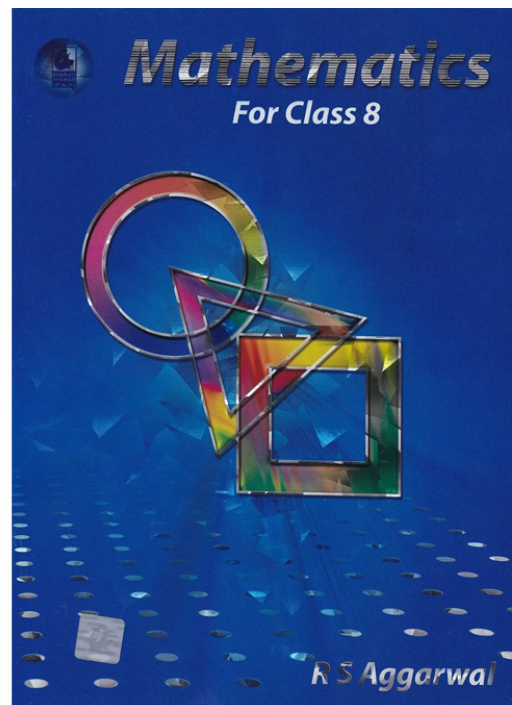


RS Aggarwal Solutions for Class 8 Maths Chapter 15–Quadrilaterals

Class 8 - Chapter 15 Quadrilaterals



For any clarifications or questions you can write to info@indcareer.com

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RS Aggarwal Solutions for Class 8 Maths Chapter 15–Quadrilaterals

RS Aggarwal 8th Maths Chapter 15, Class 8 Maths Chapter 15 solutions

Q1.

Answer :

- (i) 4
- (ii) 4
- (iii) 4, co-linear
- (iv) 2
- (v) opposite
- (vi) 360°

Q2.

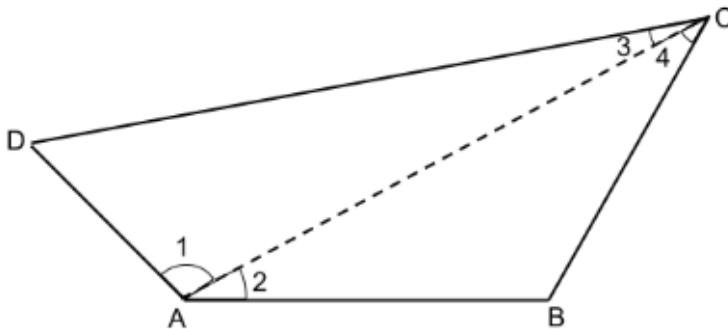
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Answer :

- (i) There are four pairs of adjacent sides, namely (AB, BC) , (BC, CD) , (CD, DA) and (DA, AB) .
- (ii) There are two pairs of opposite sides, namely (AB, DC) and (AD, BC) .
- (iii) There are four pairs of adjacent angles, namely $\angle A, \angle B$, $\angle B, \angle C$, $\angle C, \angle D$ and $\angle D, \angle A$.
- (iv) There are two pairs of opposite angles, namely $\angle A, \angle C$ and $\angle B, \angle D$.
- (v) There are two diagonals, namely AC and BD .

Q3.

Answer :



Let $ABCD$ be a quadrilateral.

Join A and C .

Now, we know that the sum of the angles of a triangle is 180° .

$$\text{For } \triangle ABC: \angle 2 + \angle 4 + \angle B = 180^\circ \quad \dots (1)$$

$$\text{For } \triangle ADC: \angle 1 + \angle 3 + \angle D = 180^\circ \quad \dots (2)$$

For $\triangle ADC$:

$$\angle 1 + \angle 3 + \angle D = 180^\circ \quad \dots (2)$$

Adding (1) and (2):

$$(\angle 1 + \angle 2 + \angle 3 + \angle 4) + \angle B + \angle D = 360^\circ$$

$$\text{or } \angle A + \angle B + \angle C + \angle D = 360^\circ$$

Hence, the sum of all the angles of a quadrilateral is 360° .

Q4.

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Answer :

Sum of all the four angles of a quadrilateral is 360° .

Let the unknown angle be x° . $76+54+108+x=360$
 $238+x=360$
 $x=122$

The fourth angle measures 122° .

Q5.

Answer :

Let the measures of the angles of the given quadrilateral be $(3x)^\circ$, $(5x)^\circ$, $(7x)^\circ$ and $(9x)^\circ$.
Sum of all the angles of a quadrilateral is 360° .
 $\therefore 3x+5x+7x+9x=360$
 $24x=360$
 $x=15$

Angles measure: $(3 \times 15)^\circ = 45^\circ$, $(5 \times 15)^\circ = 75^\circ$, $(7 \times 15)^\circ = 105^\circ$, $(9 \times 15)^\circ = 135^\circ$

Q6.

Answer :

Sum of the four angles of a quadrilateral is 360° .

If the unknown angle is x° , then:

$75+75+75+x=360$
 $x=360-225=135$

The fourth angle measures 135° .

Q7.

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Answer :

Let the three angles measure x° each.

Sum of all the angles of a quadrilateral is 360° .

$$\therefore x+x+x+120=360 \quad 3x+120=360 \quad 3x=240 \quad x=240/3=80$$

Each of the equal angles measure 80° .

Q8.

Answer :

Let the two unknown angles measure x° each.

Sum of the angles of a quadrilateral is 360° .

$$\therefore 85+75+x+x=360 \quad 160+2x=360 \quad 2x=360-160=200 \quad x=100$$

Each of the equal angle measures 100° .

Q9.

Answer :

Sum of the angles of a quadrilateral is 360° .

$$\therefore \angle A + \angle B + 60^\circ + 100^\circ = 360^\circ \quad \angle A + \angle B = 360 - 100 - 60 = 200^\circ \text{ or } 2\angle A + \angle B = 100^\circ \quad \dots (1)$$

Sum of the angles of a triangle is 180° . In $\triangle APB$: $12\angle A + \angle B + \angle P = 180^\circ$

$$\text{Using equation (1): } 100^\circ + \angle P = 180^\circ \Rightarrow \angle P = 80^\circ$$

$$\therefore \angle APB = 80^\circ$$

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He was born on January 2, 1946 in a village of Delhi. He graduated from Kirori Mal College, University of Delhi. After completing his M.Sc. in Mathematics in 1969, he joined N.A.S. College, Meerut, as a lecturer. In 1976, he was awarded a fellowship for 3 years and joined the University of Delhi for his Ph.D. Thereafter, he was promoted as a reader in N.A.S. College, Meerut. In 1999, he joined M.M.H. College, Ghaziabad, as a reader and took voluntary retirement in 2003. He has authored more than 75 titles ranging from Nursery to M. Sc. He has also written books for competitive examinations right from the clerical grade to the I.A.S. level.

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