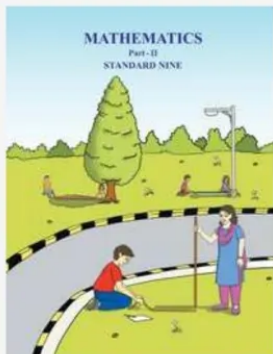


Maharashtra Board Solutions Class 9-Maths

(Part 2): Chapter 1.2- Basic Concepts in Geometry

BOOK SOLUTIONS
CLASS 9
MATHS (PART 2)

CHAPTER 1.2
Basic Concepts in Geometry



Maharashtra Board Solutions→

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

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Maharashtra Board Solutions Class 9-Maths

(Part 2): Chapter 1.2- Basic Concepts in Geometry

Class 9: Maths Chapter 1.2 solutions. Complete Class 9 Maths Chapter 1.2 Notes.

Maharashtra Board Solutions Class 9-Maths (Part 2): Chapter 1.2- Basic Concepts in Geometry

Maharashtra Board 9th Maths Chapter 1.2, Class 9 Maths Chapter 1.2 solutions

Question 1.

The following table shows points on a number line and their co-ordinates. Decide whether the pair of segments given below the table are congruent or not.

Point	A	B	C	D	E
Co-ordinate	-3	5	2	-7	9

- i. seg DE and seg AB
- ii. seg BC and seg AD
- iii. seg BE and seg AD

Solution:

- i. Co-ordinate of the point E is 9.

Co-ordinate of the point D is -7.

Since, $9 > -7$

$$\therefore d(D, E) = 9 - (-7) = 9 + 7 = 16$$

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$$\therefore l(DE) = 16 \dots(i)$$

Co-ordinate of the point A is -3.

Co-ordinate of the point B is 5.

Since, $5 > -3$

$$\therefore d(A, B) = 5 - (-3) = 5 + 3 = 8$$

$$\therefore l(AB) = 8 \dots(ii)$$

$$\therefore l(DE) \neq l(AB) \dots[\text{From (i) and (ii)}]$$

$\therefore$ seg DE and seg AB are not congruent.

ii. Co-ordinate of the point B is 5.

Co-ordinate of the point C is 2.

Since, $5 > 2$

$$\therefore d(B, C) = 5 - 2 = 3$$

$$\therefore l(BC) = 3 \dots(i)$$

Co-ordinate of the point A is -3.

Co-ordinate of the point D is -7.

Since, $-3 > -7$

$$\therefore d(A, D) = -3 - (-7) = -3 + 7 = 4$$

$$\therefore l(AD) = 4 \dots(ii)$$

$$\therefore l(BC) \neq l(AD) \dots [\text{From (i) and (ii)}]$$

$\therefore$ seg BC and seg AD are not congruent.

iii. Co-ordinate of the point E is 9.

Co-ordinate of the point B is 5.

Since, $9 > 5$

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$$\therefore d(B, E) = 9 - 5 = 4$$

$$\therefore l(BE) = 4 \dots (i)$$

Co-ordinate of the point A is -3.

Co-ordinate of the point D is -7.

Since, $-3 > -7$

$$\therefore d(A, D) = -3 - (-7) = 4$$

$$\therefore l(AD) = 4 \dots (ii)$$

$$\therefore l(BE) = l(AD) \dots [\text{From (i) and (ii)}]$$

$\therefore$ seg BE and seg AD are congruent.

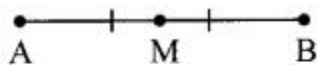
i.e, $\text{seg BE} \cong \text{seg AD}$

Question 2.

Point M is the midpoint of seg AB. If $AB = 8$, then find the length of AM.

Solution:

Point M is the midpoint of seg AB and $l(AB) = 8$[Given]



$$l(AM) = \frac{1}{2} l(AB)$$

...[$\because$ M is midpoint of seg AB]

$$\therefore l(AM) = \frac{1}{2} \times 8 = 4$$

$$\therefore l(AM) = 4$$

Question 3.

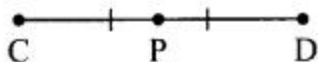
Point P is the midpoint of seg CD. If $CP = 2.5$, find $l(CD)$.

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Solution:

Point P is the midpoint of seg CD and $l(CP) = 2.5$...[Given]



$$l(CP) = \frac{1}{2} l(CD)$$

...[$\because$ P is midpoint of seg CD]

$$\therefore 2.5 = \frac{1}{2} \times l(CD)$$

$$\therefore l(CD) = 2.5 \times 2$$

$$\therefore l(CD) = 5$$

Question 4.

