RS Aggarwal Solutions for Class 6 Maths Chapter 17- Quadrilaterals

Exercise 17A

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1.

Solution

(i) AC and BD are the two diagonals

(ii) (AB and CD) and (AD and BC) are the two pairs of opposite sides.

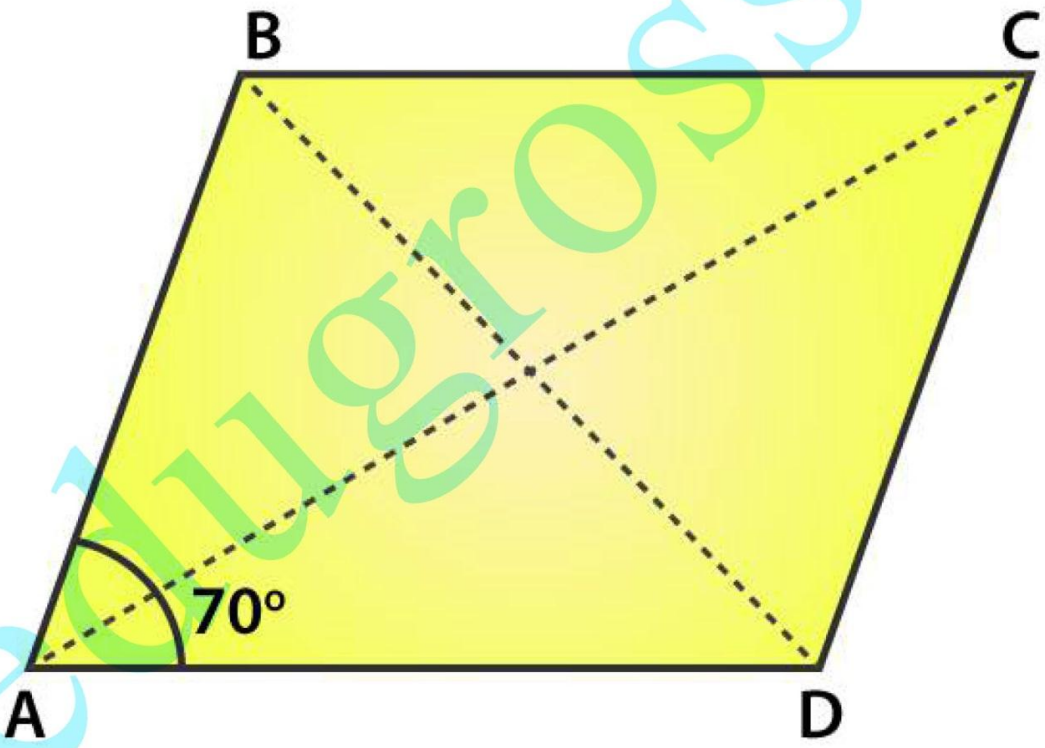
(iii) (∠A and ∠C) and (∠B and ∠D) are the two pairs of opposite angles.

(iv) (AB and BC) and (AD and DC) are the two pairs of adjacent sides.

(v) (∠A and ∠B) and (∠C and ∠D) are the two pairs of adjacent angles.

2.

Solution



Since, ABCD is a parallelogram

∴ AB = CD = 6.5 cm and

AD = BC = 4.8 cm

Given ∠BAD = 70°

Steps of construction

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1. Draw AD such that AD = 4.8 cm

2. Make an angle measuring 70^0 at A and cut an arc of 6.5 cm and name it as B

3. From B cut an arc of 4.8 cm and 6.5 cm from D, name it as C

4. Join AB, BC and CD

5. By measuring the diagonals AC and BD we get AC = 9.2 cm and BD = 6.6 cm

3.

Solution

Given two sides of parallelogram are in the ratio 4: 3

In a parallelogram we know that opposite sides are equal and parallel. Hence, they are also in ratio 4: 3 which is 4x and 3x

Perimeter = 4x + 3x + 4x + 3x = 56

14x = 56

x = 56 / 14

x = 4

3x = 3 × 4 = 12 cm

4x = 4 × 4 = 16 cm

∴ the length of its sides are 12 cm, 16 cm, 12 cm and 16 cm

4.

Solution

(i) In a rectangle the diagonals are equal and the sides are unequal

(ii) In a square the diagonals are equal and the adjacent sides are equal

(iii) In a rhombus the diagonals are unequal and the adjacent sides are equal

Exercise 17B

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1.

Solution

The sum of all the angles of a quadrilateral is 360^0

Option (c) is the correct answer

2.

Solution

Given the three angles of a quadrilateral are 80^0, 70^0 and 120^0

Let the fourth angle be x

We know that sum of all the angles of a quadrilateral is 360^0

$80^0 + 70^0 + 120^0 + x = 360^0$

$270^0 + x = 360^0$

$x = 360^0 – 270^0$

$x = 90^0$

$\therefore$ Fourth angle is 90^0

Option (c) is the correct answer.

3.

Solution

Given the angles of quadrilateral are in the ratio 3: 4: 5: 6

Let the angles of quadrilateral be 3x, 4x, 5x and 6x

We know that sum of all angles of quadrilateral is 360^0

$\therefore 3x + 4x + 5x + 6x = 360^0$

$18x = 360^0$

$x = 360^0 / 18$

$x = 20^0$

$3x = 3 \times 20^0 = 60^0$

$4x = 4 \times 20^0 = 80^0$

$5x = 5 \times 20^0 = 100^0$

$6x = 6 \times 20^0 = 120^0$

Hence, the largest angle is 120^0

Option (b) is the correct answer

4.

Solution

A quadrilateral having one and only one pair of parallel sides is called a trapezium

Option (d) is the correct answer.

5.

Solution

A quadrilateral in which both pairs of opposite sides are parallel is called a parallelogram

Option (d) is the correct answer.