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NEW ERA PUBLIC SCHOOL RAJBAGH SRINAGAR

SUBJECT:- MATH:- A/B CLASS:- 6TH
UNIT:- 1ST

Solved Assignment MATH:- A
OF UNIT 1ST [2021-2022]

CHAPTER:- 01 [KNOWING OUR NUMBERS]

RECAP EXERCISE

Q=1 Write the largest and the smallest 4-digit no. using the digits number 3, 1, 5 and 4 (without repetition)

Solution Largest 4-digit number $\rightarrow 5431$
Smallest 4-digit number $\rightarrow 1345$

Q=2 Do your self

Q=3 Find the difference between the largest and the smallest 6-digit number.

Solution Largest 6-digit number $\rightarrow 999999$
Smallest 6-digit number $\rightarrow -100000$
Difference $\rightarrow$

999999
-100000
899999

Q=4 Arrange the following numbers in ascending order.

(a) 34987, 45059, 3875, 4566, 45182

Solution 3875, 4566, 34987, 45059, 45182

Q=5 Rewrite the numbers in descending order:

(a) 4321, 6809, 7231, 2119, 1109

Solution 7231, 6809, 4321, 2119, 1109

Q=6 Write the following numbers in expanded form:

(a) 430945.

Solution $400000 + 30000 + 900 + 40 + 5$
[NOTE:- Rest of the parts do your self]

Q=7 Write the following expanded forms in their standard form:

(a) $700\,000 + 40\,000 + 5\,000 + 80 + 9 = 7,45,089$

(c) $400\,000 + 6\,000 + 300 + 70 + 5 = 4,06,375$

Q=8 Put commas at the correct place(s) in the following numbers and write them in words:

(a) 97014

Solution 97,014 → Ninety seven thousand and fourteen

Q=9 Add 46,342 and 9,84,345 and write the sum in words.

Solution $46\,342 + 9\,84\,345 = 10,30,687$

Ten lakh, thirty thousand, six hundred and eighty seven.

Q=10 Do your self.

Exercise 1.1

Q=1 write the following numbers in words:

(a) 34,56,809

Solution Thirty four lakh, fifty six thousand eight hundred nine.

Q=2 write each of the following in expanded form:

(a) 72451 → $70,000 + 2000 + 400 + 50 + 1$

(b) 7,09,521 → $7,00,000 + 9000 + 500 + 20 + 1$

Q=3 write each of the following in international system of numeration:

(a) 3,65,008 → 365,008

Solution Three hundred sixty five thousand and eight

(b) 47,94,349 → 4,794,349

Solution Four million, seven hundred ninety four thousand three hundred forty nine.

Q=4 Do your self

Q=5 Write the Successor of each of the following

(a) 2,32,03,109

Solution The Successor of 23203109 is $23203109 + 1 = 2,32,03,110$

(c) 1,21,23,122

Sol. The successor of 12123122 is $12123122 + 1 = 1,21,23,123$

Q=6 Write the Predecessor of the following:

(a) 60,00,000

Sol. The Predecessor of 6000000 is $6000000 - 1 = 59,99,999$

(c) 7,42,31,000

Sol. The Predecessor of 74231000 is $74231000 - 1 = 7,42,30,999$

Q=7 Do your self.

Q=8 Make the smallest possible 6-digit number using the given digits only once.

(a) 4,3,9,2,6 and 5

Sol. Smallest 6-digit number $\rightarrow 234569$

(b) 34018 and 7

Sol. Smallest 6-digit number $\rightarrow 103478$

Q=9 Do your self

Q=10 Do your self.

Q=11 Write each of the following as numerals:

(a) Five crore thirty five lakh and twenty two

Solution 5,35,00,022

Q=12 Write the following numbers in standard form:

(a) $70,000 + 4000 + 600 + 80 + 9 = 74,689$

(c) $1,00,000 + 300 + 5 = 1,00,305$

[NOTE:- Rest of the parts do your self]

Exercise 1.2

Q=1 Round each of the following numbers to the nearest ten:

(a) $47 \rightarrow 50$

(c) $2,634 \rightarrow 2,630$

Q=2 Round each of the following numbers to the nearest hundreds.

