LORETO DAY SCHOOL, ELLIOT ROAD

RETEST OF HALF YEARLY EXAMINATION

CLASS-X 1 F.M. 50

SUB-MATHEMATICS TIME:75MINS

Instructions.

- Mention name, class, section and subject at the top of the answer scripts.
- The time mentioned at the top of the question paper includes reading time +Writing Time +Time to make and send pdf.
- Answer script must be sent only in the PDF format as 1 PDF document.
- Please submit it on Google Classroom.

SECTION A[40 MARKS]

Choose the correct option: **[40×1=40]**

1. **If $A=\begin{bmatrix}1 & 0\\ 0 & 1\end{bmatrix}$, then $A^2=$**

   a) $\begin{bmatrix}1 & 1\\ 0 & 0\end{bmatrix}$

   b) $\begin{bmatrix}0 & 0\\ 1 & 1\end{bmatrix}$

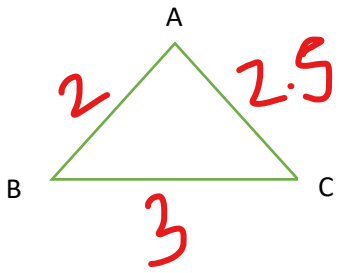
   c) $\begin{bmatrix}1 & 0\\ 0 & 1\end{bmatrix}$

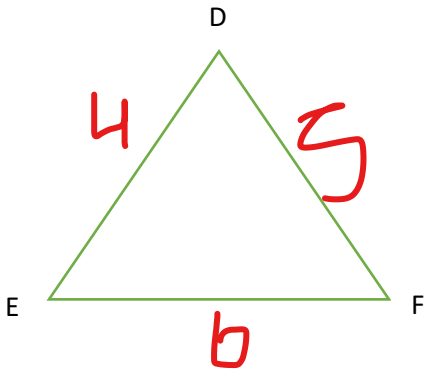
   d) $\begin{bmatrix}0 & 1\\ 1 & 0\end{bmatrix}$

2. **Find the common difference of the A.P.**
   -5, -1, 3, 7, ……
   a) 2
   b) 3
   c) 4
   d) 5

3. If $\frac{2}{3}$ is a root of the equation $kx^2 - x - 2 = 0$, then the value of k is
   a) 3
   b) 4
   c) 5
   d) 6

4. In the given figure $\Delta ABC \sim \Delta DEF$





AB=2CM, BC=3CM, AC=2.5CM **DE=4CM, EF=6CM, DF=5CM**

Which similarity criteria has been used?

   a) SSS
   b) AA
   c) SAS
   d) None of these

5. Find the Median of the following numbers
   10, 75, 3, 81, 17, 27, 4, 48, 12, 47, 9, 15
   a) 14
   b) 15
   c) 16
   d) 11

6. If 'a' and 'b' are the roots of the equation $2y^2 + 7y + 5 = 0$, then what is the value of a+b+ab
   a)-1
   b)-3
   c)2
   d)1

7. **A man deposits Rs. 600 per month in a recurring deposit account for 4 years at the rate of 8%per year. The interest earned by him is**
   a) **Rs 480**
   b) **Rs 4704**
   c) **Rs 2880**
   d) **Rs 33504**
8. **Order of the matrix [6] is**
   a) **0×0**
   b) **1×1**
   c) **0×1**
   d) **1×0**
9. **In an A.P. the sum of 'p' terms is 'q' and the sum of 'q' terms is 'p'. What will be the sum of p+q terms?**
   a) **0**
   b) **p-q**
   c) **p+q**
   d) **–(p+q)**
10. **Find the smallest value of x for the inequation**
    20-5x <5(x+8) , where x is an integer
    a) **-1**
    b) **-2**
    c) **1**
    d) **2**
11. **If x is a positive odd integer, then the solution set of the inequality**

