RS Aggarwal Solutions for Class 8 Maths Chapter 14 Exercise 14.1: The Physics Wallah academic team created a comprehensive answer for Chapter 14 Polygons in the RS Aggarwal class 8 textbook. Before reviewing the Chapter 14 Polygons Exercise-14A solution. Use NCERT solutions to help you tackle class 8 questions and get good grades.

The Physics Wallah specialist posted the NCERT maths solutions for class 8. To ensure that one has a firm understanding of Chapter 14 polygons, read the theory of Chapter 14 polygons before attempting to solve every numerical problem in exercise 14A.

RS Aggarwal Solutions for Class 8 Maths Chapter 14 Exercise 14.1 Polygons Overview

 Chapter 14 of RS Aggarwal's Class 8 Maths textbook focuses on "Polygons," a crucial topic in geometry. This chapter introduces students to the basics of polygons, which are closed plane figures formed by three or more-line segments. The exercise covers various types of polygons, including triangles, quadrilaterals, pentagons, hexagons, and others, based on the number of sides. It emphasizes understanding the properties and classification of polygons based on sides and angles. The chapter explains regular and irregular polygons, where regular polygons have equal sides and angles.

This exercise helps students enhance their problem-solving skills by working through problems related to identifying different polygons, understanding their properties, and applying the interior and exterior angle sum properties. Overall, Chapter 14 builds a solid foundation in polygon geometry, preparing students for more complex geometric concepts.

RS Aggarwal Solutions for Class 8 Maths Chapter 14 Exercise 14.1 PDF

Polygons are closed plane figures with three or more straight sides. This exercise introduces students to various types of polygons, such as triangles, quadrilaterals, pentagons, and hexagons, based on the number of sides. It explains the properties of regular and irregular polygons and teaches students to calculate the sum of interior angles.

Below we have provided RS Aggarwal Solutions for Class 8 Maths Chapter 14 Exercise 14.1 in detail. This chapter will help you to clear all your doubts regarding the chapter. Students are advised to prepare from these RS Aggarwal Solutions for Class 8 Maths Chapter 14 Exercise 14.1 before the examinations to perform better.

RS Aggarwal Solutions for Class 8 Maths Chapter 14 Exercise 14.1 PDF

RS Aggarwal Solutions for Class 8 Maths Chapter 14 Exercise 14.1 (Ex 14A)

Below we have provided RS Aggarwal Solutions for Class 8 Maths Chapter 14 Exercise 14.1 Polygons –

(1) Find the measure of each exterior angle of a regular

(i) Pentagon = $\left(\frac{360}{5}\right)^{\circ}$ = 72°

(ii) Hexagon = $\left(\frac{360}{6}\right)^{\circ}$ = 60°

(iii) Heptagon = $\left(\frac{360}{7}\right)^{\circ}$ = 51.4°

(iv) Decagon = $\left(\frac{360}{10}\right)^{\circ}$ = 36°

(v) Polygon of 15 sides = $\left(\frac{360}{15}\right)^{\circ}$ = 24°

(2) Is it possible to have a regular each of whose exterior angles is 50°?

Solution: $\frac{360}{n}$ = 50

$\Rightarrow$ 50n = 360

$\Rightarrow n = \frac{360}{50}$ = 7.2

Since 7.2 is not a whole number. So, it is not it possible to have a regular each of whose exterior angles is 50°.

(3) Find the measure of each interior angle of a regular polygon having

(i) 10 sides   (ii) 15 sides

(i) Solution: $\left(180 - \dfrac{360}{10}\right) = 180 - 36 = 144°$

(ii) Solution: $\left(180 - \dfrac{360}{15}\right) = 180 - 24 = 156°$

(4) Is it possible to have a regular polygon each of whose interior angles is 100°?

Solution: Each interior angles = 180° – (each exterior angle)

Let the exterior angle be x.

$$\therefore 180 - \dfrac{360}{x} = 100$$

$$\Rightarrow \dfrac{180x - 360}{x} = 100$$

$$\Rightarrow 180x - 100x = 360$$

$$\Rightarrow 80x = 360$$

$$\Rightarrow x = 4.5$$

Since, 4.5 is not a whole number. So, it is not possible to have a regular polygon each of whose interior angles is 100°.

