Guess Paper – 2014
Class – IX
Subject – MATHEMATICS

TIME -3 HRS **MAXIMUM MARKS -90**

General Instructions:-

(i) All questions are compulsory
(ii) The question Paper consists of 34 questions divided into four sections A, B,C and D
(iii) Each questions of Section –A, Section-B , Sections of –C and Section –D carries 1 Mark , 2 Marks , 3 Marks and 4 Marks respectively
(iv) Question No 1 to 8 in section –A are Multiple choice questions ,Where you are to choose one correct option out of the given four
(v) There is no overall choice however internal choice has been provided in Section –B , Section –C and in Section –D, You have to attempt only one of the alternativesin all such questions
(vi) Use of CALCULATOR is not permitted

SECTION – A

(Question No 1 to 8 carry 1 Mark each)

1. The Number $1.\overline{27}$ in the form of $\frac{p}{q}$ where q ≠ 0 is

(a) $\frac{14}{11}$ **(b) $\frac{14}{9}$** **(c) $\frac{14}{13}$** **(d) $\frac{14}{15}$**

2. The value of the polynomial $p(X) = X^3 - 3X + 5$ at X = 2 is

(a) 7 **(b) 5** **(c) 16** **(d) 6**

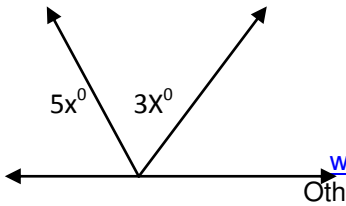
3. Zeroes of the Zero Polynomial is

(a) 0 **(b) 1** **(c) Any Real number** **(d) Not defined**

4. If (x^{57} + 1) is divided by (x+1) , The remainder is

(a) 1 **(b) 58** **(c) 56** **(d) 0**

5. In the given figure AB is a line , The value of X is

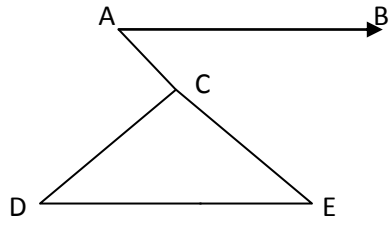


20^O

A B

(a) 40^0 (b) 20^0 (c) 40^0 (d) None

6. In the given figure , if AB ıı DE , angle BAC = 35^0 and angle CDE = 53^0, angle DCE is



(a) 35^0 (b) 53^0 (C) 98^0 (d) 92^0

7. The sides of a triangle are 12 cm , 16 cm and 20 cms , its area is

(a) **48 cm^2** **(b) 96 cm^2** **(C) 120 cm^2** **(d) None**

8. The side of an isosceles right triangle of hypotenuse 4√2 cm is

(a) **8 cm** **(b) 6 cm** **(C) 4 cm** **(d) None**

SECTION – B

(Question No 9 to 14 carry 2 Mark each)

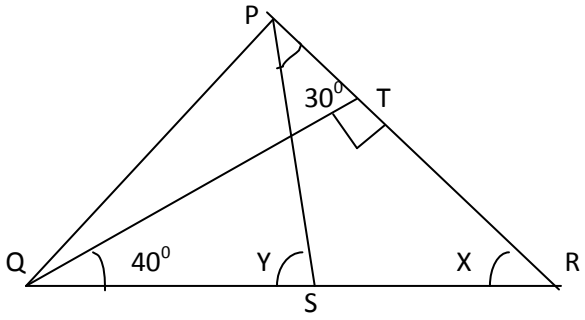
9. If $x=2+\sqrt{3}$ find the value of $x+\frac{1}{X}$

10 Factorise the polynomial : $8x^3-(2x-y)^3$

11 Find the value of 'K' for which (x-1) is a factor of two polynomial $4x^3+3x^2-4x+K$.

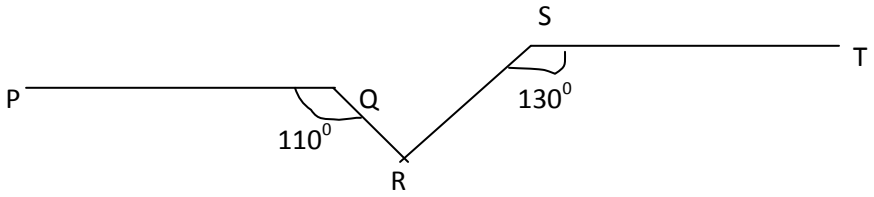
12 If a point C lies between two points A and B such that AC=BC then Prove that AC =$\frac{1}{2}$ AB state the Euclid axiom used for the same.

13 In fig. If QT PR , angle TQR=40^0 and angle SPR=30^0 find x and Y



or

In fig if PQ||ST , *L*POR=110^0 and *L*RST =30^0 find angle QRS



14 In which quadrant or on which axis each of the points (-2.4), (3,-1) (-1,0) and (-3,-5) lie. Verify your answer by locating them on Cartesian plane.

