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## COMMON ANNUAL EXAMINATION - 2025

## STANDARD - VIII

Reg. No. 

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Time : 2.30 hrs

## MATHEMATICS

Marks : 100

## I. Choose the correct option:

14×1=14

1)  $\frac{-5}{4}$  is a rational number which lies between

- a) 0 and  $\frac{-5}{4}$       b) -1 and 0      c) -1 and -2      d) -4 and -5

2)  $\frac{3}{5} \times \left(\frac{5}{8} + \frac{1}{2}\right) = \underline{\hspace{2cm}}$ 

- a)  $\frac{5}{8}$       b)  $\frac{2}{3}$       c)  $\frac{15}{32}$       d)  $\frac{15}{16}$

3) Which of the following illustrates the inverse property for addition?

- a)  $\frac{1}{8} - \frac{1}{8} = 0$       b)  $\frac{1}{8} + \frac{1}{8} = 0$       c)  $\frac{1}{8} + 0 = \frac{1}{8}$       d)  $\frac{1}{8} - 0 = \frac{1}{8}$

4)  $\underline{\hspace{2cm}}$  is added to  $24^2$  to get  $25^2$ .

- a)  $4^2$       b)  $5^2$       c)  $6^2$       d)  $7^2$

5) If  $\frac{10^x}{10^{-3}} = 10^9$ , then x is  $\underline{\hspace{2cm}}$ .

- a) 4      b) 5      c) 6      d) 7

6)  $\frac{3}{4} \times \left(\frac{1}{2} - \frac{1}{4}\right) = \frac{3}{4} \times \frac{1}{2} - \frac{3}{4} \times \frac{1}{4}$  illustrates that multiplication is distributive over

- a) addition      b) subtraction      c) multiplication      d) division

7) A cube has  $\underline{\hspace{2cm}}$  faces.

- a) 6      b) 8      c) 5      d) 4

8) The largest number of the three consecutive numbers is  $x+1$ , then the smallest number is  $\underline{\hspace{2cm}}$ .

- a) x      b)  $x+1$       c)  $x+2$       d)  $x-1$

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

- a) 20%      b) 22%      c) 25%      d)  $16\frac{2}{3}\%$

10) The cost of a machine is ₹ 18,000 and it depreciates at  $16\frac{2}{3}\%$  annually.Its value after 2 years will be  $\underline{\hspace{2cm}}$ .

- a) ₹ 12,000      b) ₹ 12,500      c) ₹ 15,000      d) ₹ 16,500

11) The hypotenuse of a right angled triangle of sides 12 cm and 16 cm is

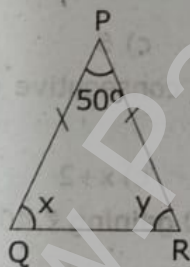
- a) 28 cm      b) 20 cm      c) 24 cm      d) 21 cm

- 12) Inclusive series is a \_\_\_\_\_ series.  
 a) continuous      b) discontinuous      c) both      d) none of these
- 13) How many outcomes can you get when you toss three coins once?  
 a) 6      b) 8      c) 3      d) 2
- 14) What is the eleventh Fibonacci number?  
 a) 55      b) 77      c) 89      d) 144

**II. Answer any 10 questions: (Q.no. 28 is compulsory)**

**10×2=20**

- 15) Write the decimal form of  $\frac{13}{4}$ .
- 16) Find the sum  $\frac{6}{5} + \left[ \frac{-14}{15} \right]$ .
- 17) Simplify:  $\sqrt{2\frac{7}{9}}$
- 18) Find the smallest number by which 200 should be multiplied to make it a perfect cube.
- 19) A circle of radius 70 cm is divided into 5 equal sectors. Find the area of each of the sectors.
- 20) Expand:  $-2p(5p^2-3p+7)$
- 21) Divide  $(5y^3-25y^2+8y)$  by  $5y$ .
- 22) A number when increased by 18% gives 236. Find the number.
- 23)  $P = ₹ 5,000$ , rate of interest  $r = 4\%$ ,  $n = 2$  year. Find the difference between CI and SI.
- 24) Find the value of  $x, y$ .



