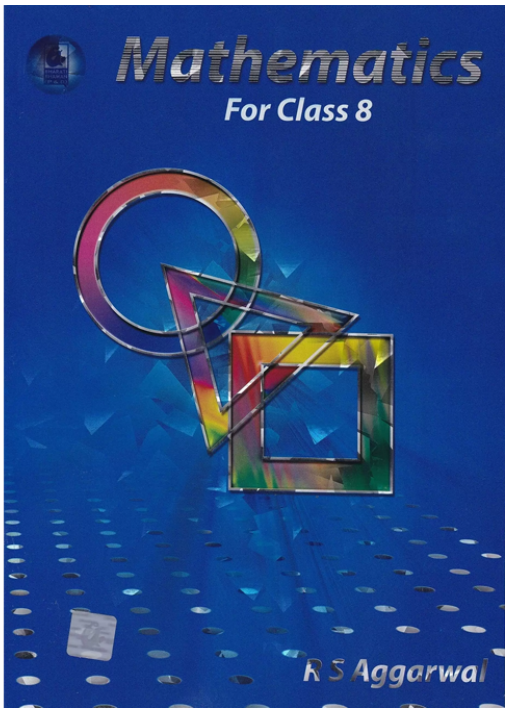
RS Aggarwal Solutions for Class 8 Maths Chapter 16–Parallelograms

Class 8 - Chapter 16 Parallelograms



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

Postal Address

IndCareer.com, 52, Shilpa Nagar, Somalwada Nagpur - 440015
Maharashtra, India

WhatsApp: +91 9561 204 888, **Website:** https://www.indcareer.com

https://www.indcareer.com/schools/rs-aggarwal-solutions-for-class-8-maths-chapter-16-parallelograms/

RS Aggarwal Solutions for Class 8 Maths Chapter 16–Parallelograms

Class 8: Maths Chapter 16 solutions. Complete Class 8 Maths Chapter 16 Notes.

RS Aggarwal Solutions for Class 8 Maths Chapter 16–Parallelograms

RS Aggarwal 8th Maths Chapter 16, Class 8 Maths Chapter 16 solutions

Exercise 16A

Q1

Answer :

It is given that $ABCD$ is a parallelogram in which $\angle A$ is equal to 110°.
Sum of *the* adjacent angles of a parallelogram is 180°.

$\therefore \angle A + \angle B = 180^\circ$
$\Rightarrow 110^\circ + \angle B = 180^\circ$
$\Rightarrow \angle B = (180^\circ - 110^\circ)$
$\Rightarrow \angle B = 70^\circ$
$\therefore \angle B = 70^\circ$

Also, $\angle B + \angle C = 180^\circ$
$\Rightarrow 70^\circ + \angle C = 180^\circ$
$\Rightarrow \angle C = (180^\circ - 70^\circ)$
$\Rightarrow \angle C = 110^\circ$
$\therefore \angle C = 110^\circ$
Further, $\angle C + \angle D = 180^\circ$
$\Rightarrow 110^\circ + \angle D = 180^\circ$
$\Rightarrow \angle D = (180^\circ - 110^\circ)$
$\Rightarrow \angle D = 70^\circ$
$\therefore \angle D = 70^\circ$

Q2

Answer :

Let the required angle be x°.
As the adjacent angles are equal, we have :
$x + x = 180$ (since the sum of adjacent angles of a parallelogram is 180°)
$\Rightarrow 2x = 180$
$\Rightarrow x = \frac{180}{2}$
$\Rightarrow x = 90^\circ$
Hence, the measure of each of the angles is 90°.

IndCareer

Exercise 16B

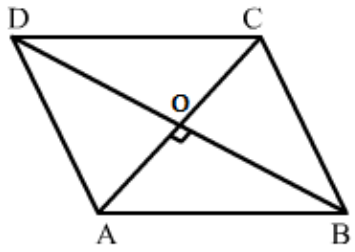
Q1

Answer :

(c) rhombus
In a rhombus, the two diagonals are not necessarily equal.

Q2

(c) 10 cm



Let $ABCD$ be a rhombus.
Let AC and BD be the diagonals of the rhombus intersecting at a point O.
$AC = 16$ cm
$BD = 12$ cm
We know that the diagonals of a rhombus bisect each other at right angles.

$$\therefore AO = \frac{1}{2} AC$$
$$= \left(\frac{1}{2} \times 16\right) \text{ cm}$$
$$= 8 \text{ cm}$$
$$BO = \frac{1}{2} BD$$
$$= \left(\frac{1}{2} \times 12\right) \text{ cm}$$
$$= 6 \text{ cm}$$

From the right ΔAOB:

$$AB^2 = AO^2 + BO^2$$
$$= \left\{(8)^2 + (6)^2\right\} \text{ cm}^2$$
$$= (64 + 36) \text{ cm}^2$$
$$= 100 \text{ cm}^2$$
$$\Rightarrow AB = \sqrt{100} \text{ cm}$$
$$= 10 \text{ cm}$$

Hence, the length of the side AB *is*10 cm.
Therefore, the length of each side of the rhombus is 10 cm because all *the* sides of *a* rhombus are equal.

Q3

Answer :

(b) 32

We know that the sum of adjacent angles of a parallelogram is 180°.

