Area

Understanding Area

- Area is the amount of space inside a shape.
- It is measured in square units like cm², m², or mm².
- The area of a shape tells us how much surface it covers.
- For regular shapes like squares and rectangles, the area can be calculated using specific formulas.
- Area is used in real life to calculate the space of fields, rooms, and gardens.



Key Points about Area

- Area is a 2D measurement that measures the surface inside a shape
- The formula for the area of a rectangle is length × width
- The formula for the area of a square is side × side
- For circles, the area is calculated using $\pi \times radius^2$

Mixed Examples with Solutions

Example: Find the area of a rectangle with length 5 cm and width 3 cm

Solution: Area = length × width = $5 \times 3 = 15 \text{ cm}^2$ 5 CmExample: Find the area of a square with side length 6 cm3 CmSolution: Area = side × side = $6 \times 6 = 36 \text{ cm}^2$

Example: Find the area of a triangle with base 8 cm and height 5 cm

Solution: Area = $\frac{1}{2}$ × base × height = $\frac{1}{2}$ × 8 × 5 = 20 cm²

Example: Find the area of a circle with radius 7 cm (Use π = 3.14)

Solution: Area = π × radius² = 3.14 × 7² = 3.14 × 49 = 153.86 cm²

Example: Find the area of a rectangle with length 10 m and width 4 m

Solution: Area = length × width = $10 \times 4 = 40 \text{ m}^2$

Summary Points

- Area measures the space inside a shape.
- The area of a rectangle is calculated by multiplying length and width.
- The area of a square is found by squaring the side length.
- The area of a triangle uses base and height.
- For a circle, use the formula $\pi \times radius^2$ to calculate the area.
- Area helps in understanding how much space a shape covers, useful in real-life situations like flooring or gardening.