Maths Revision Test 6

Time: 60 mins

Max Marks : 40

Q1.

(a) If HCF of 144 and 180 is expressed in the form of 13m= 3, find the value of m.

2 marks

(b) If the product of zeroes of the polynomial $ax^2 - 6x - 6$ is 4. find the value of a. Find the sum of zeroes of the polynomial.

2 marks

(c) Solve the pair of linear equations. $y - 4x = 1$, $6x - 5y = 9$

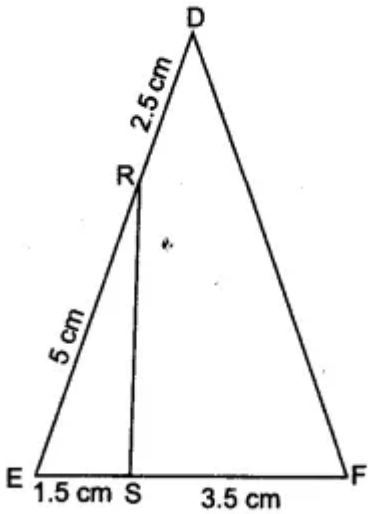
2 marks

Q2. If $x = 2/3$ and $x = -3$ are roots of the quadratic equations $ax^2 + lx + b = 0$, find the values of a and b.

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) Given tanA = 5/12, find the other trigonometric ratios of the angle 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 The angles of elevation and depression of the top and the bottom of a tower from the top of a building 60m high, are 30 and 60 respectively. Find the difference between the heights of the building and the tower and the distance between them..

4 marks

Q6. For what values of p and q will the following pair of linear equations has infinitely many solutions?

$4x + 5y = 2$,

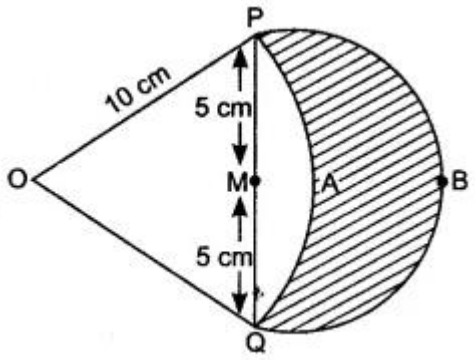
$(2p + 7q)x + (p + 8q)y = 2q-p + 1$ 3 marks

Q7.Solve the the given quadratic equation for x:

$9x^2-9(a+b)x +(2a^2+5ab +2b^2) = 0$

4 marks

Q8. In figure, are shown two arcs PAQ and PBQ. Arc PAQ is a part of circle with centre O and radius OP while arc PBQ is a semicircle drawn on PQ as diameter with centre M. if OP= PQ= 10cm, show that area of shaded region is $25(\sqrt{3} – \pi /6)$ cm^2.



4 marks