

Area of Triangles & Quadrilaterals

Answer key

6.G.A.1

15 problems

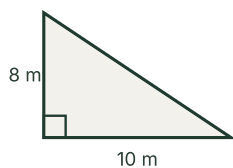
1. Find the area of the rectangle.



Answer 60 square cm

$$A = bh = 12 \times 5 = 60 \text{ square cm.}$$

2. Find the area of the right triangle.



Answer 40 square m

$$A = \frac{1}{2}bh = \frac{1}{2}(10)(8) = 40 \text{ square m.}$$

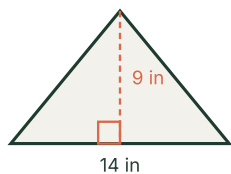
3. Find the area of the parallelogram.



Answer 90 square cm

$$A = bh = 15 \times 6 = 90 \text{ square cm. Use the perpendicular height, not the slanted side.}$$

4. Find the area of the triangle.



Answer 63 square in

$$A = \frac{1}{2}bh = \frac{1}{2}(14)(9) = 63 \text{ square in.}$$

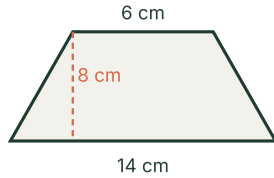
5. Find the area of the square.



Answer 49 square ft

$$A = s^2 = 7^2 = 49 \text{ square ft.}$$

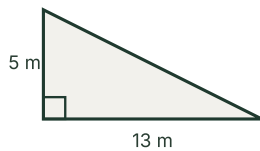
6. Find the area of the trapezoid using $A = \frac{1}{2}(b_1 + b_2)h$.



Answer 80 square cm

$$A = \frac{1}{2}(b_1 + b_2)h = \frac{1}{2}(6 + 14)(8) = \frac{1}{2}(20)(8) = 80 \text{ square cm.}$$

7. Find the area of the triangle.



Answer 32.5 square m

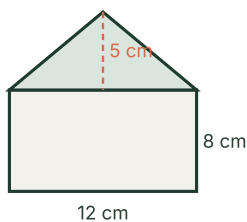
$$A = \frac{1}{2}bh = \frac{1}{2}(13)(5) = \frac{65}{2} = 32.5 \text{ square m.}$$

8. A triangle has an area of 48 square cm and a base of 12 cm. What is its height?

Answer 8 cm

$$A = \frac{1}{2}bh, \text{ so } 48 = \frac{1}{2}(12)h = 6h. \text{ Then } h = 48 \div 6 = 8 \text{ cm.}$$

9. Find the total area of the composite figure (a rectangle with a triangle on top).



Answer 126 square cm

$$\text{Rectangle: } 12 \times 8 = 96. \text{ Triangle: } \frac{1}{2}(12)(5) = 30. \text{ Total} = 96 + 30 = 126 \text{ square cm.}$$

10. A rectangular garden measures 9 m by 6 m. A bag of grass seed covers 5 square m. How many full bags are needed to cover the whole garden?

Answer 11 bags

$$\text{Area} = 9 \times 6 = 54 \text{ square m. } 54 \div 5 = 10.8, \text{ so you must round up to 11 bags.}$$

11. Which expression gives the area of a triangle with base b and height h ?

Answer B) $\frac{1}{2}bh$

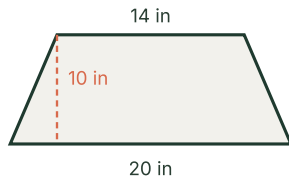
A triangle is half of a parallelogram with the same base and height, so $A = \frac{1}{2}bh$.

12. A parallelogram has an area of 72 square in and a height of 6 in. What is the length of its base?

Answer 12 in

$A = bh$, so $72 = b(6)$. Then $b = 72 \div 6 = 12$ in.

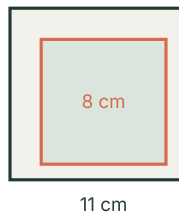
13. A trapezoidal tabletop has parallel sides of 20 in and 14 in and a height of 10 in. Find its area.



Answer 170 square in

$A = \frac{1}{2}(b_1 + b_2)h = \frac{1}{2}(20 + 14)(10) = \frac{1}{2}(34)(10) = 170$ square in.

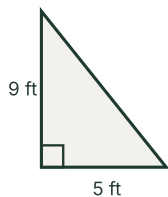
14. A square photo with side length 8 cm is glued onto a square piece of cardboard with side length 11 cm. How much cardboard is left uncovered?



Answer 57 square cm

Cardboard area = $11^2 = 121$. Photo area = $8^2 = 64$. Uncovered = $121 - 64 = 57$ square cm.

15. A triangular sail has a base of 5 ft and a height of 9 ft. Sailcloth costs \$8 per square foot. What is the total cost of the cloth for the sail?



Answer \$180

Area = $\frac{1}{2}(5)(9) = 22.5$ square ft. Cost = $22.5 \times \$8 = \180 .