

VIII - MATHEMATICS

Time Allowed : 2.30 Hrs.

Maximum Marks: 100

Part - A

I. Answer all the questions.

14x1=14

- The simplest form of $\frac{125}{200}$ is _____.
- The value of $-\frac{3}{6} \times \frac{18}{-9}$ is _____.
- The radius of a circle of diameter 24 cm is _____.
- If the area of a square is $25x^4y^2$, then its side is _____.
- Loss or gain percentage is always calculated on the _____.
- Circumference of a semicircle ?
a) $\pi r + 2$ units b) $(\pi + 2)r$ units c) πr^2 units d) $\pi + 2r$ units
- If $\frac{10^x}{10^{-3}} = 10^9$, then x is
a) 4 b) 5 c) 6 d) 7
- The product of $7p^3$ and $(2p^2)^2$ is
a) $14p^{12}$ b) $28p^7$ c) $9p^7$ d) $11p^{12}$
- The point lies on the y-axis is
a) (4, 0) b) (0, 7) c) (7, 7) d) (4, 3)
- $(-3, -5)$ lies in the _____ quadrant.
a) I quadrant b) II quadrant c) III quadrant d) IV quadrant
- A fruit vendor sells fruits for ₹200 gaining ₹40. His gain percentage is
a) 20% b) 22% c) 25% d) $16\frac{2}{3}\%$
- Find the marked price when the selling price ₹240 and the discount ₹28
a) ₹212 b) ₹268 c) ₹228 d) ₹258
- If $\triangle ABC \sim \triangle PQR$, in which $\angle A = 53^\circ$ and $\angle Q = 77^\circ$ then $\angle R$ is
a) 50° b) 60° c) 70° d) 80°
- How many 2 digit numbers contain the number 7 ?
a) 10 b) 18 c) 19 d) 20

Part - B

II. answer any 10 questions.

10x2=20

- Find the sum : $\frac{7}{5} + \frac{5}{7}$
- Is 108 a perfect square number?
- Evaluate : $\left[\frac{1}{2}\right]^{-5}$
- For the sectors with the given measures, find the length of the arc central angle 45° , $r = 16$ cm.
- Define : Regular polygon.
- Which 3-D shapes do the following net represent? Draw them.
- Expand : $3mn(m^3n^3 + 5m^2n)$
- Identify the errors and correct them: $6xy + 3xy = 9x^2y^2$
- Divide $32y^2 - 8yz + 2y$
- If x% of 600 is 450, then find the value of x.
- The price of a rain coat was slashed from ₹1060 to ₹901 by a shopkeeper in the rainy season to boost sales. Find the rate of discount given by him.

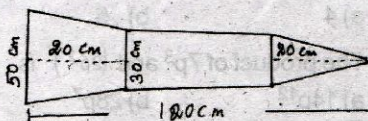
26. Find the difference in C.I and S.I for
 $P = ₹8,000$, $r = 5\%$ p.a. $n = 2$ years
27. Can a right triangle has sides that measure 5 cm, 12 cm and and 13 cm ?
28. Define congruent figures.
29. In class VIII, a math club has four members M, A, T and H. Find the number of different ways the club can elect a leader.

Part - C

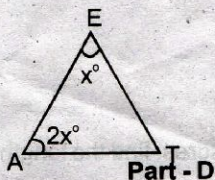
III. answer any 10 questions.

10x5=50

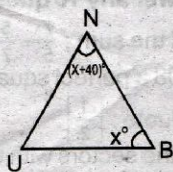
30. Arrange the following rational numbers in ascending and descending order.
 $\frac{-17}{10}$, $\frac{-7}{5}$, 0 , $\frac{-2}{4}$, $\frac{-19}{20}$
31. For any three rational numbers $a = \frac{-1}{2}$, $b = \frac{3}{5}$ and $c = \frac{-7}{10}$. Verify $a(bc) = (ab)c$
32. The area of square field is 3136 m^2 , find its perimeter.
33. Solve for x : $\frac{2^{2x-1}}{2^{x+2}} = 4$
34. Find the central angle of each of the sectors whose measures are given below, length of the arc = 44 m, $r = 35$ m.
35. A circle of radius 70 cm is divided into 5 equal sectors. Find the area of each of the sectors.
36. A rocket drawing has the measures as given in the figure. find its area.
37. Find the product of $(2x + 3y)$ and $(2x - 4y)$
38. Divide : i) $12x^3y^2 \div x^2y$ ii) $-20a^5b^2 \div 2a^3b^7$
39. Simplify: $\frac{14p^5q^3}{2p^2q} - \frac{12p^3q^4}{3q^2}$
40. Find the quadrant. Without plotting the points on a graph sheet.
 i) (2, 3) ii) (7, -4) iii) (0, 5) iv) (-1, -1) v) (2, 0)
41. Akila scored 80% of marks in an examination. If the score was 576 marks, then find the maximum marks of the examination.
42. If a mattress is marked ₹7500 and is available at two successive discount of 10% and 20%, find the amount to be paid by the customer.
43. The population of a town is increasing at the rate of 6% p.a. It was 238765 in the year 2018. Find the population in the year 2016.



44. In the given figure,
 if $\triangle EAT \sim \triangle BUN$,
 find the measure
 of all angles.



Part - D



IV. Answer all the questions.

2x8=16

45. a) Construct the quadrilateral with the given measurements and also find their area.
 $PL = 7 \text{ cm}$, $LA = 6 \text{ cm}$, $AY = 6 \text{ cm}$, $PA = 8 \text{ cm}$ and $LY = 7 \text{ cm}$. (OR)
- b) Construct the following trapezium with the given measures and also find their area. AIMS with $\overline{AI} \parallel \overline{SM}$, $AI = 6 \text{ cm}$, $IM = 5 \text{ cm}$, $AM = 9 \text{ cm}$ and $MS = 6.5 \text{ cm}$.
46. a) Draw the graph of $y = 5x$ (OR)
- b) Draw the graph of $x = 7$