    $\frac{x}{2}$ **-5** $\leq \frac{x}{3}$ **-4 is**

    a) $\{-\infty, \ldots \ldots -3, -1, 0, 1, 3, 5\}$
    b) $\{-1, 1, 3, 5\}$
    c) $\{1, 3, 5\}$
    d) **All the above**
12. **The quadratic equation $5x^2+6x-7=0$ has**
    a) **No real roots**
    b) **Infinite roots**
    c) **Real and equal roots**
    d) **Real and unequal roots**

13. Which of the following is not a quadratic equation ?

a) $(3x-1)^2 = 5(x-1)$

b) $\frac{3x-2}{2x-3} = \frac{3x-8}{x+4}$

c) $(1+\frac{1}{x+5})(1-\frac{1}{x-5}) = \frac{7}{8}$

d) $(x^2+3x)^2 - (x^2+3x) - 6 = 0$

14. If 139 is the nth term of an AP 7,11, 15,…… then the value of 'n' is

a) 31

b) 32

c) 33

d) 34

15. The next two terms of the A.P.

9,4,-1,-6 ,…… are

a) -11, -16

b) -16,-11,

c) -1,4

d) 1,-4

16. If $\Delta ABC \sim \Delta EFD$, then which of the following is incorrect?

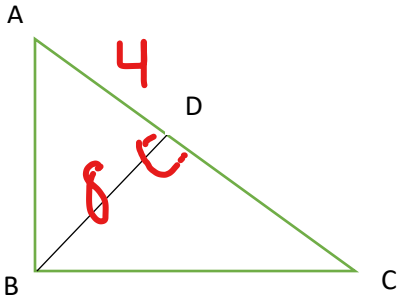
a) $\frac{AB}{EF} = \frac{AC}{ED}$

b) $\frac{CB}{DF} = \frac{BA}{FE}$

c) $\frac{DE}{CA} = \frac{BC}{FD}$

d) $\frac{AB}{EF} = \frac{BC}{FD}$

17. In the given figure, BD⊥ AC, AD=4cm, BD= 8cm then the length of CD is



a) $4\sqrt{2}$ cm

b) $4\sqrt{5}$cm

c) 16cm

d)$16\sqrt{5}$cm

18. After 4 years, a man earned Rs 1764 as interest at the time of maturity of R.D. If he has deposited Rs 200 every month, then the rate of interest is

a)12%

b)8%

c)7.5%

d)9%

19.If $\begin{bmatrix} 3 & -8 \\ 9 & 4 \end{bmatrix}\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} -2 \\ 8 \end{bmatrix}$, then the values of x and y are

a) 2/3 and ½

b) ½ and 2/3

c) 1.5 and 0.5

d) 0.5 and 1.5

20.The sum of n terms of an A.P. is

$S_n = 3n^2 + 2n$

The sum of first 12 terms of the A.P. is

a) 458

b) 465

c) 456

d) 485

21.If the equation $x^2 + 4x + k = 0$ has real and distinct roots, then

a) $k < 4$

b) $k > 4$

c) $k \geq 4$

d) $k \leq 4$

22. If $ax^2 + bx + c = 0$ has equal roots, then c=

a) -b/2a

b) b/2a

c) $-b^2/4a$

d) $b^2/4a$

23.If 2 is a root of the equation $x^2 + bx + 12 = 0$ and the equation $x^2 + bx + q = 0$ has equal roots then q=

a) 8
b) -8
c) 16
d) -16

24. Find the roots of the equation $x^2 + 6x - 16 = 0$
a) 2,-8
b) 2,8
c) -2,8
d) -2,-8

25. A natural number when increased by 12, equals 160 times its reciprocal. What is the number?
a) 20
b) -20
c) -8
d) 8

26. If 7^{th} and 13^{th} terms of an AP be 34 and 64 respectively, then its 18^{th} term is
a) 87
b) 88
c) 89
d) 90

27. The first and last terms of an AP are 1 and 11. If the sum of its terms is 36, then the number of terms will be
a) 5
b) 6
c) 7
d) 8

