9/2014

SA-I (CLASS-VIII)

SUBJECT : MATHEMATICS

Time : 3 hrs

MM : 80

General Instructions :

i) All questions are compulsory.

ii) Read all questions very carefully.

iii) Questions 1 to 10 carry 1 mark each.

iv) Questions 11 to 18 carry 2 marks each.

v) Questions 19 to 28 carry 3 marks each.

vi) Questions 29 to 34 carry 4 marks each.

Q1. Write the additive inverse of $\frac{-3}{8}$.

Q2. Saroj is tossing a coin. Write down the probability of getting a head.

Q3. Without any calculation find the number of digits in the square root of 274576.

Q4. What is the size of the class interval 40-50?

Q5. How many rational numbers are there between the two given rational numbers?

Q6. The volume of a cube is 1000 cm^3, find the length of its side.

Q7. What is the highest power of variable in a linear equation?

Q8. State the name of a regular polygon of -

(a) 3 sides (b) 5 sides

Q9. Is 72 a perfect cube?

Q10. Draw top view and side view of an ice-cream cone.

Q11. Multiply $\frac{5}{12}$ by the reciprocal of $\frac{-15}{27}$.

Q12. Express 169 as the sum of 13 odd numbers.

Q13. Can a polyhedron have 5 faces, 9 edges and 7 vertices?

Q14. Find the measure of each exterior angle of a regular polygon of -

(a) 12 sides (b) 4 sides

Q15. Find the cube root of 46656 using estimation method.

Q16. Is $\frac{7}{9}$ the multiplicative inverse of $1\frac{2}{7}$? Why or why not?

Q17. Solve the equation and check your result -

$$5y - 3 = 3y - 7$$

Q18. When a die is thrown, find the probability of getting -

(a) a prime number

(b) a number greater than 5

Q19. Verify Euler's formula for a square pyramid.

Q20. Find the smallest number by which 375 must be divided to obtain a perfect cube.

Q21. Three consecutive integers add up to 69. Find the three integers.

Q22. Find four rational numbers between $\frac{1}{5}$ and $\frac{1}{3}$.

Q23. How many sides does a regular polygon have if each of its interior angle is 162°?

Q24. Find the smallest square number that is divisible by each of the numbers 3, 9 and 18.

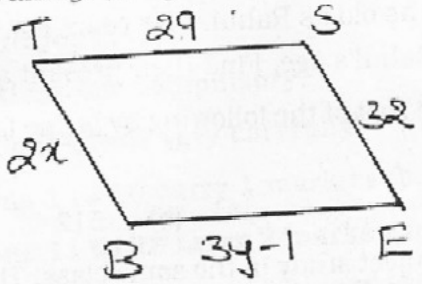
Q25. The table shows the subjects preferred by a group of students of Class VIII. Draw a pie chart showing the following information :

Subject	English	Hindi	Maths	Science	Total
No. of students	6	3	18	9	36

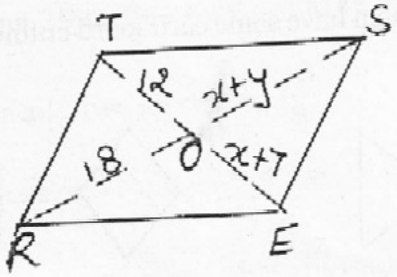
Q26. Find the square root of 36 by repeated subtraction method.

Q27. The following figures BEST and REST are parallelograms. Find x and y. (Lengths are in cm)

(a)



(b)



Q28. Solve $2(3x - 1) + \frac{7}{2} = 5x - 2(2x - 7)$.

Q29. (a) Represent $\frac{-3}{8}$ on the number line.

(b) Verify that $-(-x) = x$ for $x = \frac{-13}{19}$.

Q30. Find the least number which must be subtracted from 3259 to get a perfect square. Also find the square root of the perfect square so obtained.

Q31. The electricity bill (in rupees) of 20 houses of a certain locality for a month are given below :

350, 400, 700, 610, 520, 890, 450, 890, 760, 865, 480, 510, 340, 780, 860, 750, 645, 670, 830, 650.

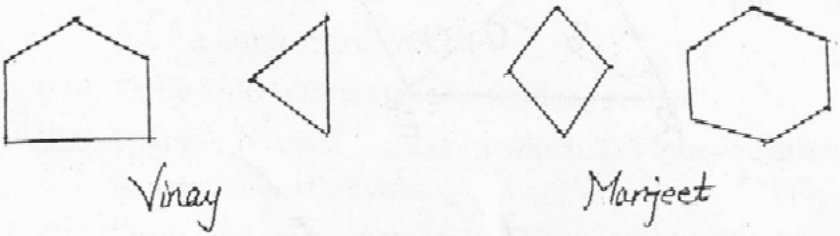
Arrange the above data in the form of a frequency distribution table using class intervals 300-400, 400-500 etc. Draw a histogram also.

Q32. Amit is twice as old as Rahul. Five years ago his age was three times Rahul's age. Find their present ages.

Q33. Find the cube root of the following by prime factorisation method.

(a) 2744 (b) 512

Q34. Vinay and Manjeet study in the same class. They usually play together and share their toys and things with each other. Both of them have some cardboard cutouts as shown below :



(a) Write the names of the shapes each boy has.

(b) How many diagonals does each shape have?

(c) By sharing their toys with each other, what qualities do these boys show?