

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

Common Core 6.G.A.1 · mathovore.fr

Every solution shows the formula, the substitution, and the final area with units. Use the answers to check your work, and compare your method on the composite shapes, since more than one way of cutting a polygon gives the same total area.

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

Problem 1: Right triangle

The legs are perpendicular, so use them as base and height.

$$A = \frac{1}{2} \times 9 \times 4 = \frac{1}{2} \times 36 = 18$$

The area is 18 ft².

Problem 2: Triangle area

$$A = \frac{1}{2} \times 14 \times 6 = 7 \times 6 = 42$$

The area is 42 m².

Problem 3: Parallelogram area

$$A = bh = 12 \times 7 = 84$$

The area is 84 in².

Problem 4: Missing height

$$45 = \frac{1}{2} \times 10 \times h, \text{ so } 45 = 5h.$$

$$h = 45 \div 5 = 9$$

The height is 9 yd.

Problem 5: Trapezoid area

$$A = \frac{1}{2}(b_1 + b_2)h = \frac{1}{2}(6 + 10)(4)$$

$$= \frac{1}{2} \times 16 \times 4 = 8 \times 4 = 32$$

The area is 32 ft^2 .

Problem 6: Missing base

$$72 = b \times 9$$

$$b = 72 \div 9 = 8$$

The base is 8 cm .

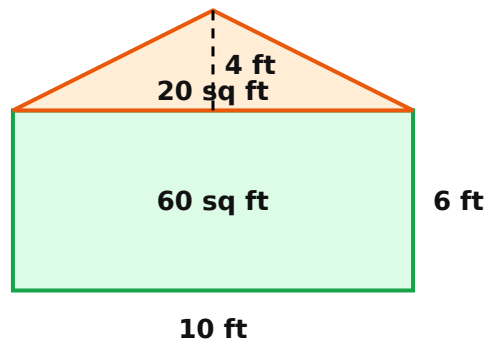
Problem 7: Rectangle plus triangle

Rectangle: $10 \times 6 = 60 \text{ ft}^2$.

Triangle: $\frac{1}{2} \times 10 \times 4 = 20 \text{ ft}^2$.

Total: $60 + 20 = 80$

The area is 80 ft^2 .



Solution figure: the two pieces and their areas.

Problem 8: Garden beds

Area: $\frac{1}{2}(9+15)(8) = \frac{1}{2} \times 24 \times 8 = 96 \text{ m}^2$.

Bags: $96 \div 12 = 8$

Sofia needs **8 bags**.

Problem 9: Painting a gable wall

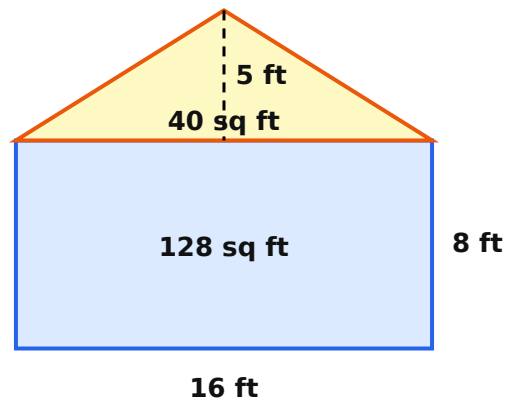
Rectangle: $16 \times 8 = 128 \text{ ft}^2$.

Triangle: $\frac{1}{2} \times 16 \times 5 = 40 \text{ ft}^2$.

Total area: $128 + 40 = 168 \text{ ft}^2$.

Gallons: $168 \div 84 = 2$. Cost: $2 \times \$32 = \$64$.

The wall is 168 ft^2 and the paint costs \$64.



Solution figure: the two pieces and their areas.

Problem 10: Patio pavers

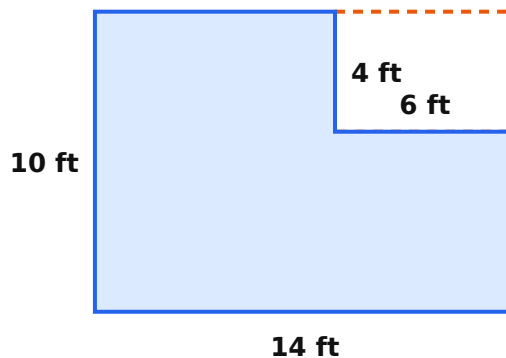
Full rectangle: $14 \times 10 = 140 \text{ ft}^2$.

Corner: $6 \times 4 = 24 \text{ ft}^2$.

Patio: $140 - 24 = 116 \text{ ft}^2$.

Cost: $116 \times \$3.50 = \$406$.

The patio is 116 ft^2 and the pavers cost \$406.



Solution figure: subtract the removed corner (24 sq ft) from the full rectangle (140 sq ft).