

Grade 6 · Area of Triangles, Quadrilaterals and Polygons · Worksheet

Common Core 6.G.A.1 · mathovore.fr

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

These 20 problems practice finding the areas of triangles, special quadrilaterals, and composite polygons from Common Core 6.G.A.1. Early problems apply the formulas for triangles, parallelograms, and trapezoids; middle problems find missing dimensions and break shapes into simpler pieces.

Problems 15 through 20 are word problems about gardens, sails, painting, roofing, and paving. Write the formula, substitute the measures, and include square units in every answer.

Grade 6 Common Core: 6.G.A.1

Problem 1: Right triangle

Find the area of a right triangle whose legs measure 9 ft and 4 ft.

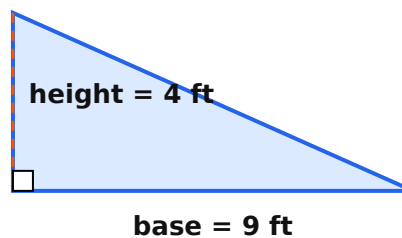


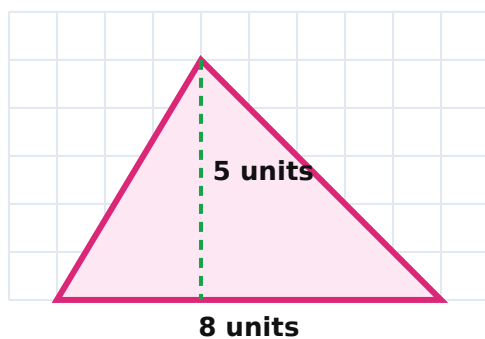
Figure for Problem 1.

Problem 2: Triangle area

Find the area of a triangle with base 14 m and height 6 m.

Problem 3: Triangle on a Grid

Each square on the grid is 1 square unit. Find the area of the triangle.



Each square is 1 square unit.

Problem 4: Parallelogram area

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

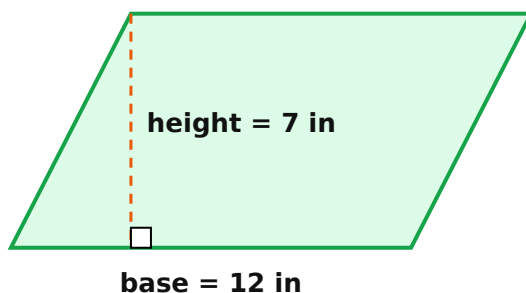
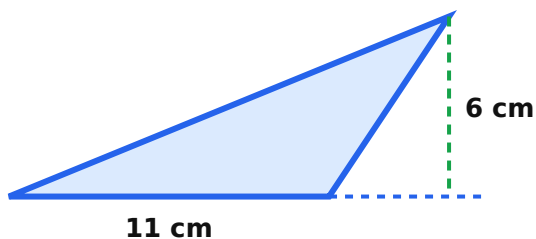


Figure for Problem 3.

Problem 5: Obtuse Triangle

Find the area of the triangle. Notice that the height falls outside the triangle.



The height meets the extended base.

Problem 6: Rectangle Square Parallelogram

Find the area of each quadrilateral.

- A rectangle 13 ft long and 7 ft wide

- b. A square with sides of 9 m
- c. A parallelogram with base 15 ft and height 4.5 ft

Problem 7: Missing height

A triangle has an area of 45 yd^2 and a base of 10 yd. Find its height.

Problem 8: Missing base

A parallelogram has an area of 72 cm^2 and a height of 9 cm. Find its base.

Problem 9: Missing Dimensions

Find the missing measure in each shape.

- a. A parallelogram has an area of 84 cm^2 and a base of 12 cm. Find its height.
- b. A triangle has an area of 60 ft^2 and a height of 8 ft. Find its base.

Problem 10: Trapezoid area

Find the area of the trapezoid. Its parallel sides are 6 ft and 10 ft, and its height is 4 ft.

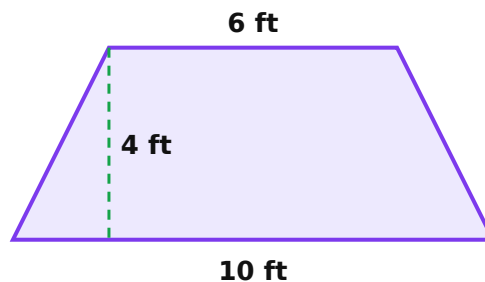


Figure for Problem 5.

Problem 11: Trapezoid Height

A trapezoid has an area of 54 m^2 . Its parallel sides measure 7 m and 11 m. Find the height of the trapezoid.

Problem 12: Rectangle plus triangle

Find the area of the polygon. A rectangle 10 ft wide and 6 ft tall has a triangle on top with base 10 ft and height 4 ft.

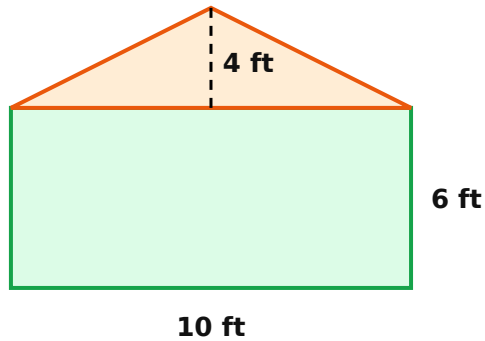
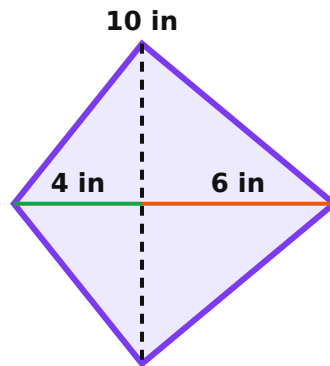


Figure for Problem 7.

