Mathematics VII
(Revision)

Section A

1) Evaluate : $[576.2 \div 10] - [84.5 \div 5]$

2) Find the diameter of a circle whose circumference is 88 cm.

3) Evaluate : $30 + [(-456) \div 9]$

4) Write $\frac{112}{-92}$ in standard form

5) Evaluate : $\frac{2^2 + 3^0}{(4^3 \times 8)^0} + \frac{1}{2}$

6) Find the probability of getting a prime number when a die is thrown?

7) Write the standard form of 8536.7?

8) If 25% of a number is 15, then find the number

9) Find the coefficient of 'm' in $5n - m$

10) Find BC, if the area of the ΔABC is 360 cm^2 and its height AD is 18 cm.

11) Find the circumference of a circle if the diameter is 3.5 cm.

12) Name the quadrilateral having four lines of symmetry.

13) Find the area of a square park whose perimeter is 60 cm.

Section B

1) Subtract the sum of $3x + 11y - 7z$ and $2x - 5y + 4z$ from $-5x + 6y + 3z$

2) Simplify : $-1\frac{2}{5} \times \left[\frac{4}{5} \div \frac{-12}{25}\right]$

3) Express 768 as a product of prime factors in exponential form

4) The perimeter of a rectangular sheet is 100 cm. If the length is 15 cm, find its area.

5) The strength of a school is 2000. If 30% of the students are girls, how many boys are there in the school?

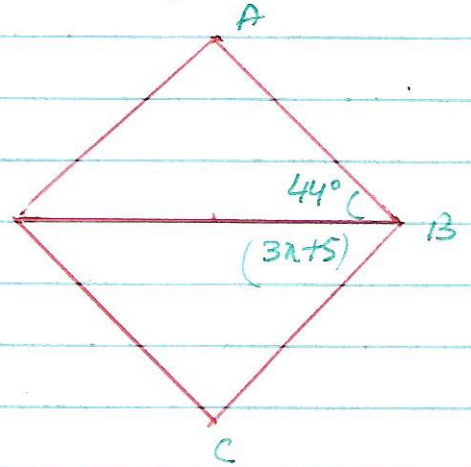
6) The height (in cm) of 8 boys of a group are as follows:
128, 143, 151, 140, 135, 149, 150, 132

What is the mean height of the boys?

7) The price of an air cooler increased from Rs 3500 to Rs 4200. Find the increase percent.

8) Express 648 as a product of prime factors and write in exponential form.

9) In the given figure, $\Delta ADB \cong \Delta CDB$.
Find x if $\angle ABD = 44°$
$\angle DBC = (3x+5)°$



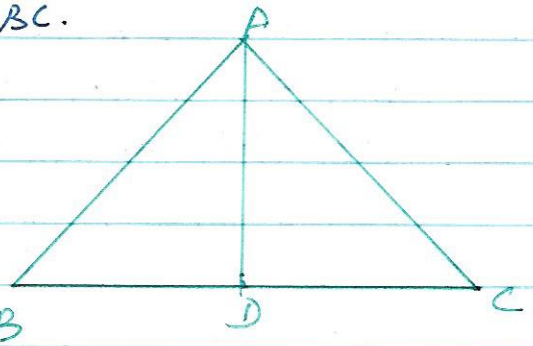
10) Simplify : $\frac{-72}{12} \div \frac{9}{48}$

Section-C

1) Simplify using laws of exponents $\frac{3^3 \times 64 \times 81}{18 \times 4^2 \times 3^5}$

2) Simplify : $\left(\frac{-3}{2} \times \frac{4}{5}\right) \div \left(\frac{9}{5} \div \frac{-3}{10}\right) - \left(\frac{1}{2} \times \frac{3}{4}\right)$

3) In the figure $\angle B = \angle C$ and $AD \perp BC$.
$AB = 20$ cm and $AD = 12$ cm
Find the length of BC.



4) Simplify the expression and then find its value for $a = -1$ and $b = 2$: $4(a-2b) - 3(a-b)$

5) Find using suitable properties :
(a) 108×-34 (b) $[(-48) \times 98 + 48(-2)]$.

6) Verify Euler's formula for pentagonal prism.

7) The radius of a wheel is 3.5 cm. How many revolution will it take to cover a distance of 22 m?

