

**Class : 8**Register  
Number**COMMON HALF YEARLY EXAMINATION - 2024-25**

Time Allowed : 2.30 Hours]

**MATHEMATICS**

[Max. Marks : 100

**PART - I**I. Choose the correct Answer. **YouTube/ Akwa Academy**

1. The number which is subtracted from  $-\frac{6}{11}$  to get  $\frac{8}{9}$  is ----- **10x1=10**
- a)  $-\frac{34}{99}$                       b)  $-\frac{142}{99}$                       c)  $\frac{142}{99}$                       d)  $-\frac{34}{99}$
2. If  $\frac{10^x}{10^{-3}} = 10^9$ , then x is
- a) 4                                      b) 5                                      c) 6                                      d) 7
3. The area of square is  $36x^4y^2$ , then its side is
- a)  $6x^4y^2$                       b)  $8x^2y^2$                       c)  $6x^2y$                       d)  $-6x^2y$
4. Sum of a number and its half is 45 then the number is -----
- a) 15                                      b) 20                                      c) 30                                      d) 22
5. 15% of 25% of 10000 = -----
- a) 375                                      b) 400                                      c) 425                                      d) 475
6. A Man buys an article for ₹150 and makes overhead expenses which are 12% of the cost price. At what Price must he sell it to gain 5%.
- a) ₹180                                      b) ₹168                                      c) ₹176.40                                      d) ₹88.20
7. Two similar triangles will always have ----- Angles.
- a) acute                                      b) obtuse                                      c) right                                      d) Matching
8. Two numbers are said to be Co prime numbers if their HCF is -----
- a) 2                                      b) 3                                      c) 0                                      d) 1
9. The point of concurrence of the three angle bisectors of a triangle is called the -----
- a) circumcentre                      b) centroid                                      c) orthocentre                                      d) incentre
10.  $\sqrt{48}$  is approximately equal to -----
- a) 5                                      b) 6                                      c) 7                                      d) 8

**II. Fill in the Blanks.**

11. The longest chord of a circle is ----- **5x1=5**
12. The value of y in the equation  $2x+15=25$  -----
13. x-axis and y-axis intersect at -----
14. The rational number ----- does not have a reciprocal.
15. The centroid of a triangle divides each medians in the ratio -----

**III. Say true or false.**

16. The cube of 0.0012 is 0.000001728. **5x1=5**
17. Using the power rule,  $(3^7)^2 = 3^5$ .
18.  $2+x=19$  is a linear Equation.
19. 8, 15, 17 is a Pythagorean triplet.
20. HCF of 20 and 15 is 5.

**IV. Match the following.**

21.  $a^m \times a^n$  -  $(a+b)(a-b)$  **4x1=4**
22. Circumference of circle -  $x = 4$
23.  $a^2 - b^2$  -  $2\pi r$
24.  $20=6x-4$  -  $a^{m+n}$

**PART - II****V. Answer any 10 of the following.**

25. Subtract:  $\frac{9}{17}$  from  $-\frac{12}{17}$  **10x2=20**
26. Divide:  $\frac{7}{-8}$  by  $-\frac{3}{4}$
27. Is 108 a perfect square number.
28. Simplify :  $(-3)^4 \times \left(\frac{5}{3}\right)^4$

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29. A spinner of radius 7.5cm is divided into 6 equal sectors. Find the area of each of the sectors.
30. Find the volume of cuboid whose dimensions are  $(x+3)$ ,  $(x+5)$ , and  $x+2$ .
31. Solve:  $2x+5=9$ .
32. When a number is decreased by 25% it becomes 120. Find the number.
33. Find the compound Interest on ₹3200 at 2.5% p.a. for 2 years, compounded annually.
34. If 48 men Working 7 hours a day can do a work in 24 days, then how many days will 28 men working 8 hours a day can complete the same work.
35. Shanthy has 5 Chudithar sets and 4 Frocks. In how many possible ways can she wear either a Chudithar or a frock.
36. Using repeated subtraction method find the HCF of 42 and 70.

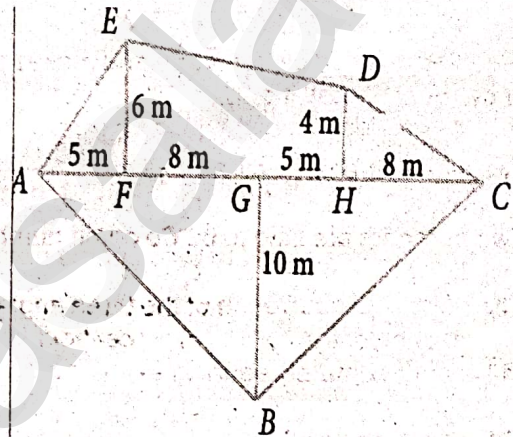
## PART - III

## III. Answer any 8 of the following questions.

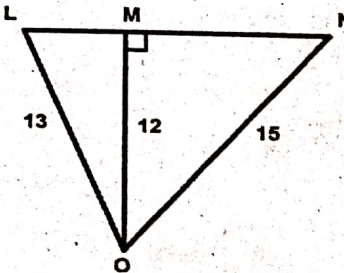
37. Arrange the following rational numbers in ascending and descending order. 8x5=40

$$\frac{-17}{10}, \frac{-7}{5}, 0, \frac{-2}{4}, \frac{-19}{20}$$

38. Find the cube root of  $24 \times 36 \times 80 \times 25$ .
39. Find  $x$  so that  $(-7)^{x+2} \times (-7)^5 = (-7)^{10}$ .
40. Find the area of an irregular polygon field whose measures are given in the figure.



41. Factorise the following expression:  $y^3 - 18y^2 + 108y - 216$ .
42. At present, Thenmozhi's age is 5 years more than that of Murali's age. Five years ago the ratio of Thenmozhi's age to Murali's age was 3:2. Find their present ages.
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 and 2020.
44. A and B can do a work in 12 hours, B and C can do it 3 hours where as A and C can do it in 6 hours. How long B alone take to do the same work.
45. Find LM, MN, LN and also the area of  $\triangle LON$ .



46. Find the HCF of 320, 120 and 195 by using Repeated division method.

## PART - IV

## VII. Answer the 2 of the following.

47. a) Construct a quadrilateral with the given measurement and also find its Area. 2x8=16  
 $ABCD$ ,  $AB = 5\text{cm}$ ,  $BC = 4.5\text{cm}$ ,  $CD = 3.8\text{cm}$ ,  $DA = 4.4\text{cm}$  and  $AC = 6.2\text{cm}$ . (OR)
- b) Construct a Parallelogram BIRD with  $BI = 6.5\text{cm}$ ,  $IR = 5\text{cm}$ ,  $\angle BIR = 70^\circ$ . Also find its Area.
48. a) If the points  $P(5, 3)$ ,  $Q(-3, 3)$ ,  $R(-3, -4)$  and  $S$  form a rectangle, then find the coordinate of 'S' (OR)
- b) Draw the graph of  $y = 5x$ .