(a) $230 \rightarrow 200$

(c) $37,724 \rightarrow 37,700$

Q=3 Round each of the following numbers to the nearest thousands.

(a) $4,401 \rightarrow 4,000$

(c) $6,718 \rightarrow 7,000$

Q=4 Round each of the following numbers to the nearest ten thousands:

(a) $75,284 \rightarrow 80,000$

(c) $68,439 \rightarrow 70,000$

Q=5 Round each of the following numbers to the nearest lakhs:

(a) $2,65,148 \rightarrow 3,00,000$

(c) $8,10,388 \rightarrow 8,00,000$

Q=6 List any five numbers which can be rounded to the nearest tens as 330.

Solution: 325, 326, 327, 328, 329

Q=7 Estimate the sum by rounding the numbers to the nearest hundred.

(a) $362 + 482$

Solution: 362 rounded to nearest hundred = ~~4~~ 400

482 rounded to nearest hundred = +500

Estimated Sum $\rightarrow$ 900

(c) $207 + 131 + 248$

Sol. 207 rounded to nearest hundred = 200

131 " " " " = 100

248 " " " " = +200

Estimated sum $\rightarrow$ 500

Q=8 Estimate the difference by rounding the numbers to the nearest hundred:

(a) $483 - 266$

Sol. 483 rounded to nearest hundred = 500

266 " " " " = 300

Estimated difference $\Rightarrow$ 200

(c) $887 - 437$

Sol. 887 rounded to nearest hundred = 900

437 " " " " = 400

Estimated difference $\Rightarrow$ 500

Q=9 $\rightarrow$ Do your self Q=10 Do your self

$\approx \approx$

Exercise 1.3

Q=1 Write the Roman numerals for each of the following:

(a) $42 \rightarrow 40 + 2 \rightarrow XL + II \rightarrow XLII$

(c) $1500 \rightarrow 1000 + 500 \rightarrow M + D \rightarrow MD$

Q=2 Write the following in Hindu-Arabic numerals:

(a) $XXVII \rightarrow XX + VII \rightarrow 20 + 7 \rightarrow 27$

(d) $CD \rightarrow (500 - 100) \rightarrow 400$ [C $\rightarrow$ 100, D $\rightarrow$ 500]

Q=3 Compare the following using $<$ and $>$:

(a) $LX, XC \Rightarrow [LX = 60], [XC = 90] \therefore [LX < XC]$

(d) $XXIV, XLV \Rightarrow [XXIV = 24], [XLV = 45] \therefore [XXIV < XLV]$

Q=4 Which of the following are meaningless:-

(a) $XC \rightarrow 90$ (b) $XVIII \rightarrow 18$ (c) $XCII = 91$ (d) VL (e) $MVXVX$

Sol. Meaningful Sol. Meaningful Sol. Meaningful Sol. Meaningless Sol. Meaningless

Q=5 Give the answer for each of the following in Roman Numerals:

(a) $XC + X \rightarrow 90 + 10 \rightarrow 100 \rightarrow C$

(c) $LX - XL \rightarrow 60 - 40 \rightarrow 20 \rightarrow XX$

Q=6

Do your self.

$\sim \sim \sim$

Chapter → 2 [PLAYING WITH NUMBERS]

RECAP EXERCISE

Q=1 Find the sum of the following:

(a) $18,747 + 13,192 + 10,018$

Sol. $= (18,747 + 13,192) + 10,018$
 $= 31,939 + 10,018 = 41,957$

Q=2 Find the difference.

