Maths Revision Test 8

Time: 60 mins

Max Marks : 40

Q1.

(a) Show that 9^n can not end with digit 0 for any natural number n.

2 marks

(b) If one zero of the polynomial $5z^2 + 13z – p$ is reciprocal of the other, then find p.

2 marks

(c) For what value of k will the following equations have infinitely many solutions?

2x-3y=7, (k+1) x+ (1-2k) y=5k

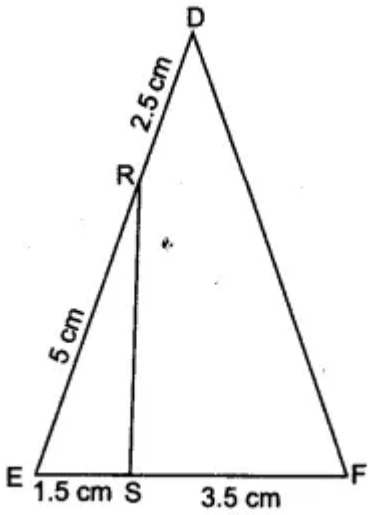
2 marks

Q2. Two sides and the perimeter of one triangle are respectively three times the corresponding sides and the perimeter of the other triangle. Are the two triangles similar?

3 marks

Q3. Determine

A) R and S are points on the sides DE and EF respectively of a △DEF such that ER = 5cm, RD = 2.5cm, SE = 1.5cm and FS = 3.5cm. Find whether RS || DF or not.



B) If sec4A=cosec(A-20°), where 4A is a acute angle, find the value of A..

C) The angles of elevation of the top of a tower from two points at a distance of 4m and 9m from the base of the tower and in the same straight line with it are 60 and 30 respectively. Find the height of the tower.

D) In a single throw of a pair of different dice, what is the probability of getting

1. a prime number on each dice?
2. a total of 9 or 11?

12 marks

Q4 Evaluate sin A.sec(90 – A) 1 mark

Q5 If $7\sin^2 A + 3\cos^2 A = 4$, show that $\tan A = 1/\sqrt{3}$

3 marks

Q5 Consider the following distribution of daily wages of 50 workers of a factory.

Daily wages (in ₹)	100–120	120–140	140–160	160–180	180–200
Number of workers	12	14	8	6	10

Find the mean daily wages of the workers of the factory by using an appropriate method.

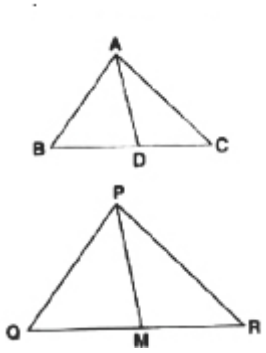
4 marks

Q6. In a game of chance there is spinning of an arrow which comes to rest pointing at one of the numbers 1, 2, 3, 4, 5, 6, 7, 8 and there are equally likely outcomes. What is the probability that it will point at

(i) 7? (ii) an odd number?
(iii) a number less than 9?

3 marks

Q7. Sides AB and BC and median AD of triangle ABC are respectively proportional to sides PQ and QR and median PM of ΔPQR (see figure). Show that ΔABC ~ ΔPQR.



4 marks

Q8. Draw a line segment of Length 7.6 cm and divide it in the ratio 5 : 8. Measure the two parts.

4 marks