

Grade 6 - Area of Triangles and Polygons - Test Answer Key

Common Core 6.G.A.1 · maths-pdf.fr/en/

Use this key to score the area test out of 20 points. Each solution is fully worked, and the scoring line explains how to award each point and partial credit.

Grade 6 · Common Core State Standards: **6.G.A.1**

Question 1 - Triangle [2 pts]

$$\frac{1}{2} \cdot 14 \cdot 9 = 63.$$

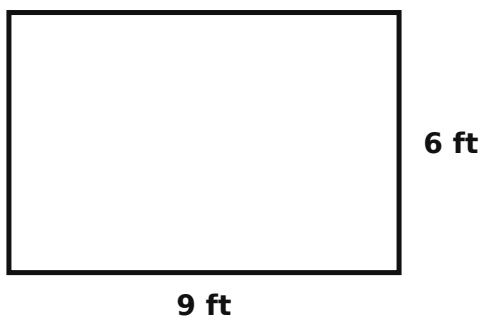
The area is 63 m².

Scoring: 1 point for the formula; 1 point for 63.

Question 2 - Parallelogram [2 pts]

$$9 \cdot 6 = 54.$$

The area is 54 ft².



Same area as a 9 by 6 rectangle.

Scoring: 1 point for the formula; 1 point for 54.

Question 3 - Trapezoid [2 pts]

$$\frac{1}{2} \cdot (14+8) \cdot 5 = 55.$$

The area is 55 in².

Scoring: 1 point for the method (two triangles or average of the bases); 1 point for 55.

Question 4 - Find a missing dimension [2 pts]

$$36 = \frac{1}{2} \cdot b \cdot 9 = 4.5b.$$

$$b = 36 \div 4.5 = 8.$$

Scoring: 1 point for the equation; 1 point for 8 cm.

Question 5 - Composite shape [2 pts]

$$12 \cdot 8 - 5 \cdot 3 = 96 - 15 = 81.$$

Scoring: 1 point for the decomposition; 1 point for 81 square meters.

Question 6 - House front [2 pts]

$$\text{Rectangle: } 10 \cdot 6 = 60. \text{ Triangle: } \frac{1}{2} \cdot 10 \cdot 4 = 20.$$

$$60 + 20 = 80 \text{ square feet.}$$

Scoring: 1 point for each part; 0 points for combining them incorrectly.

Question 7 - Coordinate triangle [2 pts]

$$\text{Base: } 7 - 1 = 6. \text{ Height: } 5 - 1 = 4.$$

$$\frac{1}{2} \cdot 6 \cdot 4 = 12 \text{ square units.}$$

Scoring: 1 point for the base and height; 1 point for 12.

Question 8 - Roof cost [3 pts]

$$\text{One section: } \frac{1}{2} \cdot 20 \cdot 6 = 60 \text{ square feet.}$$

Both: $2 \cdot 60 = 120$ square feet.

Cost: $120 \cdot \$2.50 = \$300.00$.

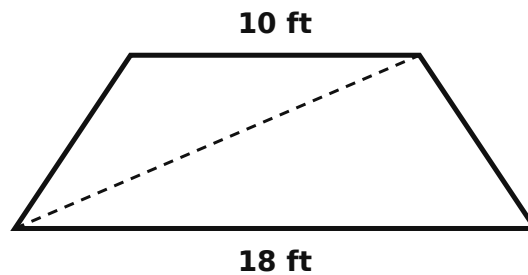
Scoring: 1 point for one section; 1 point for both; 1 point for \$300.00.

Question 9 - Garden plan [3 pts]

Area: $\frac{1}{2}(18+10) \cdot 6 = 84$ square feet.

$84 \div 14 = 6$.

She needs 6 bags.



Triangles of area 54 and 30 add to 84.

Scoring: 1 point for the area method; 1 point for 84; 1 point for 6 bags.

Total
20 points