INDIAN SCHOOL AL WADI AL KABIR

Dept. Of Mathematics 2016-17, Class : IX

HOLIDAY HOME WORK, SET @

Q.1 Draw triangle ABC where vertices are A(0,5) ;B(-6,-6) and C (6,-6) On the graph paper and find its area.

Q.2 In which quadrant or on which axis do each of the points H(9,0) J(-5,-5) ,K(4,3) , L(-2,4) ,M(8,-6) N(0,6)

Q.3 Plot the points A(-4,4), B(-6,0), C(-4,-4) and D(-2,0) .Join AB,BC,CD and DA Name the shape obtained .Also find its area .

Q4. Find the degree of the polynomial: $\frac{x^3 + x^4 - x^6}{x^2}$

Q.5 Find zeroes of the polynomials in each case ,

i) P(x) = 2x +8

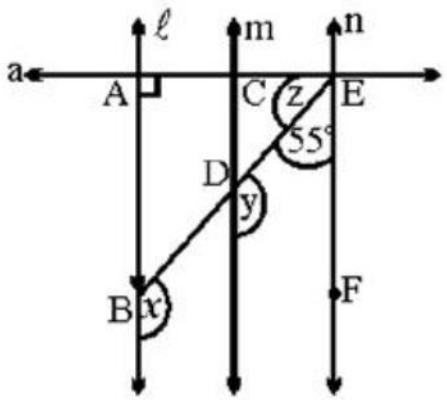
ii) P(x) = 6x - 8

iii) P(x) = ax + b

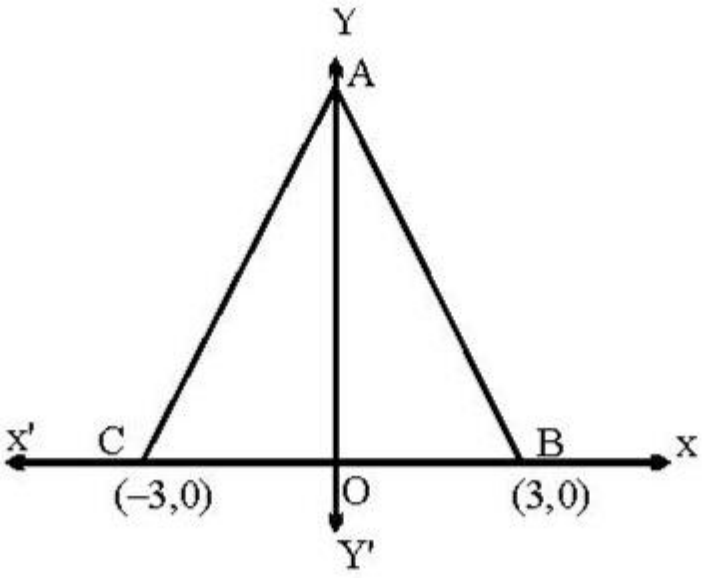
Q.6 If $P(x) = 2x^3 + 4x^2 - 8x - 15$ is divided by g(x) = x-1 .find quotient and remainder by long division method.

Q.7 If $P(x) = x^3 - mx^2 - x + 6$ is divisible by g(x) = x – 2 find the value of 'm'

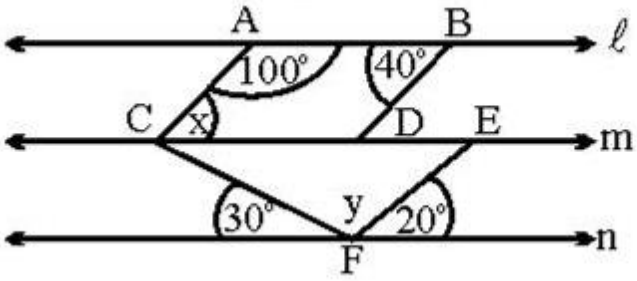
Q.8 In the figure below l // m // n and line ' a ' is perpendicular to them .find x ,y, z.



