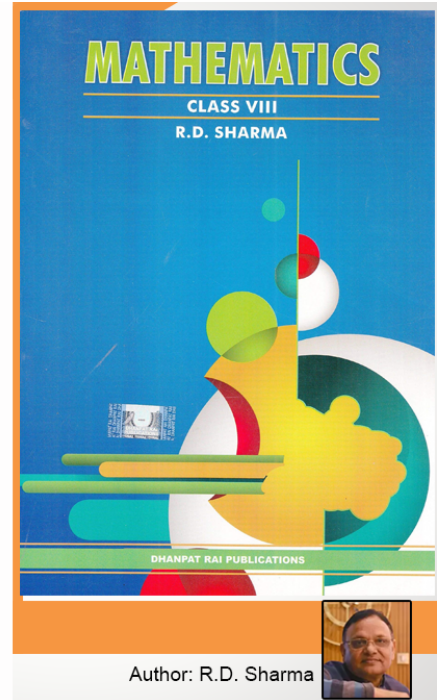


Class 8 - Chapter 15 Understanding Shapes- I (Polygons)



RD Sharma Solutions for Class 8 Maths Chapter 15–Understanding Shapes- I (Polygons)

Class 8: Maths Chapter 15 solutions. Complete Class 8 Maths Chapter 15 Notes.

RD Sharma Solutions for Class 8 Maths Chapter 15–Understanding Shapes- I (Polygons)

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RD Sharma 8th Maths Chapter 15, Class 8 Maths Chapter 15 solutions

EXERCISE 15.1 PAGE NO: 15.5

1. Draw rough diagrams to illustrate the following:

(i) Open curve

(ii) Closed curve

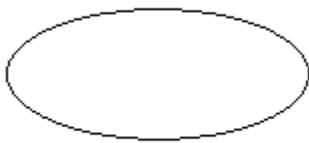
Solution:

Here is the illustration of

(i) Open curve



(ii) Closed curve



2. Classify the following curves as open or closed:

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(i)



(ii)



(iii)



(iv)



(v)



(vi)

Solution:

(i) Open curve

(ii) Closed curve

(iii) Closed curve

(iv) Open curve

(v) Open curve

(vi) Closed curve

3. Draw a polygon and shade its interior. Also draw its diagonals, if any.**Solution:**

Here is the polygon with diagonals and with its interior shaded.

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4. Illustrate, if possible each one of the following with a rough diagram.

- (i) A closed curve that is not a polygon.
- (ii) An open curve made up entirely of line segments.
- (iii) A polygon with two sides.

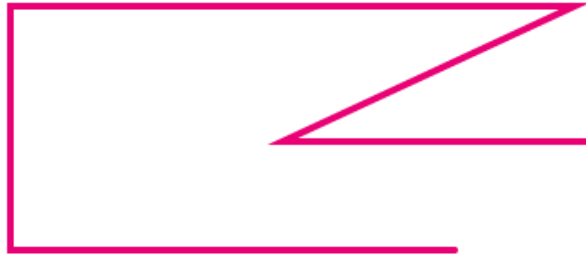
Solution:

- (i) A closed curve that is not a polygon.



- (ii) An open curve made up entirely of line segments.

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(iii) A polygon with two sides.

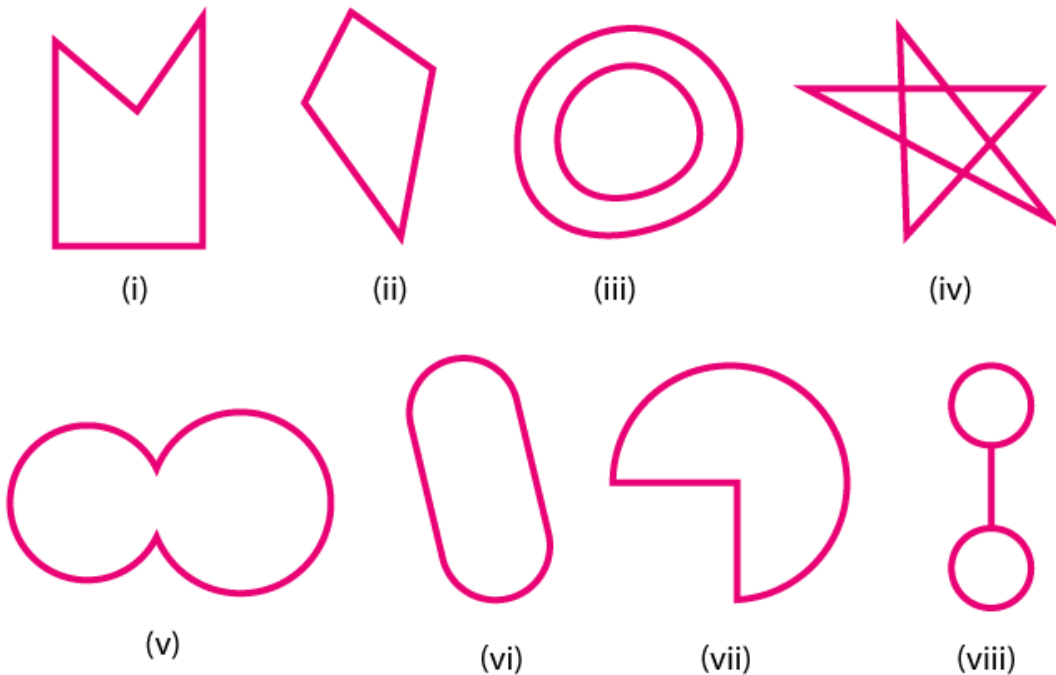
A polygon with two sides is not possible because, a polygon should have minimum three sides.