(5) What is the sum of all interior angles of a regular

(i) Pentagon = (10 – 4) right angles = 6 × 90 = 540°

(ii) Hexagon = (12 – 4) right angles = 8 × 90 = 720°

(iii) Nonagon = (18 – 4) right angles = 16 × 90 = 1440°

(iv) Polygon of 12 sides = (24 – 4) right angles = 20 × 90 = 1800°

(6) What is the number of diagonals in a

(i) Heptagon $= \frac{7(7-3)}{2} = \frac{7 \times 4}{2} = 14$

(ii) Octagon $= \frac{8(8-3)}{2} = \frac{8 \times 5}{2} = 20$

(iii) Polygon of 12 sides $= \frac{12(12-3)}{2} = \frac{12 \times 9}{2} = 54$

(7) Find the number of sides of a regular polygon whose each exterior angle measures:
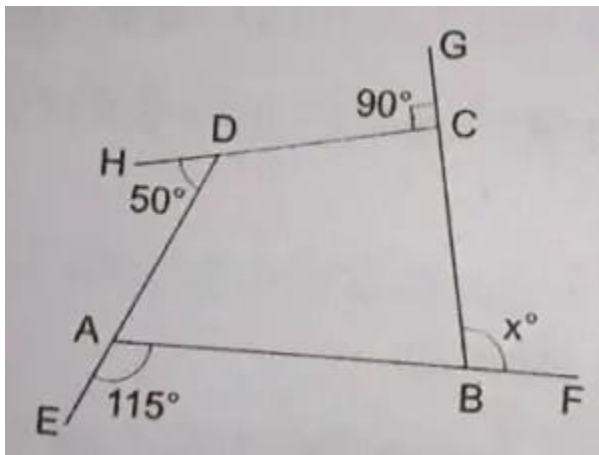
(i) $40° = \frac{360}{40} = 9$

(ii) $36° = \frac{360}{36} = 10$

(iii) $72° = \frac{360}{72} = 5$

(iv) $30° = \frac{360}{30} = 12$
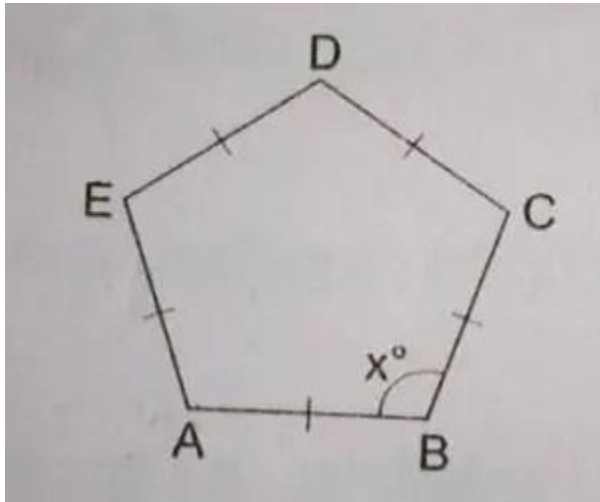
(8) In the given figure, find the angle measure x.

Solution: $(90 + 50 + 115 + x) = 360$

$\Rightarrow 255 + x = 360$

⇒ x = 360 − 255 = 105

(9) Find the angle measure x in the given figure.

Solution: (2 × 5 − 4) right angles

= (10 − 4) right angles

= 6 × 90 = 540

∴ 5x = 540

⇒ x = 108°

Benefits of RS Aggarwal Solutions for Class 8 Maths Chapter 14 Exercise 14.1

RS Aggarwal Solutions for Class 8 Maths Chapter 14 Exercise 14.1 on Polygons offer several benefits for students:

Comprehensive Understanding: The solutions provide a detailed explanation of the properties and classification of polygons, helping students grasp the concepts effectively.

Step-by-Step Solutions: Each problem is solved step-by-step, making it easier for students to follow and understand the process, thereby enhancing their problem-solving skills.

Clarification of Concepts: The solutions clarify fundamental concepts like regular and irregular polygons, interior and exterior angles, and the sum of angles in a polygon, which are essential for building a strong foundation in geometry.

Practice and Reinforcement: By working through these solutions, students can practice and reinforce their understanding of polygons, leading to better retention and application of knowledge.

Exam Preparation: The solutions align with the curriculum, providing students with the practice they need to excel in exams. They cover a variety of problems, ensuring students are well-prepared for any question type.

Confidence Building: Successfully solving these exercises boosts students' confidence in their mathematical abilities and encourages independent problem-solving.