Q.9 In the figure below ABC is an equilateral triangle .The coordinates of vertices B and C are (3,0) and (-3, 0) respectively find the coordinates of its vertex A

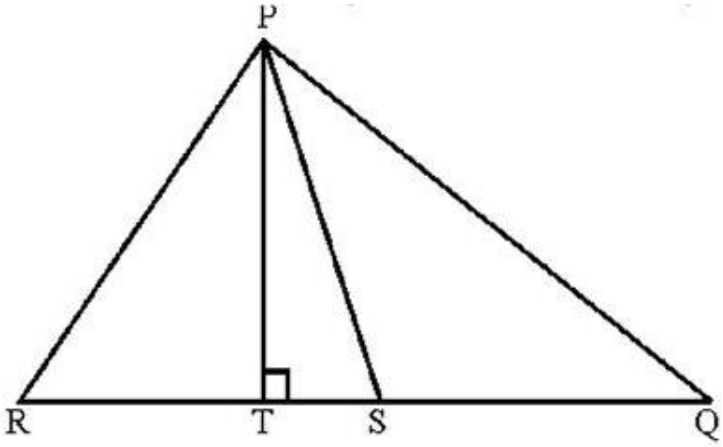


Q.10 in the given figure lines l // m // n . From the figure find the value of (y + x) : (y – x)



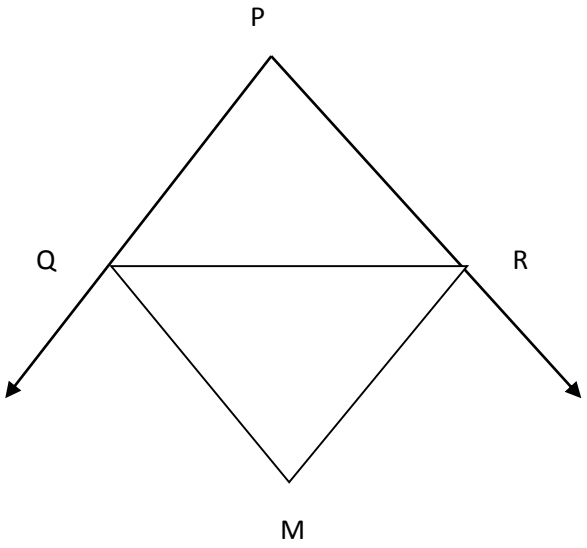
Q.11 In the given figure PS is the bisector of ∠ QPR and PT is perpendicular to QR.

Show that ∠ TPS = $\frac{1}{2}$ (∠R -∠ Q)



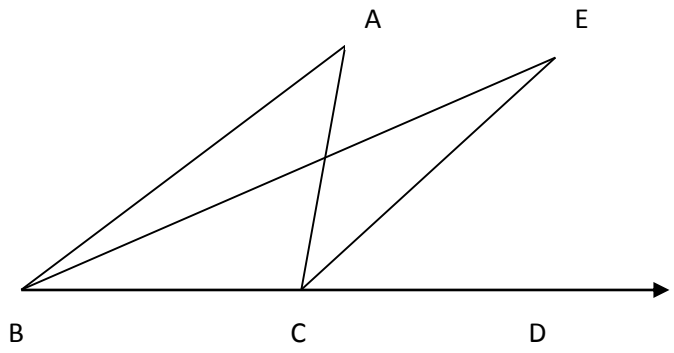
Q. 12 In triangle PQR ,bisectors of exterior angles at Q and R meet at M

