CLASS –VII

SUBJECT- MATHEMATICS

TIME ALLOWED: 2 ½ Hrs. **Max. Marks : 60**

General Instructions :-

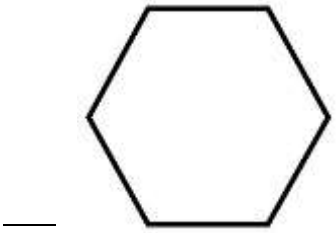
1. All questions are compulsory.
2. The question paper consist of 25 questions divided into four Sections A,B,C and D.
3. Each question of sections A is of 1 mark, section B is of 2 marks each, Section C is of 3 marks each and section D of 4 marks each(total 60 marks).
4. The Diagrams and constructions should be drawn neatly.
5. Attach the graph paper(s) inside the sheet and mention your name roll number on it.

SECTION – A(1 MARK)

Q 1 Find the ratio of 30 days to 36 hours.

Q 2 Name the angle which is included between the sides DE and EF of Δ DEF?

Q 3 Find the number of lines of symmetry in the given figure:



Q 4 Write a rational number equivalent to $\frac{4}{9}$.

Q 5 If $p = -2$, find the value of $p^2 - 2p - 100$.

Q 6 What is the circumference of a circular disc of radius 14 cm?

SECTION – B

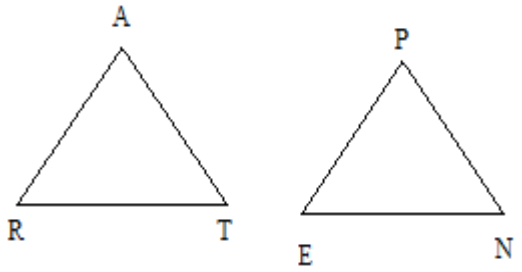
Q 7 The population of a city decreased from 25,000 to 24,500. Find the percentage decrease.

Q 8 Write the following rational numbers in ascending order:

$$\frac{3}{7}, \frac{3}{2}, \frac{3}{4}$$

Q 9 You want to show that ΔART≅ ΔPEN.If it is given that ∠T= ∠N and you are to use SAS criterion, you need to have

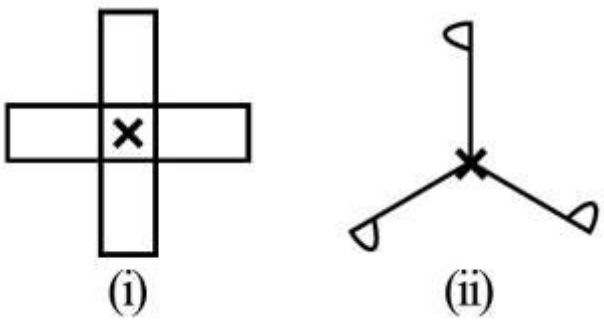
(i) RT = (ii) PN =



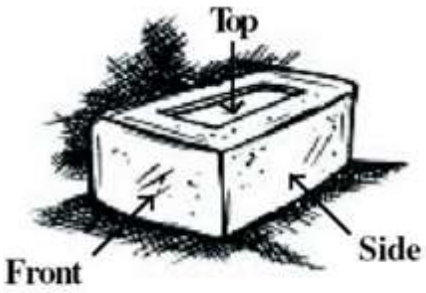
Q 10 What cross-sections do you get when you give a vertical cut to the following solids?

(a) A die (b) A round apple

Q 11 Give the order of the rotational symmetry of the given figures about the point marked '**x**'



Q 12 For given solid, draw front view and side view.



A brick

Q 13 Which letters of the English alphabet have reflection symmetry (i.e., symmetry related to mirror reflection) about?

(a) a vertical mirror(write any two)

(b) a horizontal mirror (write any two)

SECTION – C

Q 14 Juhi sells a washing machine for Rs 13,500. She loses 20% in the bargain. What was the price at which she bought it?

Q 15 Subtract:

$5a^2 - 7ab + 5b^2$ from $3ab - 2a^2 - 2b^2$

Q 16 Find any three rational numbers between

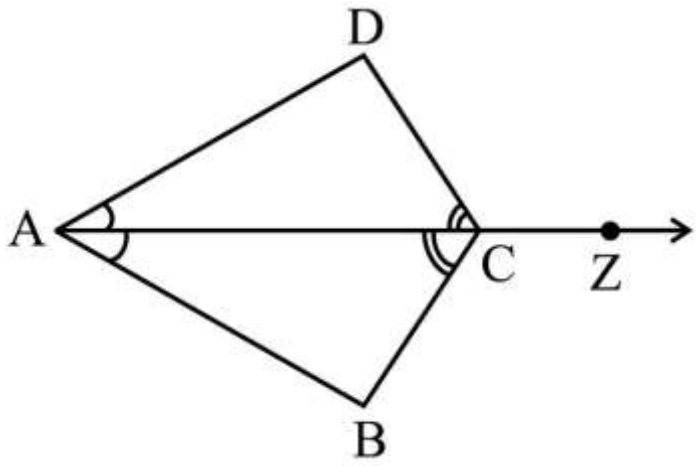
$\frac{3}{5}$ and $\frac{3}{4}$

Q 17 In the figure given below , ray AZ bisects $\angle$DAB as well as $\angle$ DCB.

(i) State any two pairs of equal parts in triangles BAC and DAC.

(ii) Is $\angle$BAC = $\angle$ DAC? Give reasons.

(iii) Is AB = AD? Justify your answer.



Q 18 Do as directed

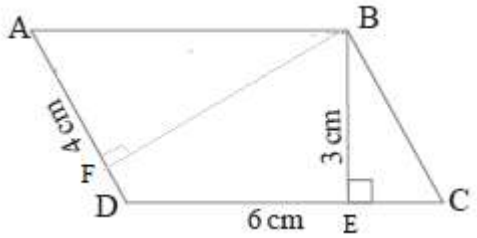
i) Find the sum $\frac{5}{4} + (\frac{-11}{4})$

ii) Find the product $\frac{3}{-5} \times \frac{-5}{3}$

Q19 Two sides of the parallelogram ABCD are 6 cm and 4 cm. The height BE corresponding to the base CD is 3 cm. Find the

(i) area of the parallelogram

. (ii) the height BF corresponding to the base AD.



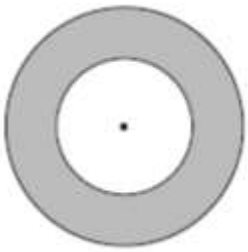
Q 20 The figure shows two circles with the same centre. The radius of the larger circle is

10 cm and the radius of the smaller circle is 4 cm. Find:

(a) the area of the larger circle

(b) the area of the smaller circle

(c) the shaded area between the two circles. (π= 3.14)



Q 21 The minute hand of a circular clock is 15 cm long. How far does the tip of the minute hand move in 1 hour. (Take π = 3.14)

SECTION – D(4 MARKS)

Q 22 Chalk contains calcium, carbon and oxygen in the ratio 10:3:12.

i) Find the percentage of the carbon in the chalk.

ii) If in a stick of chalk, carbon is 3g, what is the weight of the chalk stick?

Q 23 Two cross roads, each of width 10 m, cut at right angles through the centre of a rectangular park of length 700 m and breadth 300 m and parallel to its sides. Find the area of the roads. Also find the area of the park excluding cross roads. Give the answer in hectares.

Q 24 From the sum of $3x - y + 11$ and $-y - 11$, subtract $3x - y - 11$.

Q 25 What should be added to $x^2 + xy + y^2$ to obtain $2x^2 + 3xy$?