

CHAPTER-7 | Area

QUIZ
PART-06

1. Which formula gives the area of a triangle with base b and perpendicular height h ?
- A. $\frac{1}{2}bh$ B. bh
C. $2(b+h)$ D. $b+h$ (A)

Explanation: A triangle occupies half the area of a rectangle or parallelogram with the same base and height.

2. A triangle has base 5 units and height 4 units. What is its area?
- A. 9 square units
B. 20 square units
C. 5 square units
D. 10 square units (D)

Explanation: $\frac{1}{2} \times 5 \times 4 = 10$.

3. Two triangles have the same base and perpendicular height. How do their areas compare?
- A. The narrower-looking triangle is smaller
B. The triangle with the longer sloping side is larger
C. Their areas are equal
D. Their areas cannot be compared (C)

Explanation: Triangle area depends only on the base and corresponding height.

4. Triangles XDC and YDC have the same base DC and their vertices X and Y lie on the same line parallel to DC. Which has greater area?
- A. The one with the longer perimeter
B. Neither; their areas are equal
C. Triangle XDC
D. Triangle YDC (B)

Explanation: They have a common base and the same perpendicular height.

5. What measurements are required to calculate the area of a triangle?
- A. All three sides only
B. A base and its corresponding perpendicular height
C. Only the longest side
D. Perimeter and one angle (B)

Explanation: These are the measurements used in $\frac{1}{2}bh$.

6. A rectangle has area 40 cm^2 . A diagonal divides it into two triangles. What is the area of each triangle?
- A. 20 cm^2
B. 40 cm^2
C. 10 cm^2
D. 80 cm^2 (A)

Explanation: Each triangle is half of the rectangle.

7. A triangle has the same base and height as a rectangle of area 36 cm^2 . What is the triangle's area?
- A. 9 cm^2
B. 72 cm^2
C. 36 cm^2
D. 18 cm^2 (D)

Explanation: The triangle has half the area of the rectangle.

8. If a triangle's base doubles while its height remains unchanged, what happens to its area?
- A. It halves
B. It becomes four times
C. It doubles
D. It remains unchanged (C)

Explanation: Area is directly proportional to the base.

9. If a triangle's height is halved while its base remains unchanged, what happens to its area?
- A. It is halved
B. It remains unchanged
C. It doubles
D. It becomes one-fourth (A)

Explanation: Area is directly proportional to the height.

10. Which height is used when BC is chosen as the base of triangle ABC?
- A. Perimeter divided by three
B. Perpendicular distance from A to line BC
C. Length AC
D. Length AB (B)

Explanation: The height must be perpendicular to the chosen base or its extension.