

Subject: Mathematics
Class : VIII

Max. Time : 3 hrs
Max. Marks : 90

SET – B

Instructions:

- (a) Answer all the questions
However, an internal choice is given in each section except Section-A.
- (b) Section A: Questions 1 – 8 carry 1 mark each.
- (c) Section B: Questions 9 – 14 carry 2 marks each.
- (d) Section C: Questions 15 – 24 carry 3 marks each.
- (e) Section D: Questions 25-34 carry 4 marks each

SECTION - A

(8x1 = 8marks)

1. What could be the possible unit digit of the square root of 7744
(a) 1 or 9 (b) 2 or 8 (c) 3 or 7 (d) 3 or 7
2. The rational number that does not have a reciprocal.
(a) 0 (b) -1 (c) 1 (d) -1,1.
3. The value of $(-3)^{-4}$ is (a) 81 (b) -81 (c) $\frac{1}{81}$ (d) $-\frac{1}{81}$
4. If PQRS is a parallelogram then $\angle P - \angle R$ is
(a) 90° (b) 0° (c) 180° (d) 360°
5. The unit digit of the cube of the number 1128 is
(a) 7 (b) 4 (c) 2 (d) 3
6. How many rational numbers are there between -1 and -2
(a) 10 (b) 100 (c) 0 (d) infinite.
7. How many measurements can determine a quadrilateral uniquely
(a) 4 (b) 5 (c) 8 (d) none
8. Volume of a cube with side 3m is
(a) $9m^3$ (b) $6m^3$ (c) $8m^3$ (d) $27m^3$

SECTION B

(8 x 2 = 16marks)

9. Area of a square plot is 1089sqm. Find side of the square plot.

10. Find the value of 'x'

$$5^{2x-3} \times 5^{-3} = 5^4.$$

11. Represent $\frac{-7}{6}$ and $\frac{5}{6}$ on the number line.

12. Find the measure of each exterior angle and measure of each interior angle of a regular polygon having 6 sides.

OR

Find the number of sides of a regular polygon, the sum of whose interior angles is 1440

13. (a) Express 0.00034 in standard form .

(b) Express 2.69×10^5 in usual form.

14. Find the multiplicative inverse of $\frac{-2}{3} \times \frac{11}{7}$

SECTION-C

(10x3=30marks)

15. Two adjacent angles of a parallelogram are $(3x-4)^\circ$ and $(3x+16)^\circ$. Find the value of 'x' and hence find the measure of each of its angles.

16. Raj made a cuboid of plasticine of 15cm, 30cm, 15cm. How many such cuboids will he need to form a cube?

17. Find the cube root of 15625 by Prime Factorization method.

18. Find the smallest square number which is divisible by each of the numbers 6, 9 & 15.

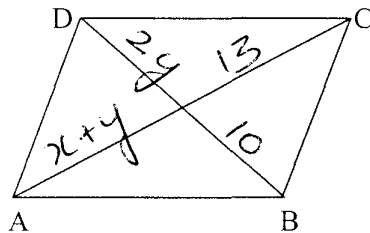
19. Construct a Rectangle whose adjacent sides are 4cm and 5.5cm.

20. A gardener has 1300 plants. He wants to plant them in such a way that the number of rows and the number of columns remain same. Find the minimum number of plants he needs more for this.

OR

Find the greatest 4-digit number which is a perfect square.

21. List 6 rational numbers between $\frac{-2}{3}$ & $\frac{-3}{5}$
22. Construct a Rhombus whose diagonals are 8cm & 6.4cm.
23. Simplify: $(5/8)^{-7} \times (8/5)^{-5}$
24. ABCD is a parallelogram .Find the value of ' x' and ' y'.



SECTION-D

(10x4=40marks)

25. Find the least number that must be subtracted from 5607 so as to get a perfect square. Also find the square root of the perfect square.
26. Using appropriate properties find the value of
- $$\frac{1}{2} \times \frac{1}{4} + \frac{-7}{18} \times \frac{15}{7} - \frac{1}{4} \times \frac{1}{3}$$
27. Simplify using laws of exponents.
- $$\frac{7^{-2} \times 6^{-3} \times 11^{-2}}{22^{-3} \times 21^{-3}}$$
28. Find the smallest number by which 2352 must be multiplied so as to get a perfect square number. Also find square root of the new square number.
29. Is 1188 a perfect cube number. If not by which smallest natural number should 1188 be divided so that the quotient is a perfect cube number. Also find cube root of the new cube number.
30. The angles of a quadrilateral are in the ratio of 3:4:5:6. Find all the angles of the quadrilateral.
31. Construct quadrilateral ABCD where AB=5cm, BC=6.5cm, $\angle A=80^\circ$
 $\angle C=105^\circ$, $\angle D=75^\circ$.

32. Construct a quadrilateral 'PQRS' where PQ=3cm, QR=5cm, QS=5cm, PS=4cm and SR=4cm. Write the steps of construction.

OR

Construct a quadrilateral 'FAST' where FA=AS=4cm, FT=5.5cm $\angle F=90^\circ$ and $\angle A=105^\circ$. Write the steps of construction.

33. Simplify:

(a) $(3^{-6} \div 3^{-11}) \times 3^{-5}$

(b) $(2^0 + 2^{-1}) \times 2^3$

34. Find the measure of angle x in the following figure.

