



TEST PAPER: MATHEMATICS

Time: 80 Minutes

Class: 9th C.B.S.E.

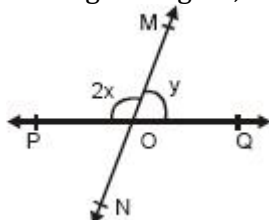
Max. Marks: 40 Marks

Date: 29th July, 2018

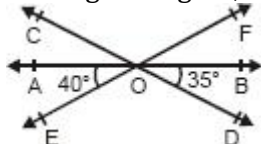
Marking Scheme: Four questions carry 10 marks each. Questions have 3 subparts each. Subparts (a) and (b) carry 3 marks each and subpart (c) carries 4 marks.

Question 1:

- A. If P, Q and R are three points on a line, and Q lies between P and R, then prove that $PQ + QR = PR$
B. In the given figure, \overline{PQ} and \overline{MN} intersect at O.

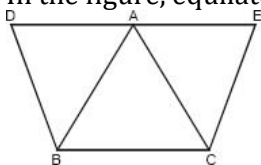


- (a) Determine y, when $x = 60^\circ$.
(b) Determine x, when $y = 40^\circ$.
C. In the given figure, lines AB, CD and EF intersect at O. Find the measure of $\angle AOC$, $\angle COF$.



Question 2:

- A. i. What is Euclid's second axiom?
ii. What is a closed figure formed by three line segments called?
B. Find the area of an isosceles triangle with two equal sides as 5 cm each and the third side as 8 cm.
C. In the figure, equilateral $\triangle ABD$ and $\triangle ACE$ are drawn on the sides of a $\triangle ABC$. Prove that $CD = BE$.

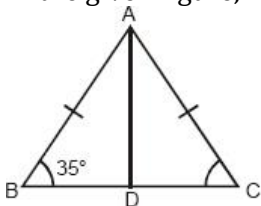


Question 3:

- A. The sides of a triangular plot are in the ratio of 6 : 7 : 8 and its perimeter is 420 m. Find its area.
B. A triangular park has sides 120 m, 80 m and 50 m. A gardener has to put a fence all around it and also plant grass inside. How much area does he need to plant? Find the cost of fencing it with barbed wire at the rate of Rs. 20 per metre, leaving a space of 3 m wide for a gate on one side.
C. If PQ and RS are two intersecting lines which meet at point O. If $\angle POR : \angle ROQ = 5:7$. Find all the angles.

Question 4:

- A. In $\triangle ABC$, $AB = AC$ and the bisector of angles B and C intersect at point O. Prove that $BO = CO$ and AO bisects $\angle BAC$.
B. In the given figure, AD is the median. Find $\angle BAD$.



- C. i. What is the area of an equilateral triangle whose side is 2 cm?
ii. Find the area of a right-angled triangle whose base is 12 cm and height is 5 cm.