

CLASS 9 · HOTS · OLYMPIAD PREPARATION · DPP SHEET

Chapter 12: HOTS: Quadrilaterals (Class 9)

Daily practice problems: 8 questions with an answer key

Try every question on your own first. The answer key is on the last page.

1. In a parallelogram ABCD, $\angle A = 2x$ and $\angle B = 3x$. Find $\angle A$.
2. The diagonals of a parallelogram meet at O, with $OA = 2x + 3$ and $OC = 3x - 2$. Find AC .
3. D and E are the midpoints of AB and AC in triangle ABC, and $DE = 9$ cm. Find BC .
4. The diagonal of a rectangle is 17 cm and one side is 8 cm. Find the other side and the area.
5. A rhombus has a side of 10 cm and one diagonal of 16 cm. Find the other diagonal and the area.
6. The diagonal of a square is $6\sqrt{2}$ cm. Find its side and area.
7. The sides of a triangle are 6 cm, 8 cm and 10 cm. Find the perimeter of the triangle formed by joining the midpoints of its sides.
8. A quadrilateral has equal diagonals. Is it necessarily a rectangle?

Answer Key

1. 72° (here $5x = 180^\circ$ and $x = 36^\circ$).
2. 26 ($x = 5$ and $OA = 13$).
3. 18 cm.
4. 15 cm and 120 square cm.
5. 12 cm and 96 square cm.
6. 6 cm and 36 square cm.
7. 12 cm.
8. No. An isosceles trapezium also has equal diagonals.

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