SUMMATIVE ASSESSMENT-II

SET-I

MM:- 60

Sub:- Mathematics **Class-VIII** **Time:- 2½ Hours**

General Instruction:-

1) **All questions are compulsory.**
2) **The question paper contains of 26 questions divided into four section A,B C and D. Section-A comprises of 8 questions of 1 mark each. Section-B comprises of 6 questions of 2 marks each. Section - C comprises of 8 questions of 3 marks each. Section - D comprises of 4 questions of 4 marks each.**
3) **Question no 1 to 8 are multiple choice questions where you are to select one correct option out of the given four.**
4) **Use of calculator is not permitted.**

SECTION-A

1. 80 Percent may be expressed as a ratio
   a) 1:2 b) 2:3 C) 4:5 D) 1:5

2. The Coefficient of x in $-8xy^2$ is
   a) 8 b)-8 c)$-8y^2$ d) y^2

3. Which is the following is not a factor of $6x^2$
   a) 2 b) x c)4 d) x^2

4. Which of the following is divisible by 3 but not by 6
   a)123 b) 216 c)552 d) 312

5. Area of a square is 2.5 m^2. It is equivalent to
   a)25000cm^2 b) 2500cm^2 c)250cm^2 d) 25 cm^2

6. $(6^{-1}X\ 2^{-1})\div 3^{-1}$ equal
   a)1/6 b) 1/4 c)1/3 d) 1/12

7. Weight of 5 books is 7.5 kg, find the weight of 3 books
   a)2kg b) 15kg c)5 kg d) 45 kg

8. The surface area of a cube is 1734 cm^2. Its volume is

a)2197cm^3 b) 4913cm^3 c)2744cm^3 d) 4096 cm^3

SECTION – B

9. A mixture of milk and water is in the ratio of 3:2. Find the percentage of milk in the mixture.

10. Subtract :- 3pq(p-q) from 2 pq(p+q).

11. Factories :- $x^4-(x-z)^4$

12. The area of a rhombus is 240 cm^2 and one of the diagonal is 16 cm. Find the other diagonal.

13. Find the value of m for which $5^m \div 5^{-3} = 5^5$

14 If the three digit number 24x is divisible by 9 ,what is the value of x ?

SECTION-C

15. The cost of an article was Rs 15,500 & Rs.450 were spent on its repairs . If it is sold for a profit of 15% find the selling price of the article.

16. If 3x + 5y=11 and XY=2, find the value of $9x^2+25y^2$

17. Divide $44(x^4-5x^3-24x^2)$ by 11x(x-8)

18. What is square pyramid? Can a polyhedron have 10 faces, 20 edges 15 vertices?

19. The area of a trapezium is 34 cm^2 and the length of one of the parallel side is 10 cm and its height is 4cm. Find the length of the other parallel side.

20. Simplify:- $\frac{3^{-5}x10^{-7}x125}{15^{-5} \times 6^{-7}}$

21. If the weight of 12 sheets of thick paper is 40 grams, how many sheets of the same paper would weight $2\frac{1}{2}$ Kilograms ?

22. Plot the following points and verify if they lie on a line

K(2,3), L(5,3), M(5,5), N(2,5)

SECTION – D

23. Find CI paid when a sum of Rs. 10,000 is invested for 1 year and 3 months at 8½% per annum compounded annually.

24. The lateral surface area of a hollow cylinder is 4224 cm^2 . It is cut along its height and formed a rectangular sheet of width 33 cm. Find the perimeter of rectangular sheet

25. A Factory requires 42 machines to produce a given number of articles in 63 days. How many machines would be required to produce the same number of articles in 54 days.

26. The runs scored by a cricket team in first 10 overs are given below:-

Overs	**I**	**II**	**III**	**IV**	**V**	**VI**	**VII**	**VIII**	**IX**	**X**
Runs	**2**	**3**	**1**	**6**	**4**	**3**	**8**	**12**	**4**	**10**

Draw a graph representing the above data.

