

**Maths Revision Test 10**

**Time : 60 mins**

**Max Marks : 40**

Q1.

(a) Determine whether  $(x+1)$  is a factor of polynomial  $x^4 + x^3 + x^2 + x + 1$

3 marks

(b) Expand using suitable identity  $(2x - y + 2z)^2$ .

3 marks

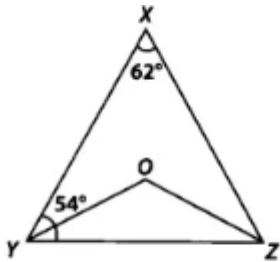
Q2. Solve:

(i) Factorize  $(64a^3 - 343b^3)$

(ii) Show how  $\sqrt{5}$  can be represented in number line.

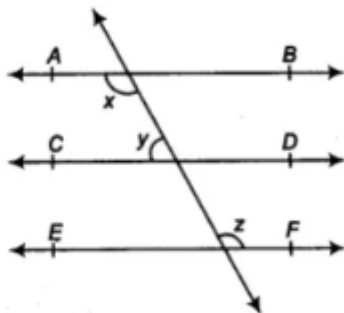
6 marks

Q3. In the figure  $\angle X = 62^\circ$ ,  $\angle XYZ = 54^\circ$ , if YO and ZO are the bisectors of  $\angle XYZ$  and  $\angle XZY$  respectively of  $\triangle XYZ$ . Find  $\angle OZY$  and  $\angle YOZ$ .



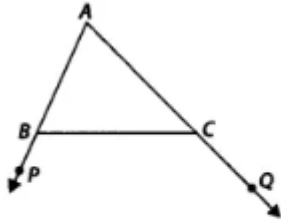
4 marks

Q4 In figure if  $AB \parallel CD$  and  $CD \parallel EF$  and  $y : z = 3:7$ , find  $x$



3 marks

Q5 In the adjoining figure, sides AB and AC of  $\triangle ABC$  are extended to point P and Q respectively. Also  $\angle PBC < \angle QCB$ . Show that  $AC > AB$ .



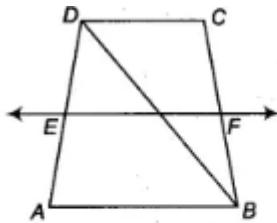
3 marks

Q6. ABCD is a rectangle in which diagonal AC bisects  $\angle A$  as well as  $\angle C$ . Show that

- i) ABCD is a square.
- ii) Diagonal BD bisects  $\angle B$  as well as  $\angle D$ .

3 marks

Q7. ABCD is a trapezium in which  $AB \parallel CD$ , BD is a diagonal and E is the mid-point of AD. A line is drawn through E parallel to AB intersecting BC at F. Show that F is the mid-point of BC.



4 marks

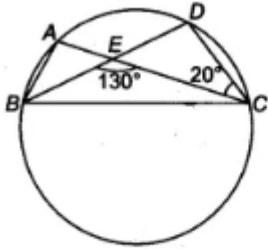
Q8. If two circles intersect at two points, prove that their centers lie on the perpendicular bisector of the common chord.

4 marks

Q9. A chord of circle is equal to its radius. Find the angle subtended by a chord at a point on the minor arc and also at the point on the major arc.

4 marks

Q 10 a) In the figure, A, B C and D are four points on a circle. AC and BD intersect at point E such that  $\angle BEC = 120^\circ$  and  $\angle EOD = 20^\circ$ . Find  $\angle BAC$



1 mark

b) Visualize 2.755 on the number line using successive magnification.

2 marks