

CHAPTER-7 | Area

QUIZ
PART-23

1. When two identical trapeziums are joined together, they form a:
- A. Rectangle B. Rhombus
C. Parallelogram D. Square (C)

Explanation: Joining two identical trapeziums appropriately forms a parallelogram, which helps derive the area formula.

2. The area of a parallelogram formed by joining two identical trapeziums is:
- A. Equal to the area of one trapezium
B. Half the area of one trapezium
C. Twice the area of one trapezium
D. Four times the area of one trapezium (C)

Explanation: The parallelogram consists of two identical trapeziums, so its area is twice that of one trapezium.

3. The base of the parallelogram formed is equal to:
- A. The difference of the parallel sides
B. The sum of the parallel sides of the trapezium
C. One non-parallel side
D. Half the sum of the parallel sides (B)

Explanation: The two parallel sides combine to form the base of the parallelogram.

4. The height of the new parallelogram is:
- A. Half the trapezium's height
B. Double the trapezium's height
C. Equal to the trapezium's height
D. Zero (C)

Explanation: The perpendicular distance between the parallel sides remains unchanged.

5. The formula for the area of a trapezium is obtained by:
- A. Multiplying the diagonals
B. Dividing the parallelogram's area by 2
C. Doubling the trapezium's height
D. Adding the perimeters (B)

Explanation: Since the parallelogram is made of two identical trapeziums, one trapezium has half its area.

6. If the parallel sides of a trapezium are 6 cm and 10 cm, and the height is 5 cm, the area is:
- A. 30 cm^2
B. 40 cm^2
C. 60 cm^2
D. 80 cm^2 (B)

Explanation: Area = $\frac{1}{2} \times (6 + 10) \times 5 = 40 \text{ cm}^2$.

7. A trapezium has an area of 36 cm^2 and parallel sides 4 cm and 8 cm. Its height is:
- A. 3 cm B. 6 cm
C. 9 cm D. 12 cm (B)

Explanation: Using Area = $\frac{1}{2} \times (a + b) \times h$:
 $36 = \frac{1}{2} \times (4 + 8) \times h = 6h$, so $h = 6 \text{ cm}$.

8. Why are two identical trapeziums used in the derivation?
- A. To increase the height
B. To form a parallelogram easily
C. To reduce the perimeter
D. To make a square (B)

Explanation: Two identical trapeziums fit together perfectly to form a parallelogram.

9. Which formula correctly represents the area of a trapezium?
- A. Base $\times$ Height
B. $\frac{1}{2} \times (\text{Sum of parallel sides}) \times \text{Height}$
C. $\frac{1}{2} \times \text{Base} \times \text{Height}$
D. Side $\times$ Side (B)

Explanation: This formula is derived by using two identical trapeziums to make a parallelogram.

10. Which statement is correct?
- A. Two identical trapeziums form a rectangle.
B. Two identical trapeziums form a parallelogram.
C. Two identical trapeziums form a rhombus.
D. Two identical trapeziums always form a square. (B)

Explanation: The chapter uses two identical trapeziums to construct a parallelogram and derive the area formula.