



## Standard 8

### MATHS

Time: 2.30 Hrs.

Marks: 100

#### I. Choose the best answer:

9×1=9

- 1) The standard form of the sum  $\frac{3}{4} + \frac{5}{6} + \left(\frac{-7}{12}\right)$  is \_\_\_\_\_.
  - a) 1
  - b)  $\frac{-1}{2}$
  - c)  $\frac{1}{12}$
  - d)  $\frac{1}{22}$
- 2) 0.000000002020 in scientific form is \_\_\_\_\_.
  - a)  $2.02 \times 10^9$
  - b)  $2.02 \times 10^{-9}$
  - c)  $2.02 \times 10^{-8}$
  - d)  $2.02 \times 10^{-10}$
- 3) The product of  $7p^3$  and  $(2p^2)^2$  is \_\_\_\_\_.
  - a)  $14p^{12}$
  - b)  $28p^7$
  - c)  $9p^7$
  - d)  $11p^{12}$
- 4) 12% of 250 litre is the same as \_\_\_\_\_ of 150 litre.
  - a) 10%
  - b) 15%
  - c) 20%
  - d) 30%
- 5) A fruit vendor sells fruits for Rs. 200 gaining Rs. 40. His gain percentage is \_\_\_\_\_.
  - a) 20%
  - b) 22%
  - c) 25%
  - d)  $16\frac{2}{3}\%$
- 6) Two similar triangles will always have \_\_\_\_\_ angles.
  - a) acute
  - b) obtuse
  - c) right
  - d) matching
- 7) 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
- 8) How many outcomes can you get when you toss three coins once?
  - a) 6
  - b) 8
  - c) 3
  - d) 2
- 9) How many 2 digit numbers contain the number 7?
  - a) 10
  - b) 18
  - c) 19
  - d) 20

#### II. Fill in the blanks:

5×1=5

- 10) The standard form of  $\frac{58}{-78}$  is \_\_\_\_\_.
- 11) The multiplicative inverse of -1 is \_\_\_\_\_.
- 12) The longest chord of a circle is \_\_\_\_\_.
- 13) A cube has \_\_\_\_\_ faces.
- 14) Loss or gain percentage is always calculated on the \_\_\_\_\_.

#### III. True or False:

5×1=5

- 15) The average of two rational numbers lies between them.
- 16) The additive inverse of  $\frac{-11}{-17}$  is  $\frac{11}{17}$ .
- 17) The cube of 24 ends with the digit 4.
- 18)  $8x^3y \div 4x^2 = 2xy$
- 19) In a right angled triangle, the hypotenuse is the greatest side.

#### IV. Match the following:

5×1=5

- |   |                        |
|---|------------------------|
| 20) Circumference of a semicircle               | - $20x^2y - 20x$       |
| 21) Area of a quadrant of a circle              | - $-12y^3$             |
| 22) $4y^2 \times (-3y)$                         | - 12 cm                |
| 23) $5x(4xy-4)$                                 | - $\frac{1}{4}\pi r^2$ |
| 24) The radius of a circle of diameter 24 cm is | - $(\pi+2)r$           |

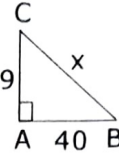
#### V. Answer any 10 questions:

10×2=20

- 25) Compare the following pairs of rational numbers:  $\frac{2}{3}, \frac{4}{5}$
- 26) Find the sum:  $\frac{6}{5} + \left(\frac{-14}{15}\right)$
- 27) Find the square root by prime factorisation method: 1156
- 28) A circle of radius 120m is divided into 8 equal sectors. Find the length of the arc of each of the sectors.
- 29) Find the product of  $(2x+3)(2x-4)$ .

- 30) Divide:  $(5y^3 - 25y^2 + 8y)$  by  $5y$
- 31) What is 25% of 30% of 400?
- 32) The price of a rain coat was slashed from Rs. 1,060 to Rs. 901 by a shopkeeper in the rainy season to boost the sales. Find the rate of discount given by him.

- 33) Find the value of  $x$  in the following triangle.



- 34) Shanthy has 5 chudithar sets and 4 frocks. In how many possible ways, can she wear either a chudithar or a frock?
- 35) From the measures given below, find the area of the sectors.  
length of the arc = 48m; radius = 10m
- 36) Write in scientific notation:  
Earth's volume is about 1083000000000 cubic kilometers.

**8x5=40**

**VI. Answer any 8 questions:**

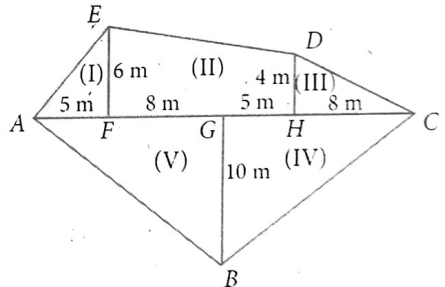
- 37) Arrange the following rational numbers in ascending order:

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

- 38) Simplify:  $\left[ \frac{4}{3} - \left( \frac{-3}{2} \right) \right] + \left[ \frac{-5}{3} \div \frac{30}{12} \right] + \left[ \frac{-12}{9} \times \frac{-27}{16} \right]$

- 39) Find the square root by long division method: 418609
- 40) What is the square root of cube root of 46656?
- 41) The radius of a sector is 21 cm and its central angle is  $120^\circ$ . Find (i) the length of the arc (ii) area of the sector (iii) perimeter of sector. ( $\pi = 22/7$ )

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



- 43) Multiply  $3x^2y$  and  $(2x^3y^3 - 5x^2y + 9xy)$
- 44) Divide:  $5xy^2 - 18x^2y^3 + 6xy$  by  $6xy$
- 45) Akila scored 80% of marks in an examination. If her score was 576 marks then find the maximum marks of the examination.
- 46) Ranjith bought a washing machine for Rs. 16,150 and paid Rs. 1,350 for its transportation. Then he sold it for Rs. 19,250. Find his gain or loss percentage.

- 47) Find the values of  $x$  and  $y$  in the following figure.



- 48) A safety locker in a jewel shop requires a 4 digit unique code. The code has the digits from 0 to 9. How many unique codes are possible?

**VI. Answer any 2 questions:**

**2x8=16**

- 49) Construct a quadrilateral MATH with  $MA = 4$  cm,  $AT = 3.6$  cm  $TH = 4.5$  cm,  $MH = 5$  cm and  $\angle A = 85^\circ$ . Also find its area.

**(OR)**

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.

- 50) Plot the following points in a graph sheet.  
 $A(5, 2)$ ,  $B(-7, -3)$ ,  $C(-2, 4)$ ,  $D(-1, -1)$ ,  $E(0, -5)$ ,  $F(2, 0)$ ,  $G(7, -4)$ ,  $H(-4, 0)$ .

**(OR)**

Draw straight lines by joining the points  $A(2, 5)$ ,  $B(-5, -2)$  and  $M(-5, 4)$ ,  $N(1, -2)$  also find the point of intersection.