

Grade 6 · Area of Triangles, Quadrilaterals and Polygons · Quiz

Common Core 6.G.A.1 · mathovore.fr

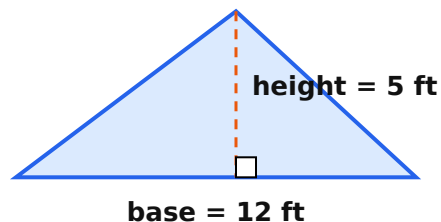
Name: _____ Date: ____/____/____ Score: _____

This quick quiz has ten multiple-choice questions on the area of triangles, parallelograms, trapezoids, and composite polygons. Choose one answer for each question. After you finish, read each explanation to see the common mistake behind the wrong choices.

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

Questions

Question 1



Triangle for Question 1.

Find the area of a triangle with base 12 ft and height 5 ft.

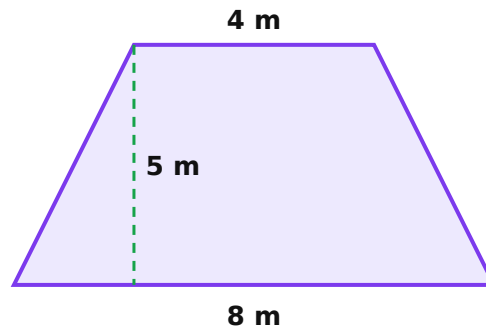
- A. 60 square feet
- B. 17 square feet
- C. 30 square feet
- D. 25 square feet

Question 2

A parallelogram has a base of 9 in, a slanted side of 5 in, and a height of 4 in. What is its area?

- A. 36 square inches
- B. 45 square inches
- C. 18 square inches
- D. 20 square inches

Question 3



Trapezoid for Question 3.

A trapezoid has parallel sides of 4 m and 8 m and a height of 5 m. What is its area?

- A. 60 square meters
- B. 40 square meters
- C. 30 square meters
- D. 17 square meters

Question 4

Which formula gives the area of a triangle with base b and height h ?

- A. $A = bh$
- B. $A = \frac{1}{2}bh$
- C. $A = \frac{1}{2}(b+h)$
- D. $A = 2bh$

Question 5

A right triangle has legs of 6 cm and 8 cm and a hypotenuse of 10 cm. What is its area?

- A. 48 square centimeters
- B. 30 square centimeters
- C. 40 square centimeters
- D. 24 square centimeters

Question 6

A triangle has an area of 28 ft^2 and a base of 8 ft. What is its height?

- A. 3.5 ft
- B. 14 ft
- C. 20 ft
- D. 7 ft

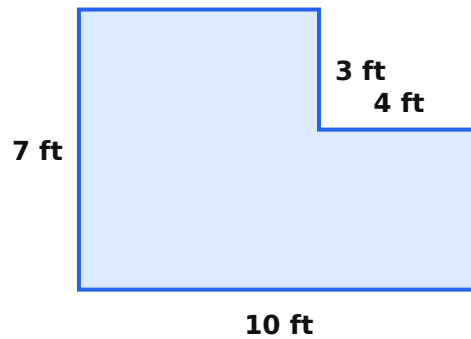
Question 7

A shape is a rectangle 8 ft by 5 ft with a triangle on top. The triangle has a base of 8 ft and

a height of 3 ft. What is the total area?

- A. 52 square feet
- B. 64 square feet
- C. 40 square feet
- D. 43 square feet

Question 8



L-shaped room for Question 8.

An L-shaped room is a 10 ft by 7 ft rectangle with a 4 ft by 3 ft corner removed. What is its area?

- A. 82 square feet
- B. 58 square feet
- C. 70 square feet
- D. 12 square feet

Question 9

A triangular sail has a base of 6 m and a height of 5 m. The cloth costs \$4 per square meter. What is the cost of the cloth?

- A. \$120
- B. \$44
- C. \$60
- D. \$15

Question 10

Which unit is best for the area of a classroom floor?

- A. square feet
- B. feet
- C. cubic feet
- D. pounds

Answer key

1. **C** - $A = \frac{1}{2} \times 12 \times 5 = 30$. The common mistake is forgetting the factor $\frac{1}{2}$, which gives 60.
2. **A** - Area uses the perpendicular height: $9 \times 4 = 36$. Using the slanted side gives 45, and taking half gives 18.
3. **C** - $A = \frac{1}{2}(4+8)(5) = 30$. Forgetting the factor $\frac{1}{2}$ gives 60.
4. **B** - A triangle is half of a parallelogram with the same base and height. $A = bh$ is the parallelogram formula.
5. **D** - The legs are perpendicular, so $A = \frac{1}{2} \times 6 \times 8 = 24$. The hypotenuse is not the height.
6. **D** - $28 = \frac{1}{2} \times 8 \times h = 4h$, so $h = 7$. Dividing 28 by 8 forgets the $\frac{1}{2}$ and gives 3.5.
7. **A** - Rectangle 40 plus triangle $\frac{1}{2} \times 8 \times 3 = 12$ gives 52. Forgetting the half gives 64.
8. **B** - $70 - 12 = 58$. Adding the corner gives 82, and ignoring it gives 70.
9. **C** - Area is $\frac{1}{2} \times 6 \times 5 = 15 \text{ m}^2$, and $15 \times 4 = 60$. Forgetting the half gives \$120.
10. **A** - Area counts squares that cover a surface, so it is measured in square units. Feet measure length and cubic feet measure volume.

Remember:

- Triangle: $A = \frac{1}{2}bh$; parallelogram: $A = bh$.
- Trapezoid: $A = \frac{1}{2}(b_1 + b_2)h$.
- The height is always perpendicular to the base, never a slanted side.
- Composite polygons are cut into rectangles and triangles, or a piece is subtracted.
- Area is measured in square units such as ft^2 or m^2 .