(a) $1,25,651 - 34,511 \Rightarrow 91,140$

(d) $10,005 - 2666 \Rightarrow 7,339$

Q=3 Find the product

(a) 143×231

$$= \begin{array}{r} 143 \times 231 \\ 429 \times \\ 286 \times \times \\ \hline 33,033 \end{array}$$

(c) 182×143

$$= \begin{array}{r} 182 \times 143 \\ 546 \\ 728 \times \\ 182 \times \times \\ \hline 26,026 \end{array}$$

Q=4 Do your self

Q=5 Do your self.

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Exercise 2.1

Simplify the following numerical expressions:

(1) $18 + 13 - 45 + 43 - 16$

$= (18 + 13) - 45 + 43 - 16$

$= 31 - 45 + 43 - 16$

$= (31 + 43) - 45 - 16$

$= 74 - 61$

$= 13$

[BODMAS RULE]

(6) $196 \div 14 \times 23 - 200 + 195$

$= (196 \div 14) \times 23 - 200 + 195$

$= (14 \times 23) - 200 + 195$

$= 322 - 200 + 195$

$= 322 + 195 - 200$

$= 517 - 200$

$= 317$ [BODMAS RULE]

[NOTE :- Rest of the parts do your self]

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Exercise 2.2

Simplify the following expressions:

1) $12 \div 3 + 5 \times 8 - 9$

$= (12 \div 3) + 5 \times 8 - 9$

$= 4 + (5 \times 8) - 9$

$= 4 + 40 - 9$

$= 44 - 9$

$= 35$

(6) $16 \times 24 \div \frac{3}{7} \text{ of } 28 + 15$

$= 16 \times 24 \div \left(\frac{3}{7} \text{ of } 28 \right) + 15$

$= 16 \times 24 \div \left(\frac{3}{7} \times 28 \right) + 15$

$= 16 \times 24 \div (3 \times 4) + 15$

$= 16 \times (24 \div 12) + 15$

$= 16 \times 2 + 15$

$= 32 + 15 \Rightarrow 47$

(8) $28 \times 64 \div 16 + 1$

$= 28 \times (64 \div 16) + 1$

$= (28 \times 4) + 1$

$= 112 + 1 \Rightarrow 113$

(10) $325 \times 25 \div 125 - 169 \div 13$

$= 325 \times (25 \div 125) - (169 \div 13)$

$= 325 \times 0.2 - 13$

$= 325 \times \frac{2}{10} - 13$

$= \frac{65}{1} - 13 \Rightarrow 65 - 13 \Rightarrow 52$

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Exercise 2.3

(1) $80 - [24 - \{16 \div (9 - 1)\}]$

$= 80 - [24 - \{16 \div 8\}]$

$= 80 - [24 - 2]$

$= 80 - 22 \Rightarrow 58$

(5) $78 - [5 + 3 \text{ of } (25 - 2 \times 10)]$

Do your self.

NOTE:- REST OF THE PARTS
DO YOUR SELF

(3) $120 + [14 \times \{20 - (20 \div 4)\}]$

$= 120 + [14 \times \{20 - 5\}]$

$= 120 + [14 \times 15]$

$= 120 + 210$

$= 330$

(8) $1440 - [24 - \{15 - (2 \times 3 + 1)\}]$

$= 1440 - [24 - \{15 - (2 \times 4)\}]$

$= 1440 - [24 - \{15 - 8\}]$

$= 1440 - [24 - 7]$

$= 1440 - 17$

$= 1440 - 17$

$= 1423$

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CHAPTER :- BASIC GEOMETRICAL CONCEPTSCLASS :- 6THMATH :- BUNIT :- 1STRECAP EXERCISE

Q=1 Identify the curved lines in the following figures:
Figures on Book

Solution: (a) and (c) [curved lines]

Q=2 Name the total number of sides in the following figures.
Figures on Book

Solution: (a) 3 (b) 0 (c) 4 (d) 5

Q=3 Write the number of straight lines in the following.

