Area of Special Quadrilateral-Rhombus

A. Choose the correct answer:

1. The formula for the area of a rhombus is:

a) $\frac{1}{2}$ × (product of diagonals) b) side × height

c) $\frac{1}{3}$ × (product of diagonals) d) $\frac{1}{2}$ × (sum of diagonals)

2. If the diagonals of a rhombus are 10 cm and 8 cm, the area is:

a) 45 cm² b) 40 cm²

c) 50 cm² d) 60 cm²

3. In a rhombus, the diagonals are:

a) Unequal and perpendicular b) Equal and perpendicular

c) Unequal and not perpendicular d) Equal and not perpendicular

4. If the area of a rhombus is 72 cm² and one diagonal is 9 cm, the other diagonal is:

a) 8 cm b) 16 cm

c) 12 cm d) 18 cm

5. The diagonals of a rhombus bisect each other at:

a) 30° b) 45°

c) 60° d) 90°

B. Write the Missing Terms to Complete the Sentences:

1. The diagonals of a rhombus are _____ to each other
2. The area of a rhombus = _____ × product of diagonals
3. Each diagonal divides the rhombus into two _____ triangles
4. In a rhombus, all four sides are of _____ length
5. The formula for area using side and height is area = _____ × side × height

C. Figure out the answers to these questions:

1. Find the area of a rhombus whose diagonals are 12 cm and 16 cm
2. If the area of a rhombus is 84 cm² and one diagonal is 7 cm, find the other diagonal
3. Calculate the area of a rhombus if its diagonals are 15 cm and 20 cm
4. Find the side of a rhombus if its diagonals are 10 cm and 24 cm
5. Find the height of a rhombus if its area is 60 cm² and side is 10 cm

D. Mark each sentence with a True (✓) or False (✗):

1. The diagonals of a rhombus are equal in length. _____
2. The diagonals of a rhombus bisect each other at right angles. _____
3. The area of a rhombus is found using 1/2 × product of diagonals. _____
4. A rhombus is a special type of trapezium. _____
5. In a rhombus, the sides can have different lengths. _____

E. Challenge yourself with these questions:

1. Find the area of a rhombus whose diagonals measure 18 cm and 24 cm
2. Find the area of a rhombus whose diagonals are 7 cm and 24 cm
3. Find the missing diagonal if the area of a rhombus is 96 cm^2 and one diagonal is 8 cm
4. A rhombus has side 13 cm and one diagonal 24 cm Find the other diagonal using Pythagoras theorem
5. The area of a rhombus is 150 cm^2 and one diagonal is 15 cm Find the other diagonal