8) Ramu's mother is 45 years old. She is 3 years more than two times Ramu's age. Find Ramu's age

9) In a collection of 1050 flowers, $\frac{3}{10}$ of them are red, $\frac{2}{5}$ of them are white and the rest are yellow. How many red, white and yellow flowers are there.)

10) If Rs. 7000 is borrowed at 3.5% rate of interest per annum, find the amount to be paid at the end of the second year.

Section - C

11) The ages of 9 students are 18, 19, 19, 16, 19, 18, 19, 15, 19 (in years). Find the mean, median and mode.

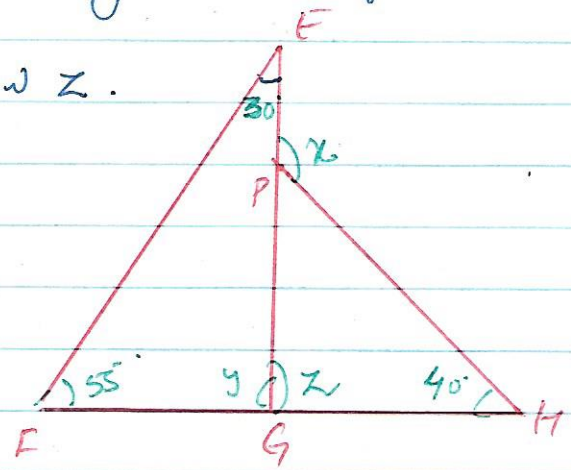
12) Simplify using laws of exponents: $\frac{2^6 \times a^7 \times 5^4 \times b^5}{10^3 \times b^2 \times a^6}$

13) The area of a square and a rectangle are equal. If the side of the square is 40 cm and the breadth of the rectangle is 20 cm, find the length of the rectangle. Also find the perimeter of the rectangle.

14) Pawan borrowed Rs. 7000 at $7\frac{1}{2}\%$ rate of interest per annum for 3 years. Find the amount to be paid at the end of 3 years.

15) Find the number of faces, vertices and edges of a pentagonal pyramid. Verify by using Euler's formula.

16) Find the measure of angle x, y and z.

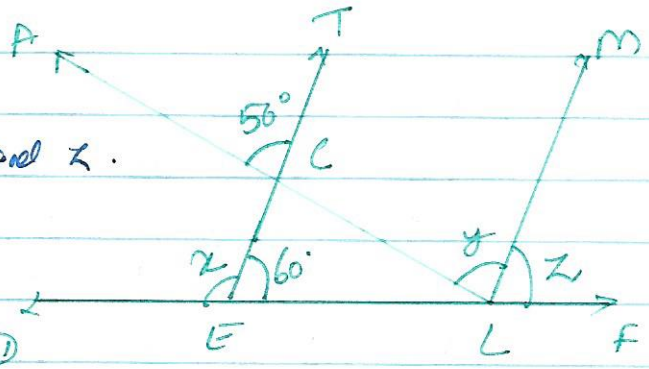


Section D

1) The degree measure of the angles of a triangle are $(2x)^\circ$, $(3x+10)^\circ$ and $(5x-30)^\circ$. Find the value of x and check whether the triangle is isosceles.

2) Solve for x: (i) $\frac{x}{3}+7=19$ (ii) $5(1-x)+6=8(3+x)$

3) In the given figure, CT // LM
$\angle ACT = 50^\circ$ and $\angle CEL = 60^\circ$.
Find the angles marked x, y and z.

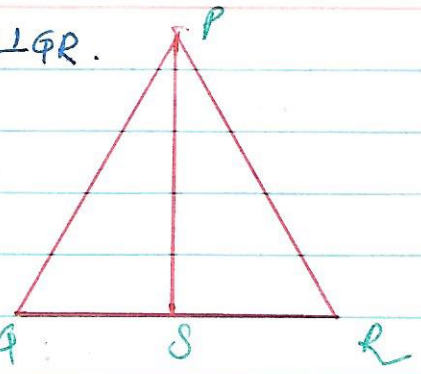


4) The following data shows the number of two different types of different drinks sold by a juice seller during a festival week. Draw a double bar graph for the data.

Day	Strawberry Drink	Chocolate Drink
Monday	120	125
Tuesday	40	50
Wednesday	50	60
Thursday	80	100
Friday	100	60
Saturday	90	120

5) If Rs. 1280 is to be divided among three person A, B, C in the ratio of 3:5:2, how much money will each one get? What will it be in percentage.

