

Area, Surface Area, and Volume: math test, Grade 6 – download the PDF

Suggested time: 45 minutes. Out of 20 points. Calculator allowed only when the problem says so.

1 Areas of basic shapes

/ 4 pts

No calculator. Find each area.

- A triangle with base 11 cm and height 6 cm.
- A parallelogram with base 13 cm and height 5 cm.
- A trapezoid with bases 8 cm and 12 cm and height 7 cm.
- A triangle has an area of 45 cm^2 and a base of 15 cm. Find its height.

2 A house wall

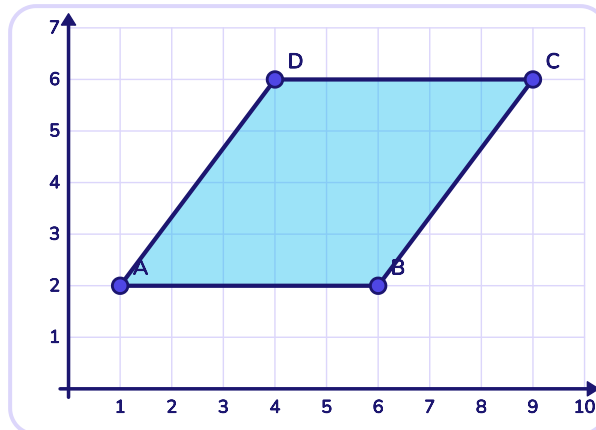
/ 3 pts

The front wall of a shed is a rectangle 12 m wide and 5 m tall, topped by a triangular gable with a base of 12 m and a height of 4 m. Find the area of the whole wall.

3 Parallelogram on the grid

/ 3 pts

The figure shows parallelogram ABCD with $A(1, 2)$, $B(6, 2)$, $C(9, 6)$, and $D(4, 6)$.



(a) Find the length of AB. (b) Find the height of the parallelogram. (c) Find its area.

4 A pyramid net

/ 3 pts

A net is made of one 8 in by 8 in square and four identical triangles, each with a base of 8 in and a height of 5 in.

(a) Name the solid. (b) Find the surface area.

5 Surface area of prisms

/ 4 pts

(a) Find the surface area of a rectangular prism that is 9 in long, 4 in wide, and 3 in tall.

(b) A triangular prism has right-triangle ends with legs 3 cm and 4 cm and hypotenuse 5 cm. Its length is 10 cm. Find its surface area.

6 Fractional volume

/ 3 pts

A storage bin is $4\frac{1}{2}$ ft long, 2 ft wide, and $2\frac{1}{2}$ ft tall.

(a) Find its volume. (b) How many cubes of edge $\frac{1}{2}$ ft would fill it exactly?



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