28. If x=1 is a common root of $ax^2 + ax + 2 = 0$ and $x^2 + x + b = 0$ then, ab=?
a) 1
b) 2
c) 4
d) 3

29. The number of terms of the AP 3,7,11,15,…. to be taken so that the sum is 406 is
a) 5
b)10

c) 12
d) 14

30. If the Mean of the distribution is 2.6 then the value of y is

Variable (x)	1	2	3	4	5
Frequency (f)	4	5	y	1	2

a) 3
b) 8
c) 13
d) 24

31. If the Mode of the data
16, 15, 17, 16, 15, x, 19, 17, 14
Is 15,
Then x=

a) 15
b) 16
c) 17
d) 19

32. If $\Delta ABC \sim \Delta DEF$ such that BC=3cm, EF=4cm and area of ΔABC= 54sqcm;
Find area of ΔDEF
a) 96sq.cm
b) 69sq.cm
c) 84sq.cm
d) 92sq.cm

33. If $\begin{bmatrix} x-2y & 5 \\ 3 & y \end{bmatrix} = \begin{bmatrix} 6 & 5 \\ 3 & -2 \end{bmatrix}$ then

Value of x is

a) -2

b) 0

c) 1

d) 2

34. If the Arithmetic Mean of x, (x+3), (x+6), (x+9) and (x+12) is 10, find x

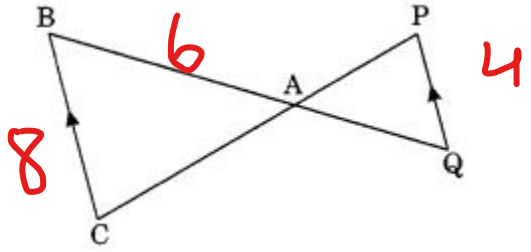
a) 1

b) 2

c) 6

d) 4

35. In the given figure, ΔACB ~ ΔAPQ. If AB = 6 cm, BC = 8 cm, and PQ = 4 cm then AQ is equal to



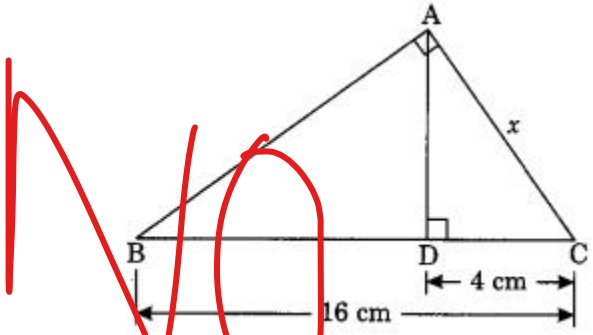
(a) 2 cm

(b) 2.5 cm

(c) 3 cm

(d) 3.5 cm

36. In the given figure the value of x is



(a) 4 cm

(b) 5 cm

(c) 8 cm
(d) 3 cm

37. In ΔLMN, ∠L = 50° and ∠N = 60°, If ΔLMN ~ ΔPQR, then find ∠Q
(a) 50°
(b) 70°
(c) 60°
(d) 40°

38. If the class marks of a continuous frequency distribution are 22, 30, 38, 46, 54, 62, then the class corresponding to the class mark 46 is
(a) 41.5-49.5
(b) 42-50
(c) 41-49
(d) 41-50

39. The solution of the inequation $-15 < \frac{3(x-2)}{5} < 0$ is
a) $23 < x < 2$
b) $27 < x < -2$
c) $-23 < x < 2$
d) $-27 < x < -2$

40. In ΔABC, if DE || BC, AD = x, DB = x – 2, AE = x + 2 and EC = x – 1, then value of x is
(a) 3
(b) 4
(c) 5
(d) 3.5

SECTION -B[10 MARKS]

1. Haneef has a recurring deposit account in a bank for 2 years at 6% p.a. simple interest. If he gets Rs 1200 as interest at the time of maturity, find :

i) **The monthly instalment**

ii) **The amount of maturity** **[4]**

2. **Find the Median of the following distribution:** **[6]**

Classes	Frequency
20-30	10
30-40	6
40-50	8
50-60	12
60-70	5
70-80	9