* 6) In the figure, PS bisect $\angle P$ and $PS \perp QR$.



a) State the 3 pairs of equal parts in $\triangle PSQ$ and $\triangle PSR$. Give reason.

b) Is $\triangle PSQ \cong \triangle PSR$? If yes, state rule.

c) Is $QS = SR$? Why or why not?

d) Is $\angle Q = \angle R$? Why or why not?

7) A rectangular field is 114 m long and 100 m wide. Two cross roads each of width 6 m are constructed at the centre of this field, one parallel to the length and the other parallel to breadth. Find the area of cross roads and the area of the remaining field.

8) Construct $\triangle PQR$ such that $PQ = 5\text{cm}$, $\angle P = 50^\circ$ & $\angle Q = 60^\circ$. Also measure $\angle R$.

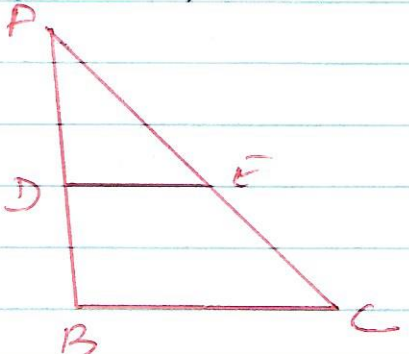
9) Simplify: $\left(\frac{-12}{27} \times \frac{-15}{4}\right) - \left(\frac{-3}{16} \div 2\frac{1}{4}\right)$

10) Solve: a) $3(x-1) + 2(2x+3) = 7$ b) $2.5x + 3 = 1.9x + 3.6$

11) Subtract $4xy - 7x^2$ from the sum of $4x^2 - 3xy + 7x$ and $5x^2 + 7xy - 5x$.

12) Construct an isosceles triangle with $\angle Q = 60^\circ$ $PQ = QR = 5.5\text{cm}$.

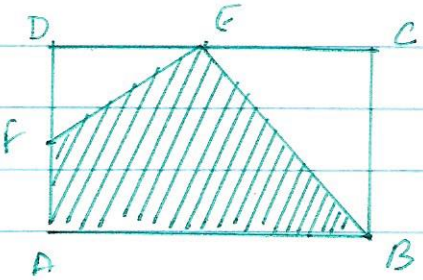
13) In figure, $DE \parallel BC$ and $DAE = 30^\circ$
$\angle ADE = y$, $\angle AED = z$, $\angle ABC = x$
$\angle ACB = 40^\circ$. Find angle x, y & z.



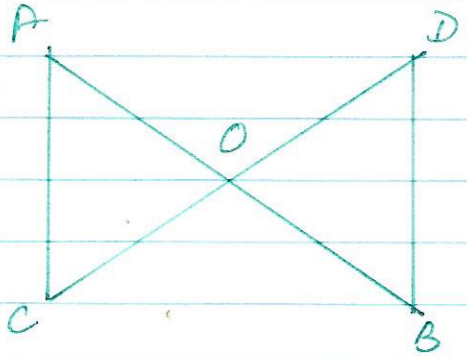
Section - D

14) Simplify the expression and find its value when $x = -3$ and $y = 5$. : $2(x^2 + 2xy) + 5 - xy + y^2$

15) : Find the area of shaded portion if AB = 20 cm, AF = 6cm CB = 10 cm, CE = 8 cm and ABCD is a rectangle.



16) :) In the figure, line AB and CD intersect at O and OC = OD = 5cm, ∠AOC = 65°, ∠AOC = 35°, ∠BDO = 65°, Prove that: $\triangle AOC \cong \triangle BOD$.



17) :) A verandah 1.25m wide is constructed all along the outside of a room 5.5m long and 4m wide. Find the area of the cost of cementing the floor of this verandah at the rate of Rs. 15 per sq. m.

18) Construct a right angled triangle whose hypotenuse is 6cm long and one of the sides is 4cm long.

19) The number of boys and girls in the various clubs of a school

Name of club	Debate	Hindi	Math	Music	Drama
No. of girls	35	20	50	40	45
No. of boys	25	15	70	35	45

Draw double bar graph and answer the following:

a) What information does the double bar graph give?

b) Which club the most popular club among the boys.