Maths Revision Test

Time : 45 mins

Max Marks : 30

Q1. Solve

(a) Find the value of k for which the cubic polynomial $3y^3 - \frac{3}{2}y^2 + ky + 5$ is exactly divisible by $\left(y - \frac{1}{2}\right)$. 1 mark

(b) Factorize. $2y^3 - 4y^2 - 2y + 4$

1 marks

Q2. Factorize:

(i) $4x^2 + 9y^2 + 16z^2 + 12xy - 24yz - 16xz$

(ii) $2x^2 + y^2 + 8z^2 - 2\sqrt{2}\ xy + 4\sqrt{2}\ yz - 8xz$

3 marks

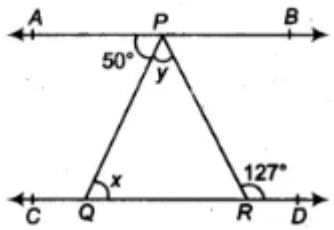
Q3. Using a suitable identity, determine the value of

A) $(17)^3 + (-12)^3 + (-5)^3$

B) $64m^3 - 343n^3$

4marks

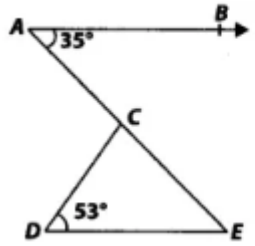
Q4 In the given figure, AB || CD ∠APQ =50 and ∠PRD = 127 find x and y.



3 marks

Q5

In figure, if AB || DE, ∠BAC = 35° and ∠CDE = 539 , find ∠DCE.



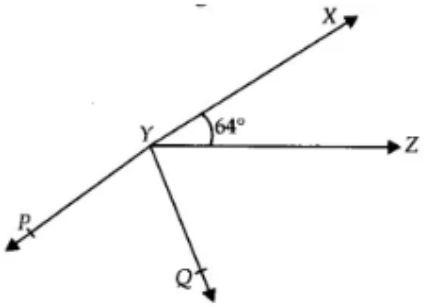
3 marks

Q6.

It is given that ∠XYZ = 64° and XY is produced to point P. Draw a figure from the given information. If ray YQ bisects ∠ZYP, find ∠XYQ and reflex ∠QYP.

Solution:

XYP is a straight line.



3 marks

Q7.

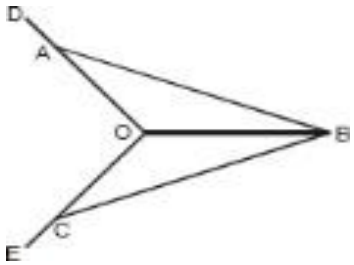
In an isosceles triangle ABC, with AB = AC, the bisectors of ∠B and ∠C intersect each other at 0. Join A to 0. Show that

(i) OB = OC

(ii) AO bisects ∠A

4 marks

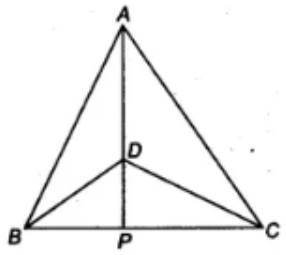
Q8. In the given figure, AB = BC and ∠ABO = ∠CBO, then prove that ∠DAB = ∠ECB.



4 marks

Q9.

ΔABC and ΔDBC are two isosceles triangles on the same base BC and vertices A and D are on the same side of BC (see figure). If AD is extended to intersect BC at P, show that



(i) ΔABD ≅ ΔACD

(ii) ΔABP ≅ ΔACP

(iii) AP bisects ∠A as well as ∠D

(iv) AP is the perpendicular bisector of BC.

4 marks