

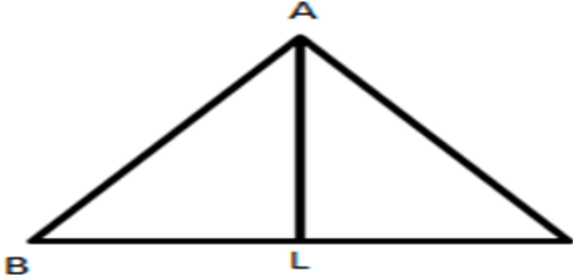
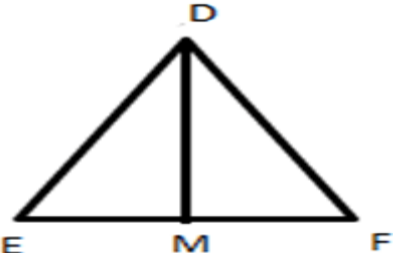
KENDRYA VIDYALAYA SANGTHAN
MONTHLY TEST PAPER -AUGUST (2025-26)
MATHEMATICS
CLASS: X SET 1

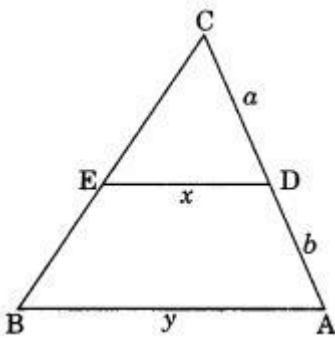
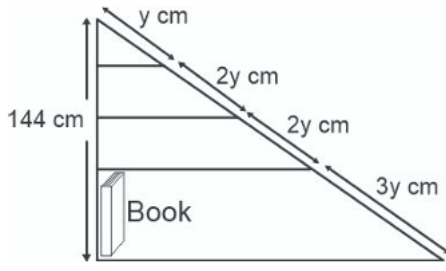
MAX. MARKS – 30

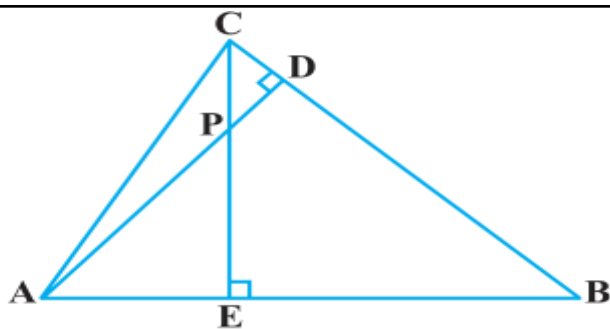
TIME : 1 Hour

General Instructions:

1. This Question Paper has 5 Sections A, B, C, D, and E.
2. Section A has 5 Multiple Choice Questions (MCQs) carrying 1 mark each
3. Section B has 4 Short Answer-I (SA-I) type questions carrying 2 marks each
4. Section C has 3 Short Answer-II (SA-II) type questions carrying 3 marks each.
5. Section D has 1 Long Answer (LA) type questions carrying 4 marks each.
6. Section E has 1 Case Based integrated units of assessment (4 marks each) with sub-parts of the values of 1, 1 and 2 marks each respectively.

Q.N.	SECTION –A(MCQ)	MA RKS
1.	In triangle DEF, GH is a line parallel to EF cutting DE in G and and DF in H. If DE = 16.5, DH = 5, HF = 6 then GE =? (a) 9 (b) 10 (c) 7.5 (d) 8	1
2.	In two similar triangles $\triangle ABC$ and $\triangle DEF$, AB = 15cm, DE = 5cm. If AL and DM are the altitudes of the triangles ABC, DEF respectively, then what will be the ratio of their altitudes?   (a) 3 : 1 (b) 1 : 3 (c) 1 : 2 (d) 2 : 1	1
3.	Assertion (A): The ratio in which the line segment joining (2, -3) and (5, 6) internally divided by x axis is 2:1. Reason (R): as formula for the internal division is $\frac{m1x2+m2x1}{m1+m2}, \frac{m1y2+m2y1}{m1+m2}$ (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A). (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A). (c) Assertion (A) is true but Reason (R) is false. (d) Assertion (A) is false but Reason (R) is true.	1
4.	The mid point of the line segment joining L(2a,4) and M(-2,3b) is A (1,2a + 1). The values of a and b are (a) 2,3 (b) 1,1 (c) -2,-2 (d) 2,2	1

5.	In the given figure $DE \parallel AC$ which of the following is true?  (a) $x = \frac{(a+b)y}{a}$ (b) $y = \frac{ax}{(a+b)}$ (c) $x = \frac{ay}{(a+b)}$ (d) $xy = ab$	1
SECTION – B		
6.	If points A (4, 3) and B (x, 5) are on the circle with centre O (2, 3), find the value of x.	2
7.	E is a point on the side AD produced of a parallelogram ABCD and BE intersects CD at F. Show that $\triangle ABE \sim \triangle CFB$.	2
8.	Find a point on the y-axis equidistant from (-5, 2) and (9, -2).	2
9.	Leela has a triangular cabinet that fits under his staircase. There are four parallel shelves as shown below. What is the maximum height of a book that can stand upright on the bottom most shelf.  (Note: The figure is not to scale.)	2
SECTION –C		
10.	In triangle $\triangle PQR$, the vertices are P(2,-1), Q(8,5), R(4,3). Let M be the midpoint of QR and N be the midpoint of PR. Find the length of MN. Prove that $MN = 1/2QR$	3
11.	The line $3x + y - 9 = 0$ divides the line joining the points (1, 3) and (2, 7) internally in the ratio? OR Find the ratio in which the line segment joining the points (-3, 10) and (6, -8) is divided by (-1, 6).	3
12.	State and prove Thales's Theorem.	3
SECTION -D		
13.	In the figure, altitudes AD and CE of $\triangle ABC$ intersect each other at the point P. Show that:	1 1 2



- (i) $\triangle AEP \sim \triangle CDP$
- (ii) $\triangle ABD \sim \triangle CBE$
- (iii) $\triangle AEP \sim \triangle ADB$

OR

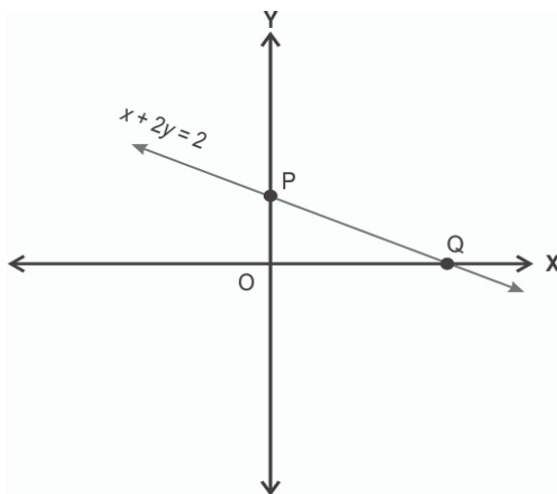
Sides AB and AC and median AD of a triangle ABC are respectively proportional to sides PQ and PR and median PM of another triangle PQR. Show that $\triangle ABC \sim \triangle PQR$.

SECTION -E

14. The line $x + 2y = 2$ forms a triangle OPQ, with the coordinate axes,

4

- (i) What are the coordinates of points P and Q?
- (ii) Find the distance between PQ.
- (iii) What is the area of the triangle formed? Show your steps.



All the BEST

