

# Grade 6 · Area of Triangles, Quadrilaterals and Polygons · Test

Common Core 6.G.A.1 · mathovore.fr

Name: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Score: \_\_\_\_\_

This 45-minute test checks Grade 6 skills on the area of triangles, parallelograms, trapezoids, and composite polygons. It has nine questions worth 20 points in all. Show your work and include the correct square units in every answer.

## Test information

- **Grade:** Grade 6
- **Chapter:** Area of Triangles, Quadrilaterals and Polygons
- **Common Core:** 6.G.A.1
- **Time:** 45 minutes
- **Total:** 20 points (Question 1: 2 pts; Question 2: 2 pts; Question 3: 2 pts; Question 4: 2 pts; Question 5: 2 pts; Question 6: 3 pts; Question 7: 3 pts; Question 8: 2 pts; Question 9: 2 pts)

## Question 1: Triangles (2 points)

- Find the area of a right triangle with legs 15 in and 8 in. (1 point)
- Find the area of a triangle with base 11 m and height 6 m. (1 point)

## Question 2: Parallelogram (2 points)

A parallelogram has a base of 18 ft, a slanted side of 10 ft, and a height of 7 ft. Find its area.

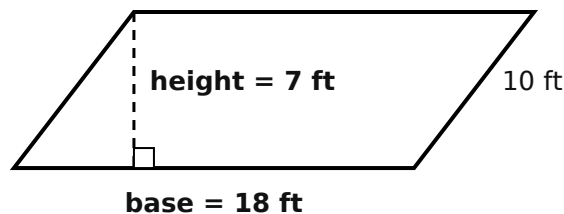


Figure for Question 2.

### Question 3: Trapezoid (2 points)

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A trapezoid has parallel sides of 7 cm and 13 cm and a height of 5 cm. Find its area.

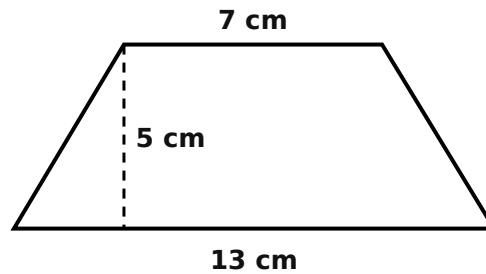


Figure for Question 3.

### Question 4: Missing base (2 points)

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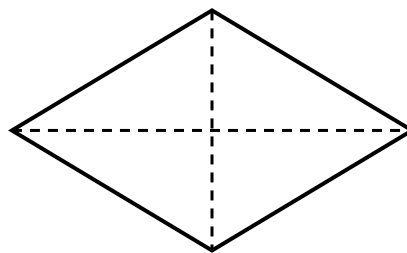
A triangle has an area of  $54 \text{ ft}^2$  and a height of 9 ft. Find the length of its base.

### Question 5: Rhombus (2 points)

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The diagonals of a rhombus cut it into four congruent right triangles. The diagonals measure 10 in and 6 in and cross at their midpoints.

- Find the area of one triangle. (1 point)
- Find the area of the rhombus. (1 point)



diagonals: 10 in and 6 in

Figure for Question 5.

### Question 6: Composite polygon (3 points)

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Find the area of the polygon shown. The top side is 10 ft, the bottom side is 14 ft, and the left side is 6 ft and perpendicular to both.

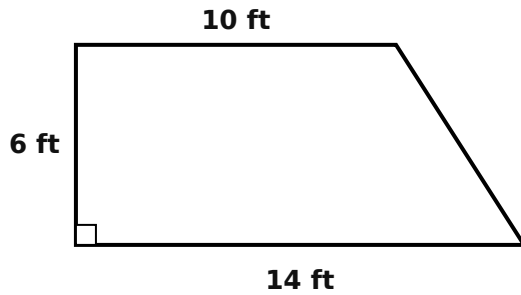


Figure for Question 6.

### Question 7: Market tarp (3 points)

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A farmers market stall has a rectangular tarp 20 ft by 12 ft. A right triangle with legs 6 ft and 4 ft is cut off one corner.

- Find the area of the tarp that is left. (2 points)
- New tarp costs \$0.75 per square foot. Find the cost of a tarp with that area. (1 point)

### Question 8: Find the error (2 points)

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Liam says a triangle with base 10 ft and height 7 ft has an area of  $70 \text{ ft}^2$ . Explain his mistake and find the correct area.

### Question 9: Equal areas (2 points)

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A parallelogram has a base of 8 m and a height of 5 m. A triangle has the same area and a base of 10 m. Find the height of the triangle.