5. Following are some figures: Classify each of these figures on the basis of the following:

(i) Simple curve (ii) Simple closed curve (iii) Polygon

(iv) Convex polygon (v) Concave polygon (vi) Not a curve

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Solution:

(i) It is a Simple Closed curve and a concave polygon. This is a simple closed curve and as a concave polygon all the vertices are not pointing outwards.

(ii) It is a Simple closed curve and a convex polygon. This is a simple closed curve and as a convex polygon all the vertices are pointing outwards.

(iii) It is Not a curve and hence it is not a polygon.

(iv) It is Not a curve and hence it is not a polygon.

(v) It is a Simple closed curve but not a polygon.

(vi) It is a Simple closed curve but not a polygon.

(vii) It is a Simple closed curve but not a polygon.

(viii) It is a Simple closed curve but not a polygon.

6. How many diagonals does each of the following have?

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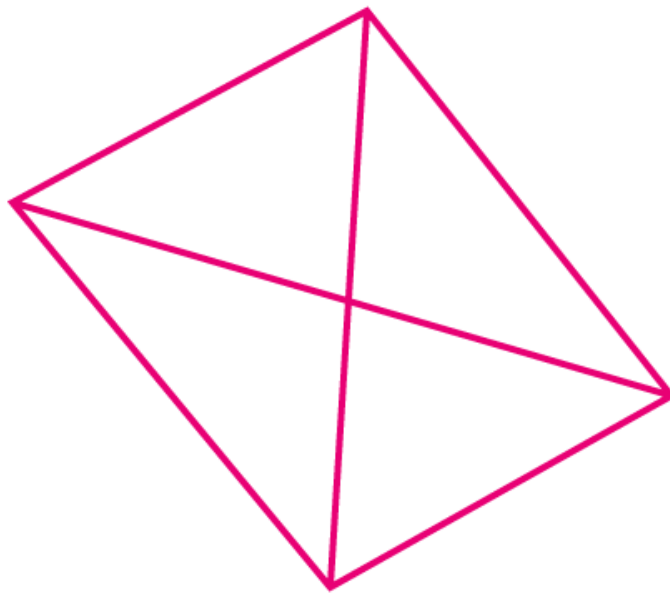
(i) A convex quadrilateral

(ii) A regular hexagon

(iii) A triangle

Solution:

(i) A convex quadrilateral



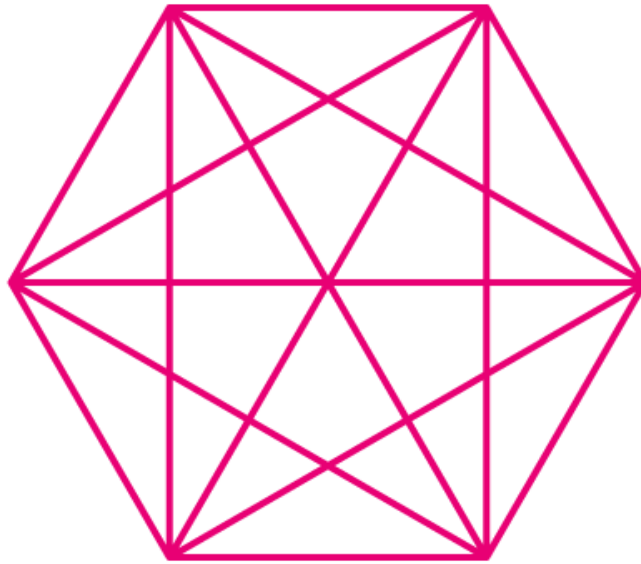
For a convex quadrilateral we shall use the formula $n(n-3)/2$

So, number of diagonals = $4(4-3)/2 = 4/2 = 2$

A convex quadrilateral has 2 diagonals.