If $AB = 5$ cm, $BP = 2$ cm and $AP = 3.4$ cm, compare the segments.

Solution:

Given, $l(AB) = 5$ cm, $l(BP) = 2$ cm,

$l(AP) = 3.4$ cm ... [Given]

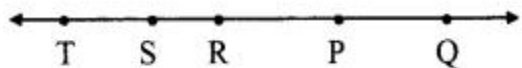
r Since, $2 < 3.4 < 5$

$$\therefore l(BP) < l(AP) < l(AB)$$

i.e., seg BP < seg AP < seg AB

Question 5.

Write the answers to the following questions with reference to the figure given below:



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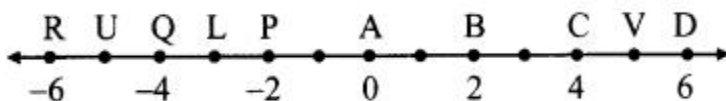
- i. Write the name of the opposite ray of ray RP
- ii. Write the intersection set of ray PQ and ray RP.
- iii. Write the union set of ray PQ and ray QR.
- iv. State the rays of which seg QR is a subset.
- v. Write the pair of opposite rays with common end point R.
- vi. Write any two rays with common end point S.
- vii. Write the intersection set of ray SP and ray ST.

Answer:

- i. Ray RS or ray RT
- ii. Ray PQ
- iii. Line QR
- iv. Ray QR, ray QS, ray QT, ray RQ, ray SQ, ray TQ
- v. Ray RP and ray RS, ray RQ and ray RT vi. Ray ST, ray SR
- vii. Point S

Question 6.

Answer the questions with the help of figure given below.



- i. State the points which are equidistant from point B.
- ii. Write a pair of points equidistant from point iii. Find $d(U, V)$, $d(P, C)$, $d(V, B)$, $d(U, L)$.

Answer:

- i. Points equidistant from point B are a. A and C, because $d(B, A) = d(B, C) = 2$ b. D and P, because $d(B, D) = d(B, P) = 4$

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ii. Points equidistant from point Q are a. L and U, because $d(Q, L) = d(Q, U) = 1$ b. P and R, because $d(P, Q) = d(Q, R) = 2$

iii. a. Co-ordinate of the point U is -5. Co-ordinate of the point V is 5. Since, $5 > -5$

$$\therefore d(U, V) = 5 - (-5)$$

$$= 5 + 5$$

$$\therefore d(U, V) = 10$$

b. Co-ordinate of the point P is -2.

Co-ordinate of the point C is 4.

Since, $4 > -2$

$$\therefore d(P, C) = 4 - (-2)$$

$$= 4 + 2$$

$$\therefore d(P, C) = 6$$

c. Co-ordinate of the point V is 5.

Co-ordinate of the point B is 2.

Since, $5 > 2$

$$\therefore d(V, B) = 5 - 2$$

$$\therefore d(V, B) = 3$$

d. Co-ordinate of the point U is -5.

Co-ordinate of the point L is -3.

Since, $-3 > -5$

$$\therefore d(U, L) = -3 - (-5)$$

$$= -3 + 5$$

$$\therefore d(U, L) = 2$$

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Class 9 Maths

Part 2

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- Chapter 1.2- Basic Concepts in Geometry
- Chapter 1.3- Basic Concepts in Geometry
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- Chapter 2.2- Parallel Lines
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- Chapter 3.4- Triangles
- Chapter 3.5- Triangles
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- Chapter 5.5- Quadrilaterals
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- Chapter 6.3- Circle
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- Chapter 9.1- Surface Area and Volume
- Chapter 9.2- Surface Area and Volume
- Chapter 9.3- Surface Area and Volume

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The Maharashtra State Board of Secondary and Higher Secondary Education or MSBSHSE (Marathi: महाराष्ट्र राज्य माध्यमिक आणि उच्च माध्यमिक शिक्षण मंडळ), is an **autonomous and statutory body established in 1965**. The board was amended in the year 1977 under the provisions of the Maharashtra Act No. 41 of 1965.

The Maharashtra State Board of Secondary & Higher Secondary Education (MSBSHSE), Pune is an independent body of the Maharashtra Government. There are more than 1.4 million students that appear in the examination every year. The Maha State Board conducts the board examination twice a year. This board conducts the examination for SSC and HSC.

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