MARKING SCHEME

SET-I **CLASS-VIII** **SUB:- MATHEMATICS**

(1) (c) (2) © (3) © (4) (a)
(5) (a) (6) (b) (7) (d) (8) (b)

9) Total = 3+2=5 ½
Percentage of milk = $\frac{3}{5}$X100 1
= 60% ½

10) 2pq (p+q) – 3pq (p-q) ½
= $2p^2q+2pq^2-3p^2q+3pq^2$ ½
= $-p^2q+5pq^2$ 1

11) $\{x^2+(x-z)^2\}\{x^2-(x-z)^2\}$ ½
$(x^2+x^2-2xz+z^2)(x+x-z)(x-x+z)$ 1
$=z(2x-z)(2x^2-2xz+z^2)$ ½

12) Area of rhombus = $\frac{1}{2}d_1Xd_2$ 1
=> $\frac{1}{2}X16Xd_2$ = 240 ½
=> d_2 = 30 ½

13) Here $5^{m+3} = 5^5$ 1
=> m+3 = 5 ½
=> m = 2 ½

14) 2+4+x should be divisible by 9 ½
=> 6+x = 9 or 18 ---------- 1
=> x = 3 ½

15) Total cost = 15500+450 =Rs. 15950 ½
Profit =$\frac{15}{100}$X15950 1
= Rs. 2392.50 1
S.P. = Rs. 15950+ Rs. 2392.50 =Rs. 18342.50 ½

16) $(3x)^2+(5y)^2$ ½

$= (3x+5y)^2 - 2 \text{ X } 3x \text{ X } 5y$ 1

$= (11)^2 - 30 \text{ X}2$ ½

$= 121-60 \quad = 61$ 1

17) Here $44(x^4-5x^2-24x^2) = 44x^2\ (x^2-5x-24)$ ½

$= 44x^2(x+3)(x-8)$ 1

Now $\frac{44x^2\ (x+3)(x-8)}{11x(x-8)}$ ½

$= 4x\ (x+3)$ 1

18) Definition: 1

We have, F+V-E=2 ½

⇨ 10+15-20=2

⇨ 25-20=2 1

⇨ 5=2 Which is not true ½

Thus, such a polyhedron is not possible.

19) Area of the trapezium = 1/2xsum of parallel sides X height ½

$34 = ½(10+x)X4$ ½

$10+x = 17$ 1

$X=7$ ½

Hence, the other side= 7 cm. ½

20) $\frac{3^{-5} \text{ X } (2X5)^{-7} \text{ X } 5^3}{(3X5)^{-5} \text{ X } (3X2)^{-7}}$ ½

$= \frac{3^{-5} \text{ X } 2^{-7} \text{ X } 5^{-7} \text{ X } 5^3}{3^{-5} \text{X } 5^{-5} \text{ X } 3^{-7} \text{ X } 2^{-7}}$ 1

1

$=3^{-5+5+7} \text{ X } 2^{-7+7} \text{ X } 5^{-7+3+5}$

$=3^7 \text{ X } 2^0 \text{ X } 5^1$

$=5 \text{ X } 3^7$ ½

21)

Number of sheets	12	x
Weight of sheets (in gm.)	40	2500

1

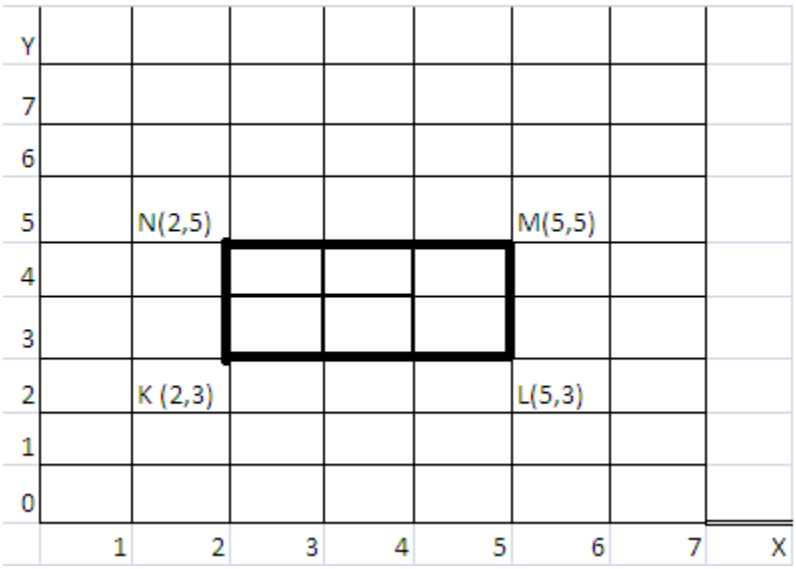
⇨ 12/40 = x/2500 ½

⇨ $X=\frac{12 \text{ X } 2500}{40}$

⇨ X=750 1

Thus the required no. of sheets = 750 ½

22) 2



We joining all the points and find that all of them do not lie on the same line. 1

23) We have R=17/2%

T= 1¼ yrs.

