

**Class: 7**

**Sub: Math 'T'**

**Final term exam**

**2077**

**Full mark: 100**

**Time:**

**Pass mark: 40**

Attempts all the questions.

**Group 'A'**

(16×2=32)

Q.N. 1 a. Simplify:  $-1\frac{1}{4} + 2\frac{3}{4}$

b. Find the L.C.M. of:  $2x+4$ ,  $x^2+2x$

c. Multiply:  $-\frac{4a^3b^2}{5x^3y^2} \frac{10x^4y^3}{12a^4b^3}$

d. Find the square root of 625

e. Find the cube root of 4096

f. Find the value of  $\frac{2}{5}$  of  $\frac{2}{3}$  of Rs. 360

g. If the cost of 1 kg rice is Rs. 24.50. Find the cost of 7.5kg of rice.

h. Find the value of x in each of the following proportion.

i.  $4:3 = 22:X$       ii.  $5:7 = 20:X$

i. Find the square of  $(3x^2+7y^2)^2$

j. If  $M=\{1,2,3,4,5\}$  and  $N= \{6,7,8,9\}$ . What sort of set M and N are?

k. Simplify:  $2.6 + 9.4 + 0.7$

l. If C.P = Rs. 140, profit = Rs. 7, find profit percentage.

m. Solve:  $-\frac{3x+6}{2} = \frac{3}{2}$

n. Divide Rs. 350 in the ratio of 4:3

o. If  $a^\circ$ ,  $2a^\circ$ ,  $4a^\circ$  and  $5a^\circ$  are the angles of a quadrilateral, find them.

**Group 'B'**

**(17×4=68)**

Q.N. 2 If  $S = \{a, e, i, o, u\}$ ,  $P = \{a, e, i, o\}$   $Q = \{e, i, o, u\}$  and  $R = \{i, o, u\}$  then,

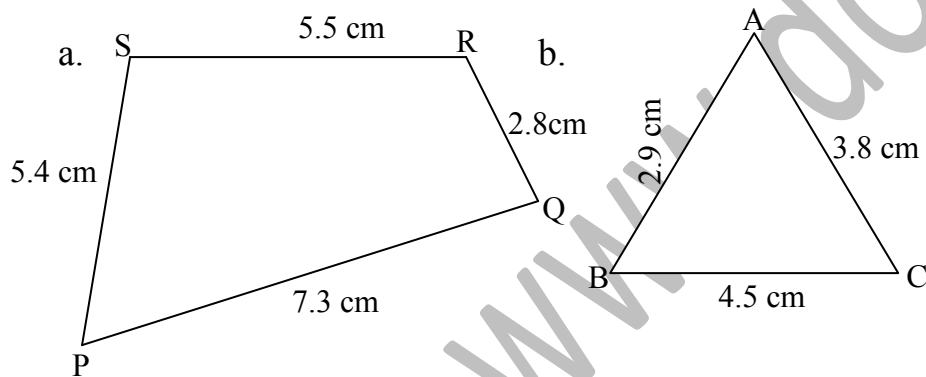
i. Show all the above informations in a Venn-diagram.

ii. Using the Venn-diagram, find  $P \cap Q \cap R$

Q.N. 3 Convert 5366 into base five numeral.

Q.N. 4 Simplify:  $-2\frac{3}{8} + 4\frac{5}{8} - 3\frac{1}{8}$

Q.N. 5 Find the perimeter of the given figure.



Q.N. 6 There are 560 students in a schools. If the ratio of the boys and girls is 4:3, find their numbers.

Q.N. 7 The angle of a triangle are in the ration of 2:3:4. Find the size of each angle.

Q.N. 8 Simplify:  $-\frac{0.009 \times 0.009 - 0.003 \times 0.003}{0.009 - 0.003}$

Q.N. 9 Simplify:  $\frac{2x^2}{5y^3} \times \frac{10y^4}{6x^3} \times \frac{9x^4}{4y^4}$

Q.N. 10 If 8 men complete a piece of work in 12 days. In how many days would 6 men complete the same work?

Q.N. 11 In the given figure at any side, if  $x + y + Z = 180^\circ$ , prove that  $w = y + z$

Q.N. 12 Simplify: -  $\frac{x^{a+b} \times x^{b+c} \times x^{c+a}}{x^{2a} \times x^{2b} \times x^{2c}}$

Q.N. 13 A shopkeeper bought an item for Rs. 450 and sold it at 10% profit, then

- i. Find his profit amount
- ii. What was the selling price of the article?

Q.N. 14 Find the H.C.F. and L.C.M. of: -

$$6x^2-9xy, 4x^2-9y^2$$

Q.N. 15 The market price of a radio is Rs. 960 and the retailer allows 5% discount to the customer.

- a. Find the discount amount.
- b. How much should the customer pay for it?

Q.N. 16 a. If  $x+y=5$  and  $xy=4$  find the value of  $x^2+y^2$ .

b. If  $P - \frac{1}{P} = 3$ , find the value of  $P^2 + \frac{1}{P}$ .

Q.N. 17 Find the arithmetic mean from the following data.

Marks	20	40	60	80	100
No. of Students	2	3	8	5	2

18. Construct the parallelogram ABCD in which  $AB=4\text{cm}$ ,  $BC=3\text{cm}$  and  $\angle ABC=60^\circ$

**The end**