V & C Patel English School
Yearly Examination

Std.: VII
Subject: Mathematics

Max. Marks: 80
Date: 14/03/2018
Time: 3 Hours

General Instructions:

Section A: Q.No. 1 to 7 carry 1 mark each
Section B: Q.No. 8 to 16 carry 2 marks each
Section C: Q.No. 17 to 25 carry 3 marks each
Section D: Q.No. 26 to 32 carry 4 marks each

Section-A

1. Write the equation for the following statement: If you take away 7 from 5 times 'y', you get 52.
2. State the exterior angle property of a triangle.
3. What is the circumference of a circle?
4. Classify the following expression 2z - 5x + 7y as monomial, binomial or trinomial.
5. Give two examples of shapes with no line of symmetry.
6. Name the quadrilateral which have both line and rotational symmetry of order more than 1.
7. Two cubes each with 2 cm edge are placed side by side to form a cuboid. Sketch an oblique sketch of this cuboid.

Section-B

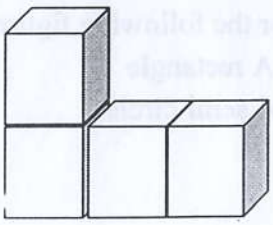
8. Give four rational numbers between $\frac{-4}{3}$ and $\frac{-2}{5}$.
9. Represent the following rational numbers on the number line:
   (i) $\frac{-3}{5}$ (ii) $\frac{7}{3}$
10. Construct a triangle PQR with PQ = 4.5 cm, QR = 5 cm and PR = 6 cm.
11. The area of the rectangular sheet is 500 sq. cm. If the length of the sheet is 25 cm, what is its width? Also, find the perimeter of the rectangular sheet.
12. Subtract: $6a^2 - 5ab + 4b^2$ from $4ab - 3a^2 - 2b^2$
13. Express the following numbers in standard form:
    (i) 3690584.2 (ii) 4,65,70,00,000
14. Express each of the following numbers in exponential form:
    (i) 675 (ii) 392
15. What other name can you give to the line of symmetry of
    (i) An isosceles triangle? (ii) A circle?
16. State the number of lines of symmetry for the following figures:
    (i) A parallelogram (iii) A rectangle
    (ii) A regular pentagon (iv) A semi-circle

Section-C

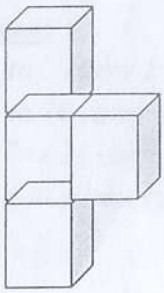
17. Solve the following equations:
    (i) $3(x-1) = 2x - 11$ (ii) $\frac{x-3}{5} - 2 = -1$
18. A ladder 25 m long reaches a window of a building 20 m above the ground. Determine the distance of the foot of the ladder from the building.
19. Find the following:
    (i) $-1\frac{2}{3} + 2\frac{3}{5}$ (ii) $\frac{-4}{11} - (\frac{-7}{10})$
20. Construct ΔABC if AB = 6cm, m$\angle$ABC = 105° and m$\angle$BCA = 40°
21. Construct an isosceles right angled triangle PQR, where m$\angle$PRQ = 90° and PR = 5 cm.
22. A gardener wants to fence a circular garden of diameter 21 m. Find the length of the rope he needs to purchase, if he makes 2 rounds of fence. Also find the cost of the rope, if it costs Rs 4 per meter.
23. If $P = 7x^2 + 5xy - 9y^2, Q = 4y^2 - 3x^2 - 6xy$ and $R = -4x^2 + xy + 5y^2$, show that $P + Q + R = 0$.
24. Using laws of exponents, simplify and write the answer in exponential form:
    (i) $(8^2 \times 8^4) \div 8^3$ (ii) $\frac{2^{15}}{2^7 \times 2^3}$
25. Give two examples for each from our daily life which are in the form of:
    (i) Cone (ii) Sphere (iii) Cylinder

Section-D

26. Anita borrowed Rs 400 from her friend at the rate of 12% per annum for $2\frac{1}{2}$ years. Find the interest and amount paid by her.
27. Draw a line m. Draw a perpendicular to m at any point on m. On this perpendicular choose a point A, 5 cm away from m. Through A, draw a line p parallel to m. Write steps of construction for it.
28. Two cross roads each of width 5 m, run at right angles through the centre of a rectangular park of length 70 m and breadth 45 m and parallel to its sides. Find the area of the roads. Also find the cost of constructing the roads at the rate of Rs 105 per square meter. This park was later on given by the government to build the hospital for needy. By doing this act, what values they give to the society?
29. Subtract the sum of $13x - 4y + 7z$ and $-6z + 6x + 3y$ from the sum of $6x - 4y - 4z$ and $2x + 4y - 7$.
30. Simplify and express each of the following in exponential form:
    (i) $\frac{9^8 \times (x^2)^5}{(27)^4 \times (x^3)^2}$ (ii) $\frac{3^2 \times 7^8 \times 13^6}{21^2 \times 91^3}$
31. (i) Draw top and front view of the following figure:



(ii) Draw side and front view of the following figure:



32. The performance of the 5 students in quarterly and half-yearly test (out of 25) is given below:

Students	Ashish	Hiral	Mayur	Hardik	Nikita
Quarterly	12	10	15	20	9
Half-yearly	15	18	16	21	15

Represent the above information by a double bar graph.

BEST OF LUCK