Amount for 1 year = 10000(1+17/200)

= Rs. 10,850 1½

Interest for 1st year= 10,850-10.000= Rs. 850 ½

S.I. for the nest ¼ years on Rs. 10850/=

$= \frac{P \times R \times T}{100} = \frac{10,850 \times 1/4 \times 17}{100 \times 2}$

= Rs.230.56 1½

Total interest = 850+230.56

= Rs. 1080.56 ½

24) Let length of the rectangular sheet = x cm

33 X x = 4224 1

X = 128cm 1

Now perimeter of the rectangular sheet

=2 (l + b) ½

= 2 (128 +33)

= 322 cm 1½

25) Let the number of machines be x
We have

Number of machines	Number of days
42	63
X	54

1

It is a case of inverse variation

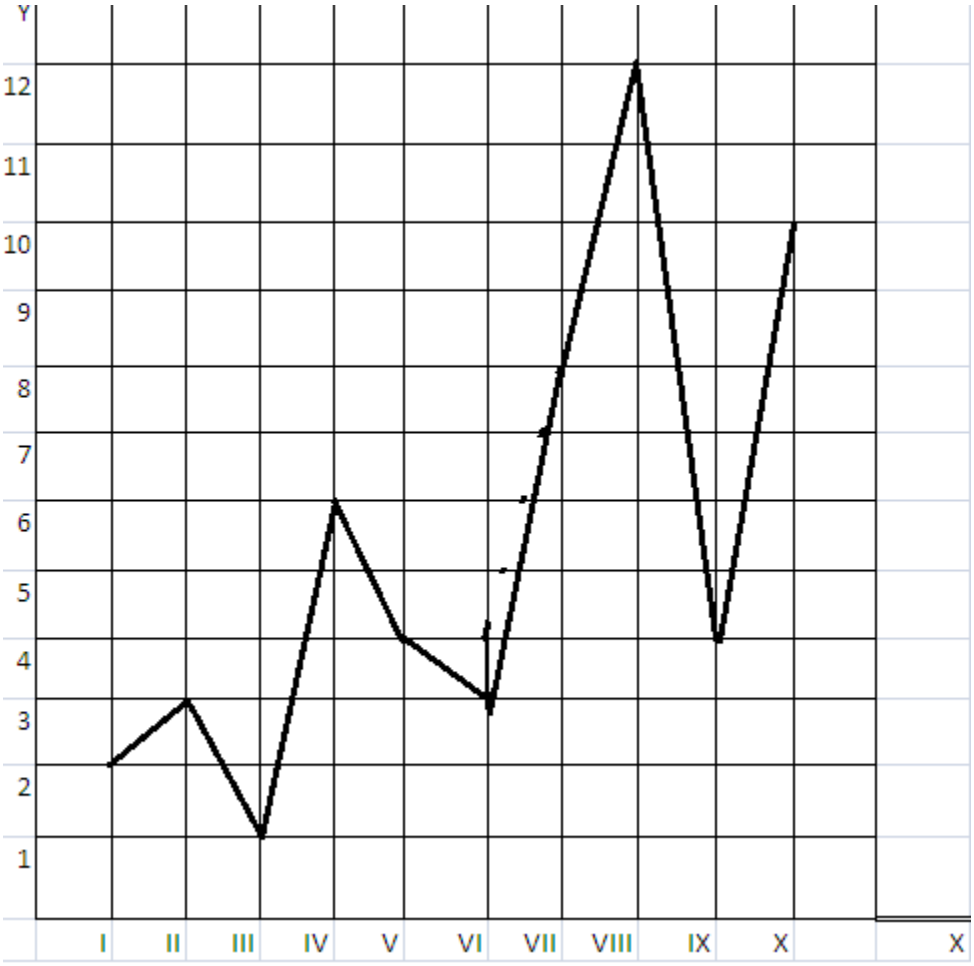
.: 42 X 63 = x X 54 1

X = $\frac{42 \text{ X } 63}{54}$ 1

= 7 X 7 = 49 1

Thus the required number of machine = 49

26) Draw X axis and Y axis. Represent over's on the X- axis and runs on the y- axis 1



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