(a) M $\rightarrow$ 4 (b) N $\rightarrow$ 3 (c) T $\rightarrow$ 2 (d) 5 $\rightarrow$ 2

Q=4 Identify the closed figures
Figures on Book

Solution: (a) and (d)

Q=5 Do your self

Q=6 Classify each of the following as a line, a line segment, or ray:

Solution: Figures on Book
(a) ray (b) line segment (c) line (d) line segment (e) line

Exercise 11.1

Q=1 How many points does a line contain?

Solution: Infinite

Q=2 How many lines can pass through a given point?

Solution: Infinite

Q=3 How many lines can pass through any two given points?

Solution: One

Q=4 Do your self Q=5 Do your self.

Q=6 Count the line segments in each of the following figures and name them.

Figures on Book

Solution

(a) $AB, AC, AD, BD, CD, BC \rightarrow [6]$

(b) $AB, BC, CD, DA, AC \rightarrow [5]$

(c) $AB, BD, DC, CA, CE, DE, CF, DF \rightarrow [8]$

Q=7 What is difference between a line and a line segment?

Solution

A line extends endlessly in both directions and so it has no fixed length.

A line segment is a part of a line. It has a fixed length.

Q=8 Name the points which are [figure on book]

(a) On the exterior of the circle $\rightarrow X, Y, W, Z$

(b) In the interior of the circle $\rightarrow P, Q, R, S$

(c) On the boundary of the circle $\rightarrow M, N, O$

Q=9 In the given figure identify and write the following:

(a) One line $\rightarrow PQ$ (b) Four rays $\rightarrow QP, QR, QS, QT$

(c) Two line segments $\rightarrow QP, QR$ (d) Three collinear points $\rightarrow P, Q, R$

[figure on book]

Q=10 Do your self.

Q=11 Classify the following $\rightarrow$ a line, a line segment, or ray:

(a) $\overline{AB} \rightarrow$ line segment (b) $\overrightarrow{PQ} \rightarrow$ ray (c) $\overleftrightarrow{AB} \rightarrow$ line

(d) $\overline{QP} \rightarrow$ line segment (e) $\overrightarrow{RS} \rightarrow$ ray

Q=12 Identify the closed figure in the following.

Figures on Book

Solution (a), (d), (e), (f) are closed figures

[NOTE :- REST OF THE PARTS DO YOUR SELF]

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Exercise 11.2

Q=1 Write the adjacent angles in the following figures:

Figures on Book.

Solution

(a) $\angle EFG$ and $\angle GFH$ (b) $\angle KLM$ and $\angle NLM$ (c) $\angle WXY$ and $\angle YXZ$

Q=2 Name the shaded angles in each case: (figures on Book)

Solution (a) $\angle ZAJ$ (b) $\angle HXB$ (c) $\angle FOY$

Q=3 In the adjoining figure, list the points which (figure on Book)

