V8M

Virudhunagar District
Common Halfyearly Examination - December 2025

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Standard 8

Time: 2.30 Hours   **MATHS**   Marks: 100

I. Choose the correct answer.   **10x1=10**

1) The sum of the digits of the denominator in the simplest form of $\frac{112}{528}$ is
   a) 4   b) 5   c) 6   d) 7

2) The square of 43 ends with the digit ....
   a) 9   b) 6   c) 4   d) 3

3) The radius of a circle of diameter 24 cm is ....
   a) 6 cm   b) 12 cm   c) 48 cm   d) 8 cm

4) If $x^2 - y^2 = 16$ and $(x + y) = 8$ then $(x-y)$ is ....
   a) 8   b) 3   c) 2   d) 1

5) Sum of a number and its half is 30 then the number is ....
   a) 15   b) 20   c) 25   d) 40

6) The number of conversion periods in a year, if the interest on a principal is compounded every two months is ....
   a) 2   b) 4   c) 6   d) 12

7) 15% of 25% of 10000 = ...
   a) 375   b) 400   c) 425   d) 475

8) Area of the parallelogram .... sq.units
   a) $\frac{1}{2}d_1 d_2$ b) $\frac{1}{2}bh$ c) bh d) $\frac{1}{2}d(h_1 + h_2)$

9) What is the eleventh Fibonacci number?
   a) 55   b) 77   c) 89   d) 144

10) How many 2 digit numbers contain the number 7?
   a) 10   b) 18   c) 19   d) 20

II. Fill in the blanks.   **5x1=5**

11) The value of $\left(\frac{-3}{6}\right) \times \left(\frac{18}{-9}\right)$ is ....

12) The Cross section of a solid cylinder is ....

13) The value of m in the equation $8m = 56$ is ....

14) A fruit vendor sells fruits for ₹200 gaining ₹40. His gain percentage is ....

15) The centroid of a triangle divides each medians in the ratio ....

III. Say True or False.   **5x1=5**

16) The cube of 24 ends with the digit 4

17) In a right angled triangle, the hypotenuse is the greatest side.

18) The shifting of a number from one side of an equation to other is called transposition

19) (−9, 0) lies on the y-axis

20) Depreciation value is calculated by the formula, $P\left(1 - \frac{r}{100}\right)^n$

IV. Match the following.   **4x1=4**

21) $\frac{x}{2} = 10$ - $\frac{lr}{2}$ sq.units

22) Area of a circle   - 20^{-3}

23) Area of the sector of a circle   - 20

24) $4^{-3} \times 5^{-3}$ - πr^2 sq.units

V. Answer any 10 questions.   **10x2=20**

25) Find atleast four rational numbers between $\frac{1}{4}$ and $\frac{7}{20}$

26) Evaluate : $\left(\frac{-5}{6}\right)^{-3}$

27) Factorise : $m^2 + m - 72$

28) The radius of a sector is 21 cm and its central angle is 120°. Find the length of the arc

29) Divide: $(32y^2 - 8yz)$ by $2y$

30) Solve : $\frac{4x}{3} - 7 = \frac{2x}{5}$.

31) Akila scored 80% of marks in an examination. if her score was 576 marks, then find the maximum marks of the examination.

32) Find the difference in C.I and S.I for P = 8000, r = 4%, p.a, n = 2 years

33) Check whether 8, 15, 17 sides are the sides of right angled triangles, using pythagoras theorem

34) The diagonals of the rhombus is 12cm and 16cm. Find its perimeter

35) In how many ways can the students answer 3 true or false type questions in a slip test?

36) Using Repeated subtraction method, find the HCF of the following: 36 and 80
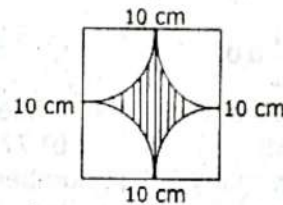
37) Expand: $4P^2 - 25q^2$

VI. Answer any 8 questions.   8x5=40

38) Arrange the following rational numbers in ascending and descending order:

$$\frac{-5}{12}, \frac{-11}{8}, \frac{-15}{24}, \frac{-7}{9}, \frac{12}{36}$$

39) Verify the distributive property $a \times (b+c) = (a \times b) + (a \times c)$ for the rational numbers

$$a = \frac{-1}{2}, \ b = \frac{2}{3} \ \text{and} \ c = \frac{-5}{6}$$

40) *Find the area of the shaded part*

41) Find the product of
   (i) $(2x+3)(2x-4)$ (ii) $3(x-5) \times 2(x-1)$

42) Find the volume of the cuboid whose dimensions are $(x+2)(x-1)(x-3)$

43) The denominator of a fraction is 3 more than its numerator. If 2 is added to the numerator and 9 is added to the denominator, the fraction becomes $\frac{5}{6}$. Find the original fraction

44) By selling a speaker for ₹768, a man loses 20%. Inorder to gain 20% how much should he sell the speaker?

45) A mat of length 180 m is made by 15 women in 12 days. How long will it take for 32 women to make a mat of length 512m?
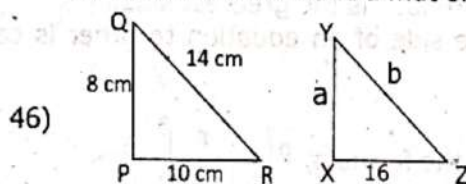
46)   In the figure if $\Delta PQR \quad \Delta XYZ$, find a and b

47) A safety locker in a jewel shop requires a 4 digit unique code.

48) Using repeated division method, find the HCF: 184, 230 and 276

VII. Answer the following.   2x8=16

49) a) Construct a trapezium AIMS in which $\overline{AI}$ is parallel to $\overline{SM}$, AI = 6 cm, Im = 5 cm, AM = 9 cm and MS = 6.5 cm. Also find its area

                     (OR)

    b) Construct a rhombus FARM with FR = 7cm and $\lfloor$F = 80°. Also find the its area.

50) a) Plot the following points in a graph sheet
   (5, 2) (−7, −3), (−2, 4) (−1, −1) (0, −5) (3, −1) (−4, 0) (5, −4)

                     (OR)

    b) Draw the graph of x = 5.

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