

Problem 12 Deck shaped like a trapezoid (medium)

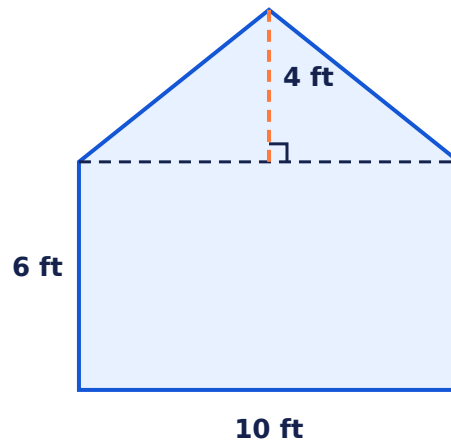
A deck is a trapezoid. Its parallel sides measure 12 feet and 20 feet, and they are 9 feet apart. Find its area.

Problem 13 Triangle or rectangle? (medium)

A triangle has a base of 15 feet and a height of 8 feet. A rectangle measures 6 feet by 9 feet. Which has the greater area, and by how much?

Problem 14 House shape (hard)

Find the area of the shape, a rectangle with a triangular roof.



A pentagon made of a rectangle and a triangle.

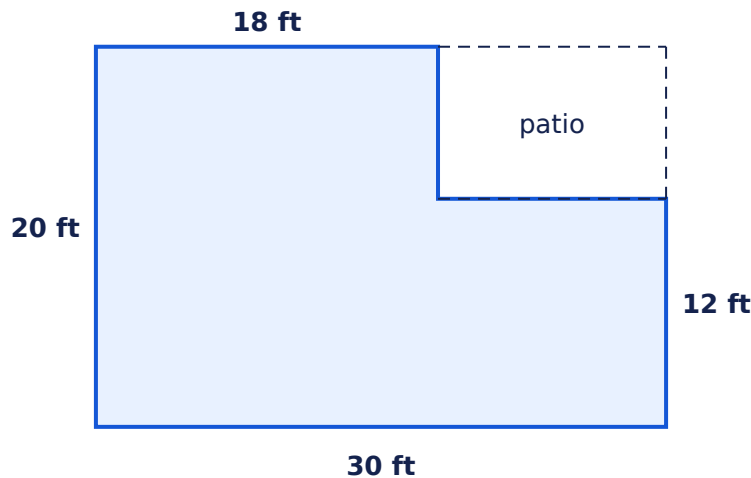
Problem 15 Painting a mural wall (hard)

A mural wall is a trapezoid with parallel sides of 24 feet and 16 feet, and a height of 10 feet. One quart of paint covers 40 square feet. The wall needs two coats, and a quart costs \$14.50.

- Find the area of the wall.
- Find the number of quarts needed.
- Find the total cost.

Problem 16 Laying sod (hard)

A yard is shaped as shown, with a patio in the upper right corner that needs no sod. A roll of sod covers 36 square feet and costs \$4.25.



A rectangular yard with a patio notch.

- Find the area to be covered with sod.
- Find the number of rolls needed.
- Find the total cost.

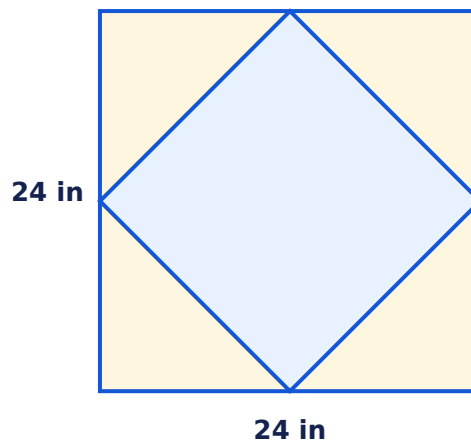
Problem 17 Sails for a sailboat (hard)

A sailboat has two triangular sails. The first has a base of 6 meters and a height of 11 meters. The second is a right triangle with legs of 5 meters and 9 meters. Fabric costs \$18 per square meter.

- Find the area of each sail.
- Find the total fabric cost.

Problem 18 Quilt block (hard)

A quilt block is a square 24 inches on a side. A diamond is made by joining the midpoints of the sides.

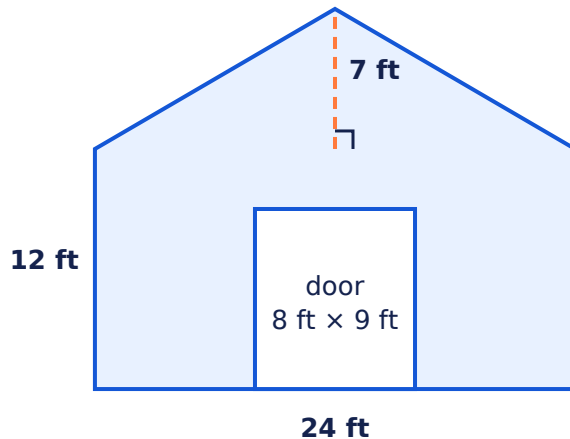


A diamond joins the midpoints of the sides of a square.

- Find the area of the square.
- Find the area of one corner triangle.
- Find the area of the diamond.

Problem 19 Painting a barn wall (hard)

The end wall of a barn is shown. The door will not be painted. One gallon of paint covers 150 square feet.



The end wall of a barn.

- Find the area to be painted.
- Find the number of gallons needed for one coat.

Problem 20 Finding a trapezoid height (hard)

A trapezoid has an area of 91 square meters and parallel sides of 8 meters and 18 meters. Find its height. Then find the height of a triangle that has the same area and a base of 14 meters.