(a) are the interior of $\angle XYZ \rightarrow A, H, P$

(b) are the exterior of $\angle XYZ \rightarrow L, C, M, D$

(c) lie on $\angle Y \rightarrow R, Q, X, Y, Z$

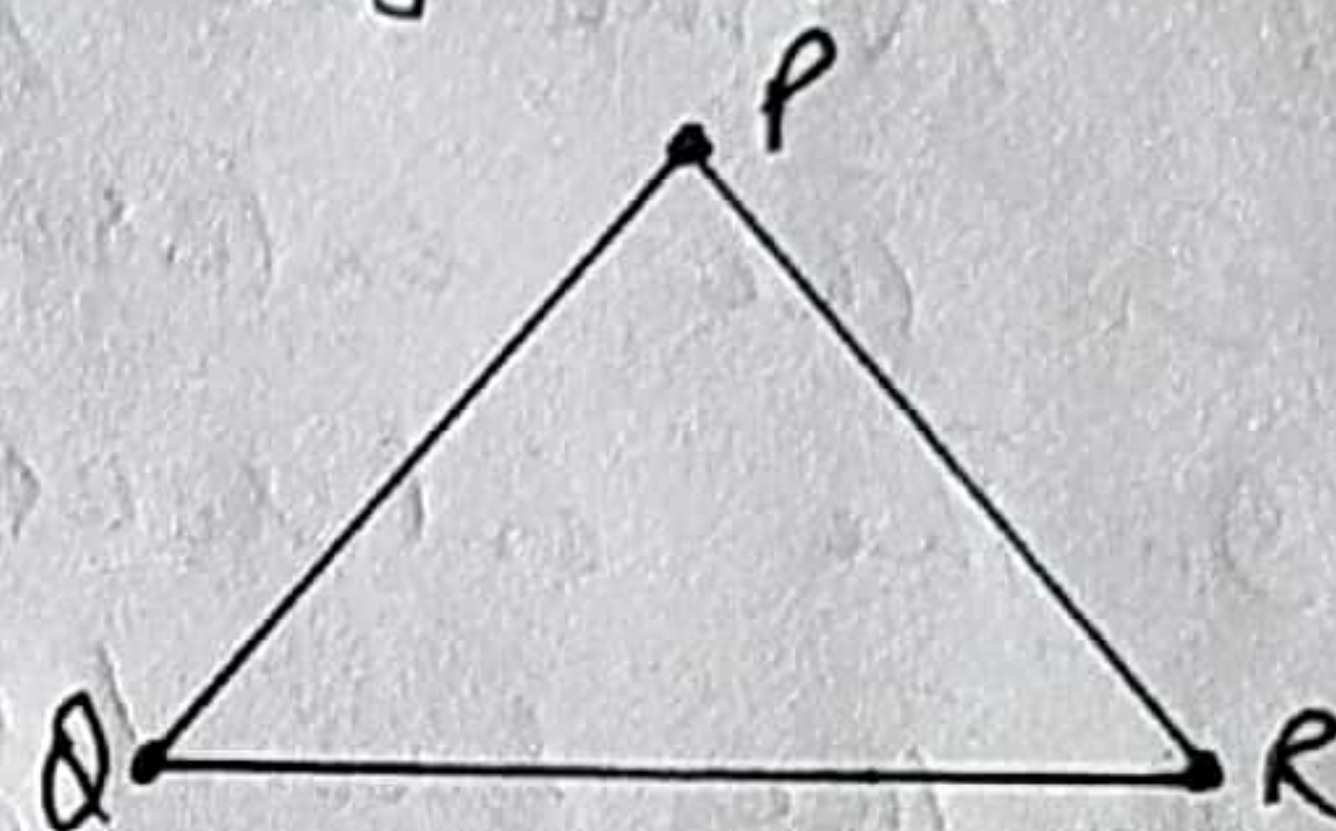
Q=4 Take three non-collinear points P, Q and R, join PQ, QR and PR and find:

(a) The side opposite to Q $\rightarrow PR$

(b) The vertex opposite to side PQ $\rightarrow R$

(c) The side opposite to vertex P $\rightarrow QR$

(d) The angle opposite to side QR $\rightarrow \angle P$

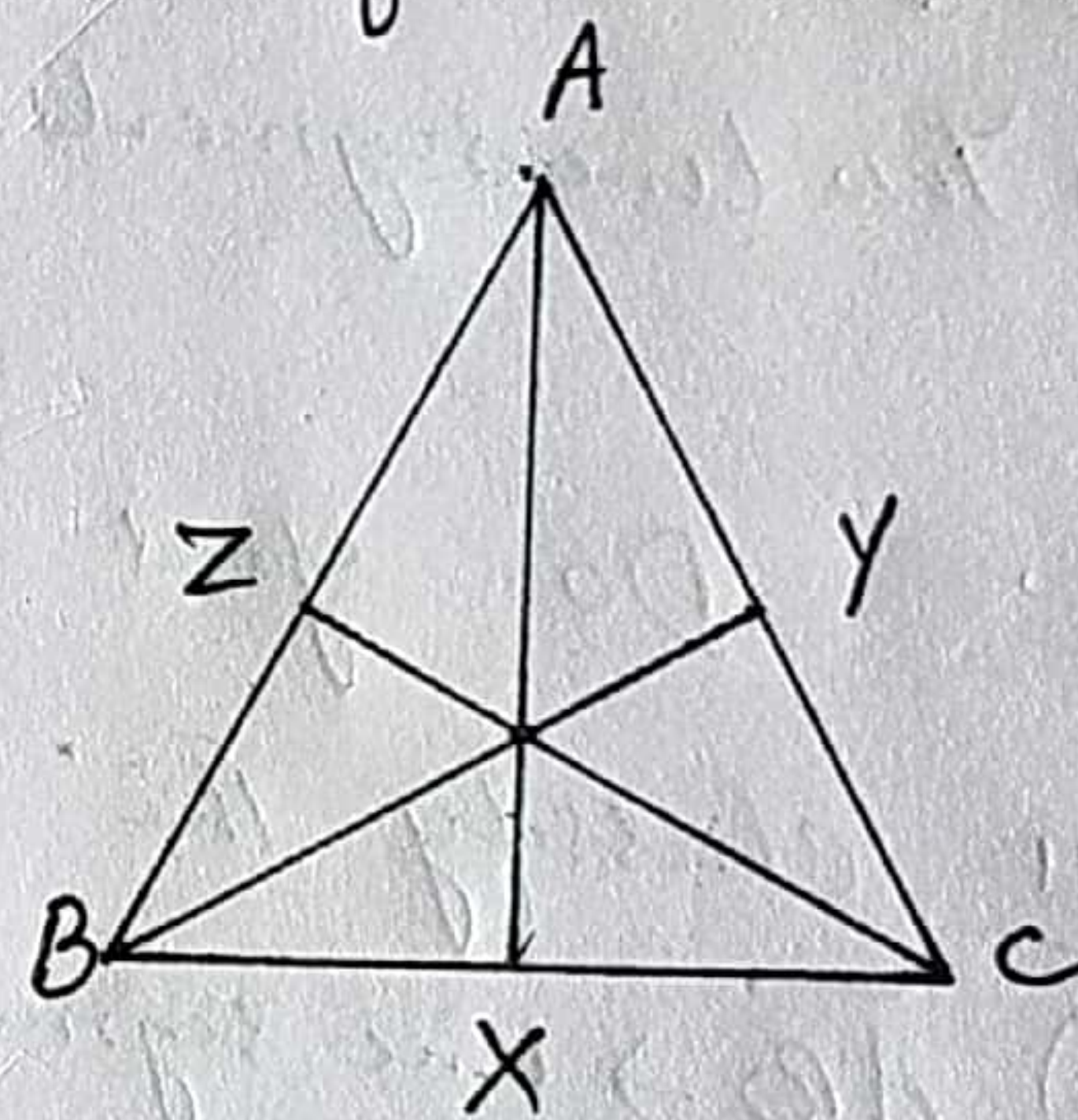


Q=5 Draw a triangle ABC and draw a median from vertex A to BC.

Solution Here XYZ are the midpoints of side BC, CA and AB respectively.

So a line joining the midpoint X of side BC to its opposite vertex A

is a median. [Similarly BY and CZ are also medians]



Q=6 Two angles of a triangle are in the ratio 2:3 and its third angle is 70° . Find the other two angles of a triangle.

