



TEST PAPER: MATHEMATICS

Time: 50 Minutes

Class: 10th C.B.S.E.

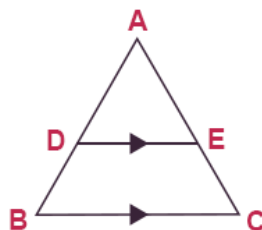
Max. Marks: 30 Marks

Date: 9th May, 2018

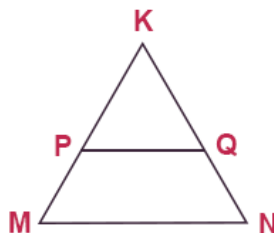
Marking Scheme: Three questions carry 10 marks each. Questions have 3 subparts each. Subparts (a) and (b) carry 3 marks each and subpart (c) carries 4 marks.

Question 1:

- a. In the given figure, DE is parallel to BC. If $AE = x$ cm, $EC = (x - 2)$ cm, $AD = (x + 2)$ cm and $DB = (x - 1)$ cm, then find the value of x along with sides AB and AC.



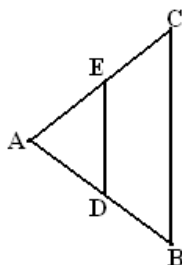
- b. We are given that in triangle KMN, PQ intersects KM and KN at P and Q respectively such that $KP = 1.4$ cm, $KM = 5.6$ cm, $KN = 7.2$ cm and $KQ = 1.8$ cm. Is PQ parallel to MN?



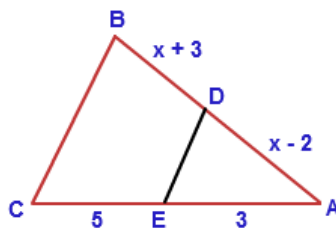
- c. (i) The sum of two number is 14 and their difference is 2. Find the numbers. **(Use cross-multiplication method to solve the equations)** – (2 Marks)
- (ii) 3 tables and 2 chairs cost Rs. 1900 and 2 tables and 4 chairs cost Rs. 1800. Find the cost of table and a chair. **(Use substitution method to solve the equations)** – (2 Marks)

Question 2:

- a. In the figure given below, $DE \parallel BC$. If $AD = x$ cm, $DB = (x-2)$ cm, $AE = (x-1)$ cm, then find the value of x .



- b. Given $DE \parallel BC$, find the length of BD and AD.



- c. A lady has only Rs. 1 and Rs.2 coin in her purse. If in all she has 50 coins totalling Rs. 70, Find the number of coins of each type.

Question 3:

- a. Following are two equations reducible to linear equations. Solve the equations and state the values of x and y:

$$\frac{4}{x-3} + \frac{6}{y-4} = 5$$

$$\frac{5}{x-3} - \frac{3}{y-4} = 1$$

- b. (i) For what value of a, $ax + y = 2$ and $x + ay = 1$ are inconsistent?
(ii) For what value of b, $7x - 3y = 5$ and $14x - 6y = b$ have infinite solutions?
(iii) For what value of c, $3x - by = 5$ and $6x + 8y = 10$ are coincident?
- c. Ten years ago, mother was 12 times as old as her daughter and ten years hence she will be twice as old as her daughter will be. Find the present ages.