Problem 13: Kite from Two Triangles

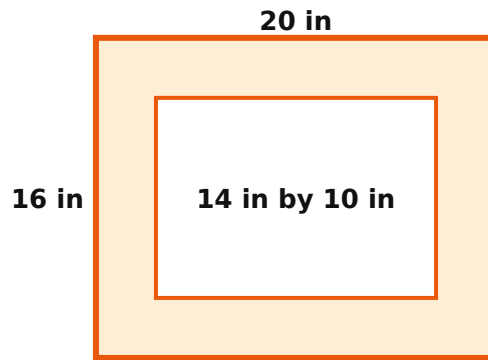
A kite-shaped sign is split by a dashed line of 10 in into two triangles. The left triangle has a height of 4 in and the right triangle has a height of 6 in, both measured to the dashed line. Find the area of the sign.



Two triangles share the 10-inch base.

Problem 14: Picture Frame

A picture frame is a rectangle 20 in wide and 16 in tall. The opening for the photo is a rectangle 14 in wide and 10 in tall. Find the area of the frame itself, not including the opening.



Outer rectangle and inner opening.

Problem 15: Garden beds

Sofia's garden bed is a trapezoid. The parallel sides are 9 m and 15 m, and they are 8 m apart. One bag of soil covers 12 m². How many bags does she need?

Problem 16: Sailcloth Cost

Ethan is making a triangular sail with a base of 4.5 m and a height of 6 m. Sailcloth costs \$8 per square meter. Find the area of the sail and the cost of the cloth.

Problem 17: Painting a gable wall

A garage wall is a rectangle 16 ft wide and 8 ft tall, with a triangular peak above it. The peak has a base of 16 ft and a height of 5 ft. One gallon of paint covers 84 ft² and costs \$32. Find the total area of the wall and the cost of the paint for one coat.

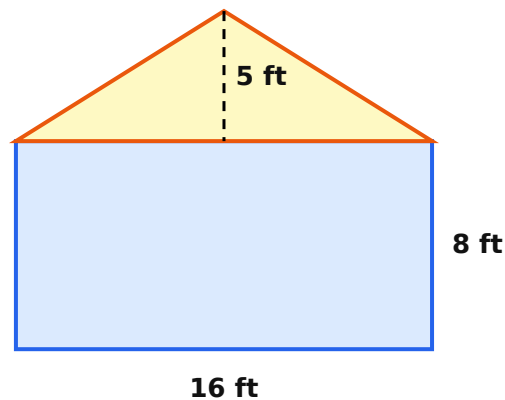


Figure for Problem 9.

Problem 18: Shingling a Roof

A roof has two identical sides. Each side is a trapezoid with parallel edges of 30 ft and 22 ft

and a height of 12 ft. One bundle of shingles covers 33 ft^2 and costs \$27. Find the total roof area, the number of bundles Liam must buy, and the total cost.

Problem 19: Patio pavers

Jamal is paving an L-shaped patio. Before the corner is removed it is a 14 ft by 10 ft rectangle. A 6 ft by 4 ft rectangle is cut out of one corner. Pavers cost \$3.50 per square foot. Find the area of the patio and the cost of the pavers.

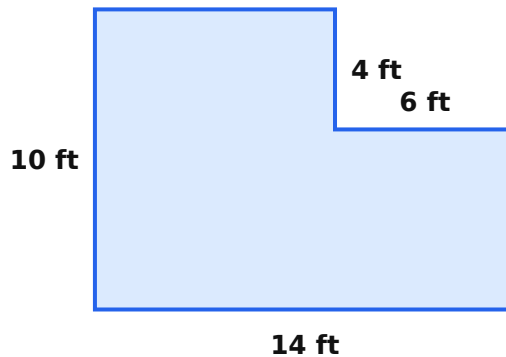
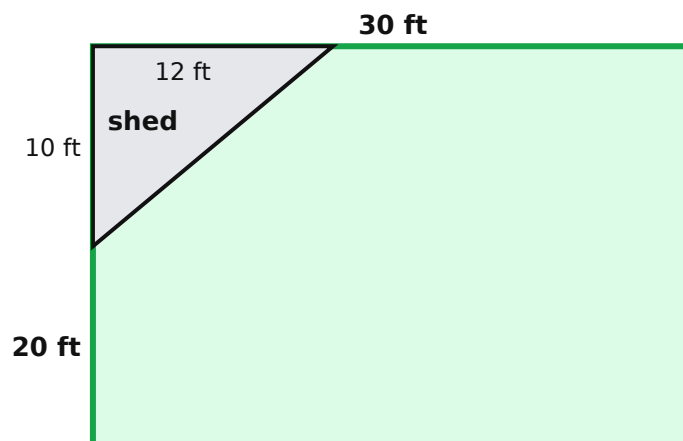


Figure for Problem 10.

Problem 20: Community Garden Plan

A community garden lot is a rectangle 30 ft by 20 ft. A right-triangle corner with legs of 12 ft and 10 ft is gray and reserved for a tool shed. Each tomato plant needs 6 ft^2 of garden space and costs \$1.25. Find the planting area, the number of plants that fit, and the cost of the plants.



The gray corner is the shed.