Solution Let the first angle A be $2x$, $\angle B = 3x$, $\angle C = 70^\circ$

$\therefore$ Sum of angles of a triangle $= 180^\circ$

$$\Rightarrow \angle A + \angle B + \angle C = 180^\circ$$

$$\Rightarrow 2x + 3x + 70^\circ = 180^\circ$$

$$\Rightarrow 5x + 70^\circ = 180^\circ$$

$$\Rightarrow 5x = 180^\circ - 70^\circ$$

$$\Rightarrow 5x = 110^\circ \Rightarrow x = \frac{110}{5} = 22 \Rightarrow x = 22$$

$$\text{Here } \angle A = 2x = 2 \times 22 = 44^\circ, \text{ Here } \angle B = 3x = 3 \times 22 = 66^\circ$$

$$\angle A = 44^\circ, \angle B = 66^\circ, \angle C = 70^\circ$$

Exercise 11.3

Q=1 Name the sides, angles and vertices of the following quadrilaterals.

Figures on Book

Solution

(a) Sides $\rightarrow$ AB, BC, CD, DA

angles $\rightarrow$ $\angle CBA$, $\angle BAD$, $\angle ADC$, $\angle DCB$

Vertices $\rightarrow$ A, B, C, D

(b) Sides $\rightarrow$ PQ, QR, RS, SP

angles $\rightarrow$ $\angle QPS$, $\angle PSR$, $\angle SRQ$, $\angle RQP$

Vertices $\rightarrow$ P, Q, R, S

Q=2 Look at the given figure and answer the following questions.

Figures on Book

Sol (a) Name the rays $\rightarrow$ OD, OC, OB, OA

(b) Name the angles $\rightarrow$ $\angle DOC$, $\angle COB$, $\angle BOA$, $\angle DOA$, $\angle COA$, $\angle DOB$

Q=3 Do your self Q=4 Do your self

Q=5 Write the points which lie: (figure on Book)

(a) In the interior of the quadrilateral $\rightarrow$ D

(b) On the exterior of the quadrilateral $\rightarrow$ B, E, F

(c) On the boundary of the quadrilateral $\rightarrow$ A, C

Q=6 Do your self Q=7 Do your self.

Q=8 From the figure, find the value of x:
(Figure on Book)

Solution Let the fourth angle be x

Since the sum of four angles of a quadrilateral is 360°

$$x + 60^\circ + 95^\circ + 100^\circ = 360^\circ$$

$$x + 255^\circ = 360^\circ$$

$$x = 360^\circ - 255^\circ$$

$$x = 105^\circ$$

The fourth angle is 105° .

Ex. 11.4

Q=1 From the given figure, Name the following:
[figure on Book]

- (a) radii $\rightarrow$ OA, OB (b) Diameter $\rightarrow$ AC (c) a minor arc $\rightarrow$ $\widehat{QHP}$
(d) a major arc $\rightarrow$ $\widehat{QAP}$ (e) a chord $\rightarrow$ PQ, AC (f) a major segment $\rightarrow$ QP

Q=2 Do your self.

Q=3 Given a circle with center O and radius 2.5cm. what is the length of the longest chord of the circle?