$\Rightarrow 2x + 25 + 3x - 5 = 180$

$\Rightarrow 5x + 20 = 180$

$\Rightarrow 5x = 180 - 20$

$\Rightarrow 5x = 160$

$\Rightarrow x = \frac{160}{5}$

$\Rightarrow x = 32$

Therefore, the value of x is 32.

Q4

Answer :

(a) parallelogram

In a parallelogram, the diagonals do not necessarily intersect at right angles.

Q5

Answer :

(c) 70 cm

Let $ABCD$ be a rectangle and let the diagonal AC be 25 cm, length AB be $4x$ cm and breadth BC be $3x$ cm.
Each angle of a rectangle is a right angle.
$\therefore \angle ABC = 90^\circ$
From the right $\triangle ABC$:
$AC^2 = AB^2 + BC^2$
$\Rightarrow (25)^2 = (4x)^2 + (3x)^2$
$\Rightarrow 625 = 16x^2 + 9x^2$
$\Rightarrow 625 = 25x^2$

$x^2 = \frac{625}{25} = 25$
$\Rightarrow x = 5$
$\therefore$ Length $= 4 \times 5 = 20$ cm
Breadth $= 3 \times 5 = 15$ cm

$\therefore$ Perimeter of the rectangle = 2(20+15) cm
$= 70\ cm$

Q6

Answer :

$(d)\ 90^\circ$
The bisectors of any two adjacent angles of a parallelogram intersect at 90°.

Q7

Answer :

(b) 72°

Let x° be the angle of the parallelogram.

Sum of the adjacent angles of a parallelogram is 180°.

$\therefore x + \left(\frac{2}{3} \times x\right) = 180$

$\Rightarrow x + \frac{2x}{3} = 180$

$\Rightarrow \left(x + \frac{2x}{3}\right) = 180$

$\Rightarrow \frac{5x}{3} = 180$

$\Rightarrow x = \left(180 \times \frac{3}{5}\right)$

$\Rightarrow x = 108$

Hence, one angle of the parallelogram is 108°.

Its adjacent angle $= (180 - 108)^\circ = 72^\circ$

Therefore, the smallest angle of the parallelogram is 72°.

Q8

Answer :

(a) *r*ectangle

In a rectangle, the diagonals do not necessarily bisect the interior angles at the vertices.

Q9

IndCareer

Answer :

(d) 8
All the sides of a square are equal.
$\therefore AB = BC$
$\Rightarrow 2x + 3 = 3x - 5$
$\Rightarrow 3 + 5 = 3x - 2x$
$\Rightarrow 8 = x$
Therefore, the value of x is 8.

Q10

Answer :

(c) 112°
Let x° be the smallest angle of the parallelogram.
The sum of adjacent angles of a parallelogram is 180°.
$\therefore x + 2x - 24 = 180$
$\Rightarrow 3x - 24 = 180$
$\Rightarrow 3x = 180 + 24$
$\Rightarrow 3x = 204$
$\Rightarrow x = \frac{204}{3}$
$\Rightarrow x = 68$
$\therefore$ Smallest angle $= 68^\circ$
Largest angle $= (180 - 68)^\circ = 112^\circ$

RS Aggarwal Class 8 Solutions

About RS Aggarwal Class 8 Book

Investing in an R.S. Aggarwal book will never be of waste since you can use the book to prepare for various competitive exams as well. RS Aggarwal is one of the most prominent books with an endless number of problems. R.S. Aggarwal's book very neatly explains every derivation, formula, and question in a very consolidated manner. It has tonnes of examples, practice questions, and solutions even for the NCERT questions.

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.

Frequently Asked Questions (FAQs)

Why must I refer to the RS Aggarwal textbook?

RS Aggarwal is one of the most important reference books for high school grades and is recommended to every high school student. The book covers every single topic in detail. It goes in-depth and covers every single aspect of all the mathematics topics and covers both theory and problem-solving. The book is true of great help for every high school student. Solving a majority of the questions from the book can help a lot in understanding topics in detail and in a manner that is very simple to understand. Hence, as a high school student, you must definitely dwell your hands on RS Aggarwal!

Why should you refer to RS Aggarwal textbook solutions on Indcareer?

RS Aggarwal is a book that contains a few of the hardest questions of high school mathematics. Solving them and teaching students how to solve questions of such high difficulty is not the job of any neophyte. For solving such difficult questions and more importantly, teaching the problem-solving methodology to students, an expert teacher is mandatory!

Does IndCareer cover RS Aggarwal Textbook solutions for Class 6-12?

RS Aggarwal is available for grades 6 to 12 and hence our expert teachers have formulated detailed solutions for all the questions of each edition of the textbook. On our website, you'll be able to find solutions to the RS Aggarwal textbook right from Class 6 to Class 12. You can head to the website and download these solutions for free. All the solutions are available in PDF format and are free to download!

About IndCareer

IndCareer.com is a leading developer of online career guidance resources for the Indian marketplace. Established in 2007, IndCareer.com is currently used by over thousands of institutions across India, including schools, employment agencies, libraries, colleges and universities.

IndCareer.com is designed to assist you in making the right career decision - a decision that meets your unique interests and personality.

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

Postal Address

IndCareer.com
52, Shilpa Nagar,
Somalwada
Nagpur - 440015
Maharashtra, India

WhatsApp: +91 9561 204 888

Website: https://www.indcareer.com