Section-C

(Question No 15 to 24 carry 3 Marks each)

15 If $\frac{5+2\sqrt{3}}{7+4\sqrt{3}}$ =a+b$\sqrt{3}$ find the value of a and b .

16 Simplify : $\sqrt[4]{81}$ **- 8 (** $\sqrt[3]{216}$ **) + 15** $\sqrt{16}$

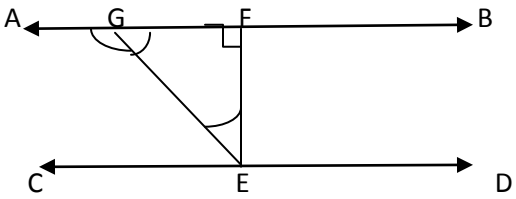
17 Factorize x^3-3x^2-9x-5

or

$27p^3 - \frac{1}{216} - \frac{9}{2}p^2 + \frac{1}{4}p$

18 Show that 2 and $-\frac{1}{3}$ are the zeroes of the polynomial $3x^3-2x^2-7x-2$ also find the third zero of the polynomial.

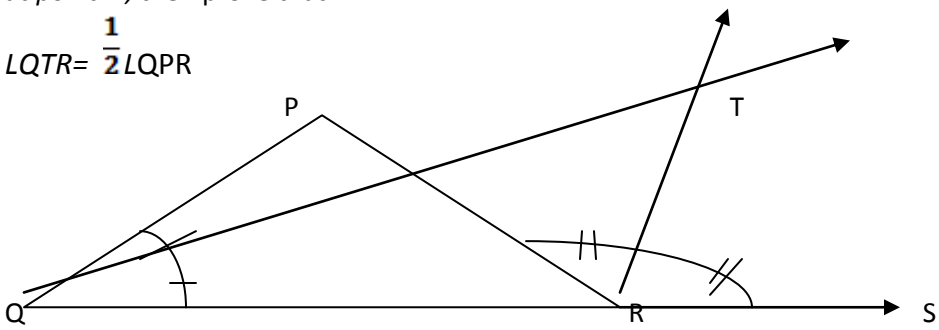
19 In the given figure , AB||CD , EF CD and *L* GED = 128^0 find *L*AGE , *L*GEF and *L*FGE



20 Prove that angles opposite to equal sides of an isosceles triangle are equal.

21 In fig. The side QR of ΔPQR is produced to a point S. If the bisectors of *L*PQR and *LPRS meet at point T ,* then prove that

LQTR= $\frac{1}{2}$*L*QPR



22 If two lines intersect each other , prove that The Vertically opposite angles are equal.

23 D is a point on side BC of ΔABC such that AD=AC show that AB>AD .

24 The sides of a triangular plot are in the ratio 3:5:7 and its perimeter is 300 m. Find its area.

Section –D

(Question No 25 to 34 carry 4 Marks each)

25 Represent $\sqrt{5.6}$ on number line.

26 Simplify $\frac{\sqrt{3}+\sqrt{2}}{\sqrt{3}-\sqrt{2}}+\frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}+\sqrt{2}}$

Or

Rationalise the denominator : $\frac{1}{\sqrt{5}+\sqrt{6}-\sqrt{11}}$

27 Prove that

$(x+y)^3+(y+z)^3+(Z+x)^3-3(x+y)(y+z)(z+x)=2(x^3+y^3+z^3-3xyz)$

28 Show that ,if $2(a^2+b^2) = (a+b)^2$ then a=b.

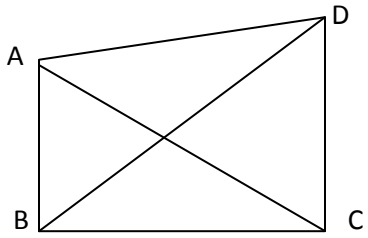
29 The polynomials ax^3+3x^3-3 *and* $2x^3+5x+a$ leave the same remainder in each case when divided by (x-4), find the value of a

30 Write the answer of each of the following equation.

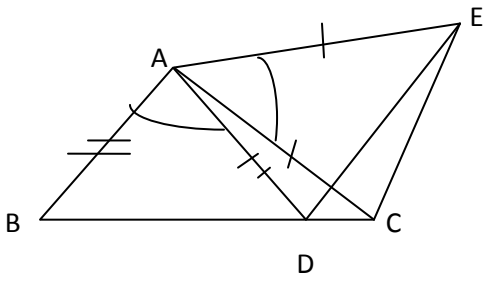
1. What is the name of horizontal line and vertical lines drawn to determine position of any point in the Cartesian plane.
2. What is the name of each part of the plane formed by these two lines.
3. Write the name of the point where these two lines intersect.
4. Write the coordinates of the Origin

31 prove that two triangle are congruent if two angles and the included side of one triangle are equal to two angles and included side of other triangle.

32 AB and CD are respectively the smallest and longest sides of a quadrilateral ABCD show that *L*A>*L*C and *LB >LD.*

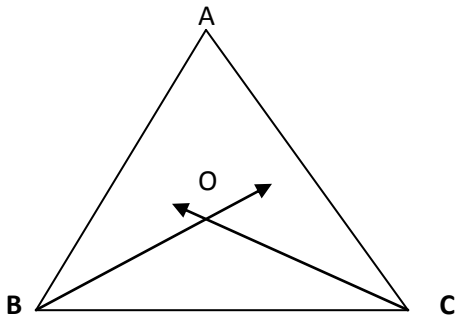


33. In the given figure , AC= AE , AB = AD and , *L* BAD=*L*EAC Show that that BC = DE.



34. in the given triangle ABC ,the bisectors of *L A*BC *and LAC*B intersect each other at O show that.

$$L\ BOC = 90 + \frac{1}{2} L\ A$$



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