Solution length of a diameter

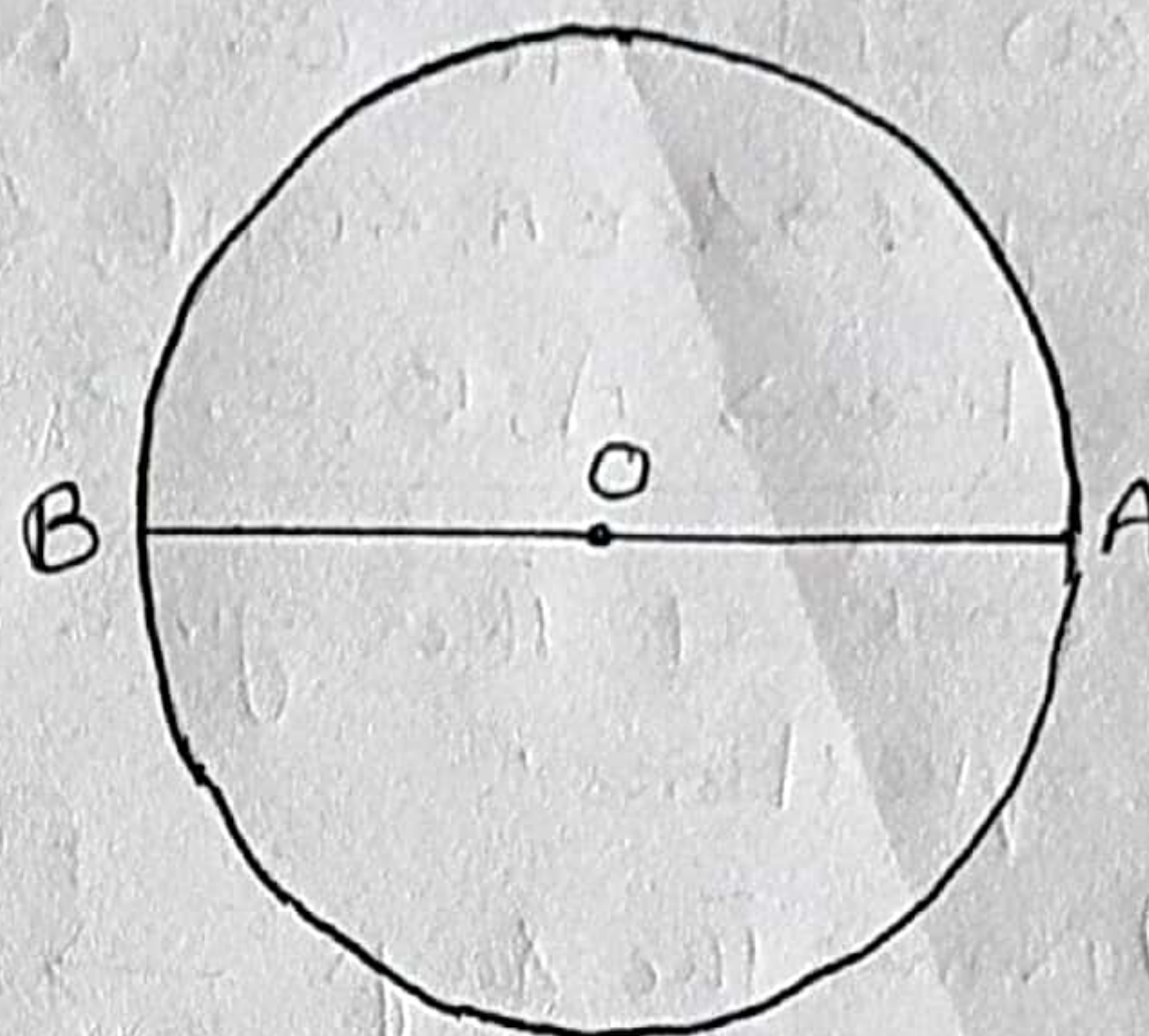
$$= 2 \times \text{length of a radius}$$

$$= 2 \times 2.5 \text{ cm}$$

$$= 5.0 \text{ cm}$$

$$= 5 \text{ cm}$$

$\therefore$ length of longest chord of the circle = 5cm.



Q=4 Do your self Q=5 Do your self.

Q=6 Look at the figure and answer the following questions.
[figure on book]

- (a) Name the chords $\rightarrow$ CD, DH, HF
(b) Name the diameters $\rightarrow$ HF
(c) Name the radii $\rightarrow$ AH, AF
(d) Points which lie on the circumference of the circle $\rightarrow$ C, D, H, G, F
(e) Points which lie in the exterior of the circle $\rightarrow$ B, J
[NOTE:- Rest of the parts do your self]

[NOTE:- PRACTICE SECTION $\rightarrow$ CHAPTER 1 $\rightarrow$ KNOWING OUR NUMBERS
CHAPTER 2 $\rightarrow$ PLAYING WITH NUMBERS and CHAPTER 11 $\rightarrow$
 $\rightarrow$ BASIC GEOMETRICAL CONCEPTS (DO YOUR SELF)
~o~ [ON BOOK] ~o~