INTERNATIONAL INDIAN SCHOOL BURAIDAH

TERM EXAMINATION (2019-2020)

SUBJECT: MATHEMATICS

CLASS : IX

DATE: 23/6/2019

DURATION: 3 HOURS

MAX.MARKS: 80

GENERAL INSRUCTIONS:

- This question paper contains 30 questions ,divided into four A,B,C and D
- Section A comprise 6 question of 1 mark each,section-B comprises of 6 question of 2 marks each, ,section-C comprises of 10 questions of 3 marks each, section-D comprises of 8 questionS of 4 marks each.
- Use of calculator is not permitted

SEC-A (1 MARK EACH)

1. Find the class mark of 35 - 45
2. Find the value of k ,if $2x-1$ is a factor of the polynomial $6x^2 + kx -2$
3. Is the product of two irrational numbers always an irrational number?explain with example.
4. If the mode of scores 3,4,3,5,4,6,6,x is 4 , find the value of x
5. Simplify $8\sqrt{3} (2\sqrt{3} +4\sqrt{2})$
6. If AB = PQ and PQ = XY then AB = XY which axioms is used here.

SEC-B (2 MARKS EACH)

7. Factorize $4y^2 - 4y +1$
8. If $(3x -15)$ and $(x+5)$ are complementary angles ,find the angles
9. In fig 1 ,if QT ⊥PR, < TQR = 40 and <SPR = 30 , Find x and y
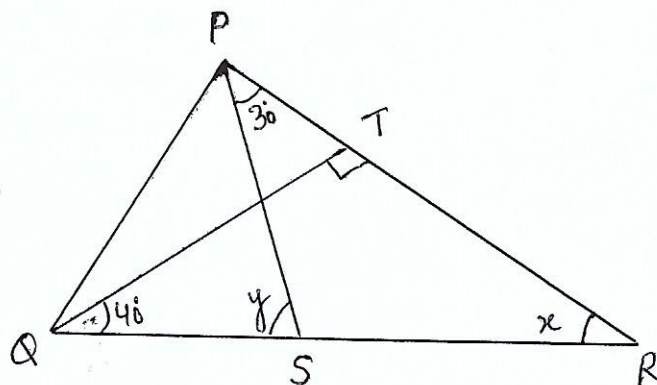
10. If a point c lies between two points A and B such that AC = BC, then prove that $AC = \frac{1}{2} AB$

11. The following numbers of goals were scored by a team in a series of 10 matches

2,3,4,5,0,1,3,3,4,3. Find mean, median and mode of these scores.

12. Verify $x^3 + y^3 = (x+y)(x^2 - xy + y^2)$

SEC- C (3 MARKS EACH)

13. Prove that an equilateral triangle can be constructed on any given line segment

14. AB ∥ CD, Find the value of z, <DNM and <CNM
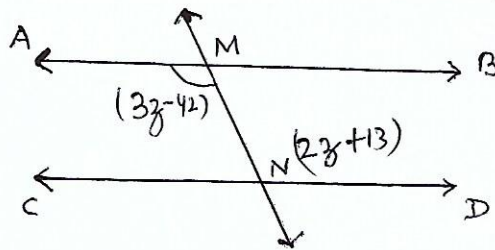
15. Divide the polynomial $3x^4 - 4x^3 - 3x - 1$ by x-1 and find its remainder.

16. If two lines intersect each other, then vertically opposite angles are equal. Prove it.

17. If the mean of the following data is 15 find p

| X	5	10	15	20	25
f	6	p	6	10	5

18. Show that 1.272727.....can be expressed in the form $\frac{p}{q}$

19. Find the value of k, if x-1 is a factor of $4x^3 + 3x^2 - 4x + k$

20. Give two rational numbers whose :

  (i) difference is a rational number   (ii) sum is a rational number
  (iii) product is a rational number

21. Represent $\sqrt{9.3}$ on number line

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22. Sides QP and RQ of $\triangle PQR$ are produced to points S and T. If $\angle SPR = 135$ and $\angle PQT = 110$, find , $\angle PRQ$
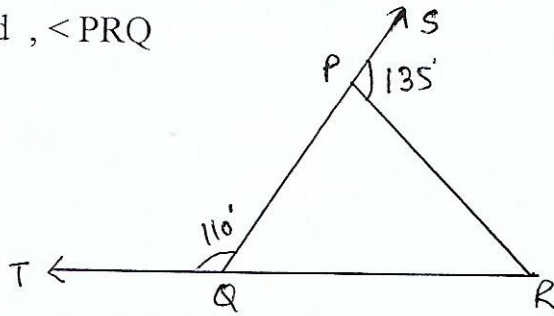
23. Prove that $x^3 + y^3 + z^3 - 3xyz = \frac{1}{2}(x+y+z)\,[(x-y)^2 + (y-z)^2 + (z-x)^2\,]$

24. Simplify $(2a +3b)^3 + (2a - 3b)^3$

25. Factorise $x^3 - 23x^2 + 142x - 120$

26. It is known that if a+b = 10 then a+b-c =10-c. write the Euclid's axioms that best illustrates this statement. Also give two more axioms other than the axiom used in the above situation.

27. In the fig AB ‖ CD , $\angle BAC = 72$ and $\angle CEF = 40$. Find $\angle CFE$
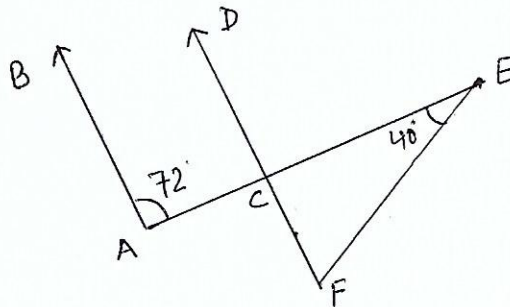
28. Find the value of a and b when $\frac{5+\sqrt{6}}{5-\sqrt{6}} = a + b\sqrt{6}$

29. In the given fig. the side QR of $\triangle$ PQR is produced to a point S . if the bisectors of $\angle PQR$ and $\angle PRS$ meet at a point T, then prove that $\angle QTR = \frac{1}{2} \angle QPR$

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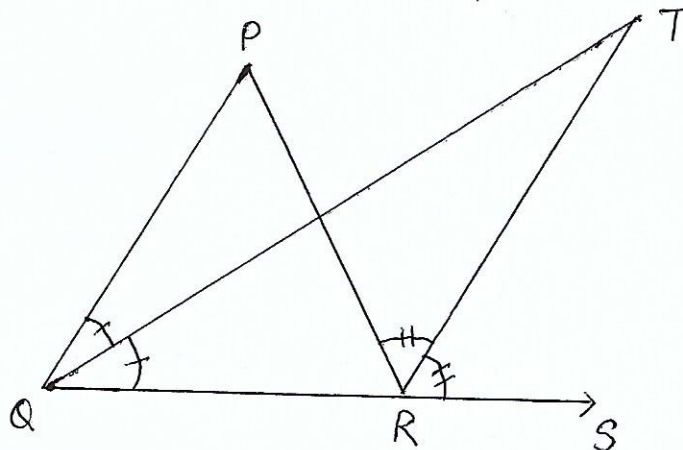
30. Consider the marks, out of 100 , obtained by 51 students of a class in a test .
Draw the frequency polygon corresponding to this frequency distribution
table.

MARKS	NO. OF STUDENTS
0-10	5
10-20	10
20-30	4
30-40	6
40-50	7
50-60	3
60-70	2
70-80	2
80-90	3
90-100	9
TOTAL	51

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