- 25) A 20 feet ladder leans against a wall at height of 16 feet from the ground. How far is the base of the ladder from the wall?
- 26) Shanthi has 5 chudithar sets and 4 frocks. In how many possible ways, can she wear either a chudithar or a frock?
- 27) Using repeated subtraction method, find the HCF of 280 and 420.
- 28)  $2^{m-1} + 2^{m+1} = 640$ , find the value of 'm'.



**III. Answer any 10 questions: (Q.no. 42 is compulsory)****10×5=50**

29) Arrange the following rational numbers in ascending and descending order.

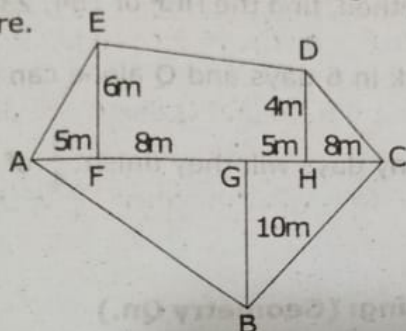
$$\frac{-5}{12}, \frac{-11}{8}, \frac{-15}{24}, \frac{-7}{-9}, \frac{12}{36}$$

30) Find the square root of 17956, using long division method.

$$31) \frac{5^5 \times 5^{-4} \times 5^x}{5^{12}} = 5^{-5} \text{ solve for 'x'}$$

32) The radius of a sector is 21 cm and its central angle is  $120^\circ$ . Find (i) the length of the arc (ii) area and (iii) perimeter of sector.

33) Find the area of an irregular polygon field whose measures are as given in the figure.



$$A = P \left(1 + \frac{r}{100}\right)^n$$

$$P = 4000$$

$$r = 5\%$$

$$n = 2 \text{ years}$$

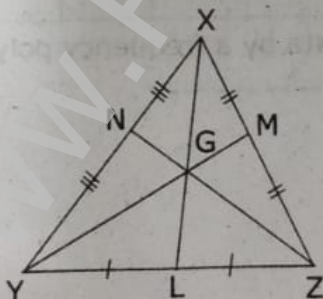
34) Factorise  $8m^3 - 60m^2n + 150mn^2 - 125n^3$  using identity.

35) There is a wooden piece of length 2m. A carpenter wants to cut it into two pieces such that the first piece is 40 cm smaller than twice the other piece. What is the length of the smaller piece?

36) Principal = ₹ 4,000,  $r = 5\%$  p.a.,  $n = 2$  years, interest compounded annually. Find the CI.

37) If 81 students can do a painting on a wall of length 448m in 56 days, then how many students can do the painting on a similar type of wall of length 160m in 27 days?

38) In the figure, G is the centroid of the triangle xyz.

i) If  $GL = 2.5$  cm, find the length of  $XL$ .ii) If  $YM = 9.3$  cm, find the length of  $GM$ .

- 39) Represent the following data in ungrouped frequency table which gives the number of children in 25 families.

1, 3, 0, 2, 5, 2, 3, 4, 1, 0, 5, 4, 3, 1, 3, 2, 5, 2, 1, 1, 2, 6, 2, 1, 4.

- 40) Income from various sources for Government of India from a rupee is given below. Draw a pie chart.

Source	Corporation tax	Income tax	Customs	Excise duties	Service tax	Others
Income (in paise)	19	16	9	14	10	32

- 41) Using repeated division method, find the HCF of 184, 230 and 276.
- 42) P alone can do  $\frac{1}{2}$  of a work in 6 days and Q alone can do  $\frac{2}{3}$  of the same work in 4 days. In how many days will they finish  $\frac{3}{4}$  of the work, working together?

**V. Answer any one of the following: (Geometry Qn.)**

**1×8=8**

- 43) A) Construct a quadrilateral ABCD with AB = 7 cm, AD = 5 cm,  $\angle BAC = 50^\circ$  and  $\angle ABC = 60^\circ$ . Also find its area.
- B) Construct a parallelogram BEAR with BE = 7 cm, BA = 7.5 cm and  $\angle BEA = 80^\circ$ . Also find its area.

**Answer any one in graph:**

**1×8=8**

- 44) A) Draw the graph of  $y = 2x + 5$ .
- B) In a study of dental problem, the following data were obtained.

Ages	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of patients	5	13	25	14	30	35	43	50

Represent the above data by a frequency polygon.