Then prove that $\angle RMQ = 90^0 - \frac{1}{2}\angle P$



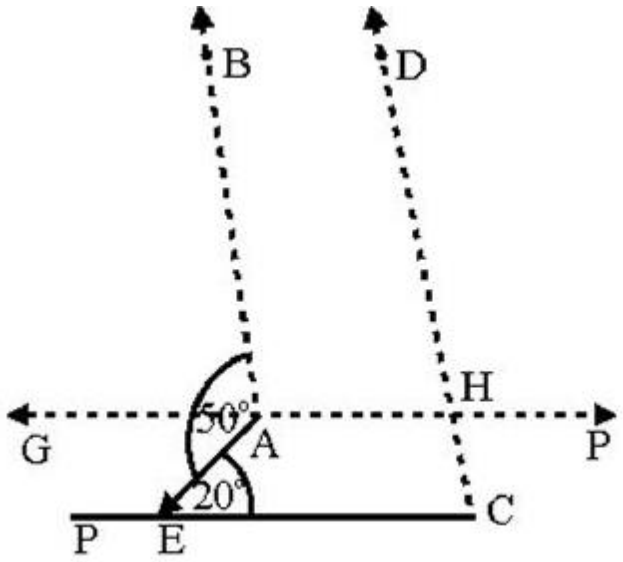
Q.13. In the figure given below BE is the bisector of $\angle ABC$ and CE is the bisector of $\angle ACD$.

Prove that $\angle BEC = \frac{1}{2}\angle A$

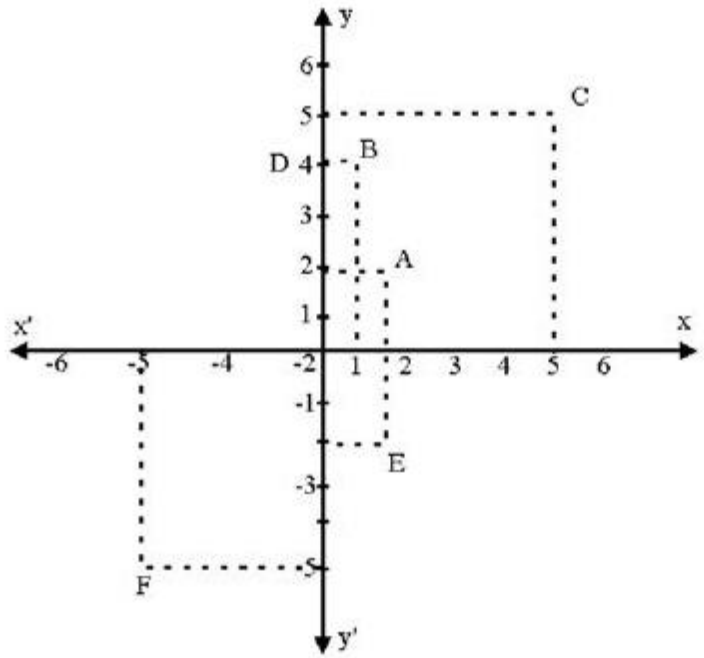


Q.14 In Δ ABC ∠B > ∠C ,bisector of ∠A meet BC at D and AE perpendicular to BC . Prove that $2\angle DAE = (\angle B - \angle C)$

Q.15 In the figure AB // CD . $\angle BAE = 50^0$ and $\angle AEC = 20^0$ Find ∠ DCE



Q.16 Find the coordinates of points A,B,C,D,E and F. Which of the points are the mirror images in (a) the x-axis (b) the y-axis



HOLIDAY HOME WORK ANSWERS :

(1) Area = 30 cm^2

(2) H ------ On the x- axis ,J------- III quadrant ,K ------ I quadrant
L------- II quadrant , M-------- IV quadrant , N------On the y-axis

(3) Rhombus and Area = 16 cm^2

(4) Degree = 3

(5) i) -4 ii) $\frac{4}{3}$ iii) $\frac{-b}{a}$

(6) Quotient = $2x^2 + 6x - 2$ Remainder = -17

(7) M = 3

(8) X = 125^0 ,y = 125^0 and z = 35^0

(9) The coordinates of the vertex A are $(0, 3\sqrt{3})$

(10) (y + x) : (y – x) = 21 : 5

(11) Proof

(12) Proof

(13) Proof

(14) Proof

(15) $\angle$ DCE = 30^0

(16) A (2 , 2) , B(1,4), C (5 ,5), D(- 1,4), E(2 , -2) ,F(-5 ,-5)

E is the mirror image of A in the x-axis
D is the mirror image of B in the y-axis