(ii) A regular hexagon

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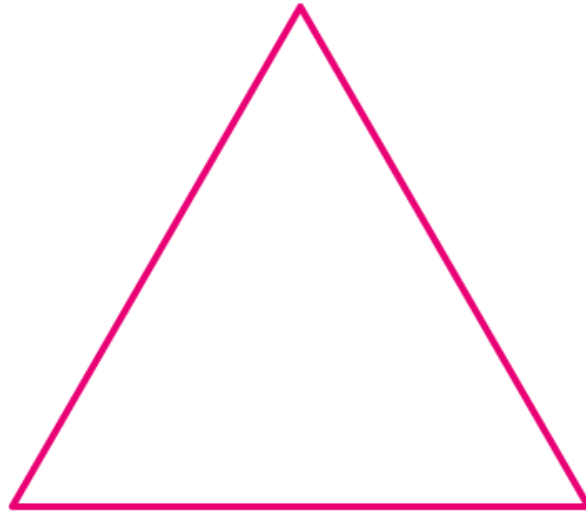
For a regular hexagon we shall use the formula $n(n-3)/2$

So, number of diagonals = $6(6-3)/2 = 18/2 = 9$

A regular hexagon has 9 diagonals.

(iii) A triangle

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For a triangle we shall use the formula $n(n-3)/2$

So, number of diagonals = $3(3-3)/2 = 0/2 = 0$

A triangle has no diagonals.

7. What is a regular polygon? State the name of a regular polygon of

(i) 3 sides

(ii) 4 sides

(iii) 6 sides

Solution:

Regular Polygon: A regular polygon is an enclosed figure. In a regular polygon minimum sides are three.

(i) 3 sides

A regular polygon with 3 sides is known as Equilateral triangle.

(ii) 4 sides

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A regular polygon with 4 sides is known as Rhombus.

(iii) 6 sides

A regular polygon with 6 sides is known as Regular hexagon.



Chapterwise RD Sharma Solutions for Class 8 Maths :

- Chapter 1–Rational Numbers
- Chapter 2–Powers
- Chapter 3–Squares and Square Roots
- Chapter 4–Cubes and Cube Roots
- Chapter 5–Playing with Numbers
- Chapter 6–Algebraic Expressions and Identities
- Chapter 7–Factorization
- Chapter 8–Division of Algebraic Expressions
- Chapter 9–Linear Equation in One Variable
- Chapter 10–Direct and Inverse Variations
- Chapter 11–Time and Work
- Chapter 12–Percentage
- Chapter 13–Profit, Loss, Discount and Value Added Tax (VAT)
- Chapter 14–Compound Interest
- Chapter 15–Understanding Shapes- I (Polygons)

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- Chapter 16–Understanding Shapes- II (Quadrilaterals)
- Chapter 17–Understanding Shapes- III (Special Types of Quadrilaterals)
- Chapter 18–Practical Geometry (Constructions)
- Chapter 19–Visualising Shapes
- Chapter 20–Mensuration - I (Area of a Trapezium and a Polygon)
- Chapter 21–Mensuration - II (Volumes and Surface Areas of a Cuboid and a cube)
- Chapter 22–Mensuration - III (Surface Area and Volume of a Right Circular Cylinder)
- Chapter 23–Data Handling - I (Classification and Tabulation of Data)
- Chapter 24–Data Handling - II (Graphical Representation of Data as Histogram)
- Chapter 25–Data Handling - III (Pictorial Representation of Data as Pie Charts or Circle Graphs)
- Chapter 26–Data Handling - IV (Probability)
- Chapter 27–Introduction to Graphs

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About RD Sharma

RD Sharma isn't the kind of author you'd bump into at lit fests. But his bestselling books have helped many CBSE students lose their dread of maths. Sunday Times profiles the tutor turned internet star

He dreams of algorithms that would give most people nightmares. And, spends every waking hour thinking of ways to explain concepts like 'series solution of linear differential equations'. Meet Dr Ravi Dutt Sharma — mathematics teacher and author of 25 reference books — whose name evokes as much awe as the subject he teaches. And though students have used his thick tomes for the last 31 years to ace the dreaded maths exam, it's only recently that a spoof video turned the tutor into a YouTube star.

R D Sharma had a good laugh but said he shared little with his on-screen persona except for the love for maths. "I like to spend all my time thinking and writing about maths problems. I find it relaxing," he says. When he is not writing books explaining mathematical concepts for classes 6 to 12 and engineering students, Sharma is busy dispensing his duty as vice-principal and head of department of science and humanities at Delhi government's Guru Nanak Dev Institute of Technology.

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