Exercise 17A

Q1
Answer :

(i) The diagonals are AC and BD.

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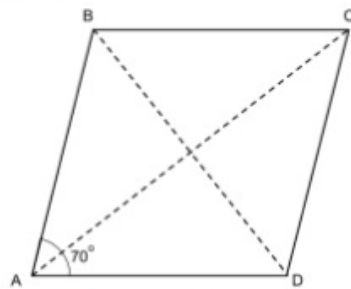
(v) ∠A and ∠B, and ∠C and ∠D are the two pairs of adjacent angles.

Q2
Answer :

Since ABCD is a parallelogram, AB = DC = 6.5 cm and AD = BC = 4.8 cm.

Given:

∠A = 70°

Steps of construction :

1) Draw AD equal to 4.8 cm.

2) Make an angle of 70° at A and cut an arc of 6.5 cm. Name it B.

3) Cut an arc of 4.8 cm from B and 6.5 cm from D. Name it C.

4) Join AB, BC and CD.

5) Measuring the diagonals AC and BD, we get AC equal to 9.2 cm and BD equal to 6.6 cm.

Q3
Answer :

Two sides of a parallelogram are in the ratio 4:3.

Let the two sides be 4x and 3x.

In a parallelogram, opposite sides are equal and parallel. So, they are also in the ratio of 4:3, i.e. 4x and

3x.

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

$$56 = 14x$$

$$x = \frac{56}{14}$$

$$x = 4$$

∴ 4x = 16

3x = 12

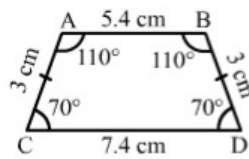Length of its sides are 16cm, 12 cm, 16cm and 12cm.

Q4

Answer :

(i) Rectangle

(ii) Square

(iii) Rhombus

Q5

Answer :

A trapezium has only one pair of parallel sides.

A trapezium is said to be an isosceles trapezium if its non-parallel sides are equal.

Following are the measures of the isosceles trapezium:

AB = 5.4 cm

BC = 3 cm

DC = 7.4 cm

AD = 3 cm

∠A =∠B =110°∠D = ∠C = 70°

Q6

Answer :

(a) False

(b) False

(c) False

Q7

Answer :

(a) This is because a rectangle with equal sides becomes a square.

(b) This is because a rhombus with each angle a right angle becomes a square.

(c) This is because a parallelogram with each angle a right angle becomes a rectangle.

(d) This is because in a square opposite sides are parallel.

Q8

Answer :

A square is a regular quadrilateral all of whose sides are equal in length and all of whose angles are equal in measure.

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