

Unit Test Series 03 (2023-24)

SUBJECT: MATHEMATICS
CLASS : IX

MAX. MARKS : 40
DURATION : 90 min

Syllabus : CH - 6 Lines & Angles , CH - 7 Triangles

General Instruction:

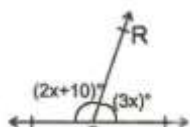
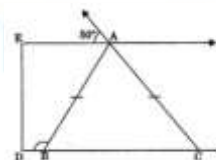
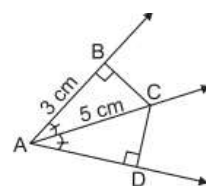
1. This Question Paper has 5 Sections A-E.
2. **Section A** has 5 MCQs carrying 1 mark each.
3. **Section B** has 3 questions carrying 02 marks each.
4. **Section C** has 5 questions carrying 03 marks each.
5. **Section D** has 1 questions carrying 04 marks each.
6. **Section E** has 2 questions carrying 05 marks each .

Draw neat figures wherever required. Take $\pi = 22/7$ wherever required if not stated

SECTION – A

Questions 1 to 5 carry 1 mark each.

1. If two complementary angles are in the ratio of 11 : 7. then the angles are
(a) $55^\circ, 35^\circ$ (b) $50^\circ, 40^\circ$ (c) $45^\circ, 45^\circ$ (d) $30^\circ, 60^\circ$
2. In the given figure, if $AB = 3$ cm and $AC = 5$ cm, then CD is equal to
(a) 4 cm (b) 2 cm (c) 3 cm (d) 5 cm
3. In triangle ABC , $\angle B = 45^\circ$, $\angle C = 55^\circ$ and the bisector of $\angle A$ meets BC at a point D . The measure of $\angle ADB$ is
(a) 50° (b) 20° (c) 100° (d) 95°
4. In figure if $AE \parallel DC$ and $AB = AC$, find the value of $\angle ABD$.
(a) 130° (b) 110° (c) 120° (d) 70°
5. $\angle POR = (3x)^\circ$ and $\angle QOR = (2x+10)^\circ$, then the value of x so that $\angle POQ$ is a straight line is

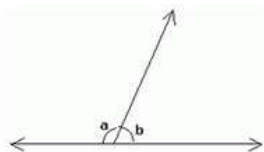


- (a) 34° (b) 24° (c) 28° (d) 54°

SECTION – B
Questions 6 to 8 carry 2 mark each.

6. If DA and CB are equal perpendiculars to line segment AB. Show that CD is bisecting AB.

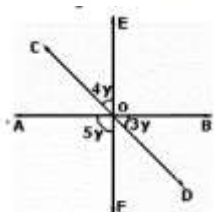
7. In the given , a is greater than b by one third of a right angle .Find the values of a and b .



7. l and m are two parallel lines that are intersected by another pair of parallel lines, p and q . show that $\triangle ABC \cong \triangle CDA$.

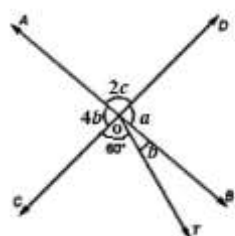
SECTION – C
Questions 9 to 13 carry 3 mark each.

9. In the figure , find the value of y



10. Prove that vertically opposite angle are equal.

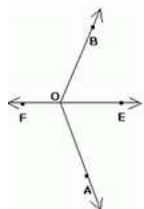
11. In the figure , two straight lines AB and CD intersect at O . If $\angle COT = 60^\circ$, find a, b , c.



12. AD is the altitude of an isosceles triangle ABC where $AB = AC$. Show that:

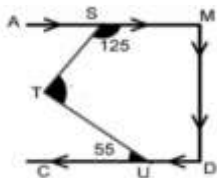
(i) AD bisects BC. (ii) AD bisects $\angle A$

13. Ray OE bisects $\angle AOB$ and OF is the ray opposite OE . Show that $\angle FOB = \angle FOA$



SECTION – D
Questions 14 carry 4 mark each.

14. A route from place A to place C is shown in the figure . to avoid traffic on the highway AM , a road is cut through S via T to reach C by authorities, Highway AM parallel to Highway CD if $\angle MST = 125^\circ$, $\angle CUT = 55^\circ$



Give the answer of following question using this information.

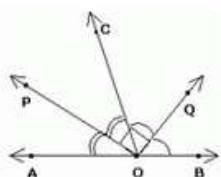
- i) The measurement of $\angle AST$ is ?
- ii) If $\angle SMD = 90^\circ$ then find the measurement of $\angle UDM$?
- iii) The measurement of Reflex $\angle STU$ is ?

Or

The measurement of $\angle STU$ is ?

SECTION – E
Questions 15 to 16 carry 5 mark each.

15. OP bisects $\angle AOC$, OQ bisects $\angle COB$ and $OP \perp OQ$.Show that A , O , B are collinear .



16. AB is a line segment, and P is the mid-point. D and E are the points on the same side of AB, so $\angle BAD = \angle ABE$ and $\angle EPA = \angle DPB$. Show that: (i) $\triangle DAP \cong \triangle EBP$ (ii) $AD = BE$

End

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