RS Aggarwal Solutions for Class 8 Maths Chapter 16 Exercise 16.2: The Physics Wallah academic team has provided a comprehensive answer for Chapter 16 Parallelograms in the RS Aggarwal class 8 textbook. Before examining the Chapter sixteen parallelogram solution, before attempting to solve all of the numerical problems in Exercise 16 B, it is necessary to have a thorough understanding of Chapter 16 Parallelograms.

To do this, read the theory of Chapter 16 Parallelograms. Use NCERT solutions to help you tackle class 8 questions and get good grades. For Maths class 8, Physics Walla expert posted NCERT solutions.

RS Aggarwal Solutions for Class 8 Maths Chapter 16 Exercise 16.2 Parallelograms Overview

Chapter 16 of RS Aggarwal's Class 8 Maths book focuses on parallelograms, a special type of quadrilateral. Exercise 16.2 delves into the properties and characteristics of parallelograms, emphasizing their unique attributes. A parallelogram is defined by having opposite sides that are both equal and parallel, and opposite angles that are equal as well.

The exercise includes problems that require students to apply these properties to solve for unknown angles, sides, and other geometrical aspects. Students also learn about the diagonals of a parallelogram, which bisect each other. The problems in Exercise 16.2 help reinforce the concepts by providing practical applications, such as proving that a given quadrilateral is a parallelogram based on given conditions.

This exercise aims to build a strong foundation in understanding and working with parallelograms, preparing students for more advanced geometrical concepts.

RS Aggarwal Solutions for Class 8 Maths Chapter 16 Exercise 16.2 (Ex 16B)

Below we have provided RS Aggarwal Solutions for Class 8 Maths Chapter 16 Exercise 16.2 Parallelograms –

Tick (√) the correct answer in each of the following:

(1) The two diagonals are not necessarily equal in a

Ans: (c) Rhombus

(2) The lengths of the diagonals of a rhombus are 16 cm and 12 cm. The length of each side of the rhombus is

Ans: (c) 10 cm

$$AO = \frac{1}{2}AC = \left(\frac{1}{2} \times 16\right) = 8 \text{ cm}$$

$$BO = \frac{1}{2}BD = \left(\frac{1}{2} \times 12\right) = 6 \text{ cm}$$

From the right ΔAOB, we have

$$\therefore AB^2 = AO^2 + BO^2$$

$$\Rightarrow AB^2 = \{(8)^2 + (6)^2\}\ cm^2$$

$$\Rightarrow AB = \sqrt{100} = 10\ cm$$

(3) Two adjacent angles of a parallelogram are (2x + 25)° and (3x – 5)°. The value of x is

Ans: (b) 32

$\therefore$ (2x + 25) + (3x – 5) = 180

$\Rightarrow$ 2x + 25 + 3x – 5 = 180

$\Rightarrow$ 5x = 180 – 20

$\Rightarrow$ 5x = 160

$\Rightarrow$ x = 32

(4) The diagonals do not necessarily intersect at right angles in a

Ans: (a) Parallelogram.

(5) The length and breadth of a rectangle are in the ratio 4 : 3. If the diagonal measures 25 cm then the perimeter of the rectangle is

Ans: (c) 70 cm

Solution: Let the length AB be 4x and Breadth BC be 3x.

Each angle of a rectangle is a right angle. We have,

$\therefore \angle ABC = 90^o$

From the right ΔABC:

$AC^2 = AB^2 + BC^2$

$\Rightarrow (25)^2 = (4x)^2 + (3x)^2$

$\Rightarrow 16x^2 + 9x^2 = 625$

$\Rightarrow 25x^2 = 625$

$\Rightarrow x^2 = 25$

$\Rightarrow x = 5$

Therefore, length = 4 × 5 = 20 cm and breadth = 3 × 5 = 15 cm.

(6) The bisectors of any two adjacent angles of a parallelogram intersect at

Ans: (d) 90^o

(7) If an angle of a parallelogram is two-thirds of its adjacent angle, the smallest angle of the parallelogram is

Ans: (b) 72^o

Solution: Let the measure of the angle be x^o.

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

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

$$\Rightarrow 5x = 3 \times 180$$

$$\Rightarrow x = \frac{3 \times 180}{5} = 108$$

Hence the one angle is 108^o.

Its adjacent = $(180 – 108)^o = 72^o$

Therefore, the smallest angle is 72^o.

(8) The diagonals do not necessarily bisect the interior angles at the vertices in a

Ans: (a) rectangle

(9) In a square ABCD, AB = (2x + 3) cm and BC = (3x – 5) cm. Then, the value of x is

Ans: (d) 8

Solution: We know, all sides are equal of a square. Then,

$\therefore$ AB = BC

$\Rightarrow 2x + 3 = 3x – 5$

$\Rightarrow 3x – 2x = 3 + 5$

$\Rightarrow x = 8$

(10) If one angle of a parallelogram is 24^o less than twice the smallest angle then the largest angle of the parallelogram is

Ans: (c) 112^o

Solution: Let the measure of smallest angle be x^o and other is $(2x – 24)^o$.

$\therefore x + (2x – 24) = 180$

$\Rightarrow x + 2x = 180 + 24$

$\Rightarrow 3x = 204$

$\Rightarrow x = 68$

Hence, the smallest angle is 68^o.

Its adjacent is = $(180 – 68)^o = 112^o$.

Therefore, the largest angle is 112^o.

Benefits of RS Aggarwal Solutions for Class 8 Maths Chapter 16 Exercise 16.2

The benefits of using RS Aggarwal Solutions for Class 8 Maths Chapter 16 Exercise 16.2 on Parallelograms are numerous:

Conceptual Clarity: The solutions provide detailed explanations, helping students understand the fundamental properties of parallelograms, such as opposite sides being equal and parallel, and opposite angles being equal.

Step-by-Step Guidance: Each problem is solved step-by-step, which helps students grasp the logical progression needed to solve similar problems independently.

Practice and Reinforcement: Regular practice with these solutions reinforces the concepts taught in class, ensuring that students retain and understand the material.

Problem-Solving Skills: Working through various problems enhances students' analytical and problem-solving skills, preparing them for more complex mathematical challenges.

Confidence Building: Successfully solving problems using these solutions can boost students' confidence in their mathematical abilities, encouraging a positive attitude towards the subject.

Exam Preparation: The solutions are aligned with the curriculum and exam patterns, making them a valuable resource for preparing for school exams and other competitive assessments.