

I. Choose the correct answer:

(20×1=20)

- The linear equation in one variable has \_\_\_\_\_ solution.  
a) Two      b) One      c) Three      d) Four
- The value of  $x$  in the equation  $x+5= 12$  is \_\_\_\_\_.  
a) 10      b) 9      c) 7      d) 8
- Sum of a number and its half is 30 then the number is \_\_\_\_\_.  
a) 15      b) 20      c) 25      d) 40
- The product of LCM and HCF of two numbers is 24.  
If one of the number is 6, then the other number is \_\_\_\_\_.  
a) 6      b) 2      c) 4      d) 8
- The solution of the equation  $a x+b=0$  is \_\_\_\_\_.  
a)  $\frac{b}{a}$       b)  $\frac{a}{b}$       c)  $-\frac{b}{a}$       d)  $\frac{a}{x}$
- The shifting of a number from one side of an equation to other is called \_\_\_\_\_.  
a) Variable      b) Constant      c) Transposition      d) Terms
- $(0, -5)$  point lies on \_\_\_\_\_.  
a) X – axis      b) Y-axis      c) I quadrant      d) II quadrant
- The X-axis and Y-axis intersect at \_\_\_\_\_.  
a)  $(1, 1)$       b)  $(0, 0)$       c)  $(1, 0)$       d)  $(0, 1)$
- The coordinates of the point in third quadrant are always \_\_\_\_\_.  
a) Positive      b) Neutral      c) Negative      d) None of these
- $y = px$  where  $P \in Z$  always passes through the \_\_\_\_\_.  
a)  $(2, 4)$       b)  $(1, 1)$       c)  $(0, 0)$       d) None of these
- The intersecting point of the line  $x=4$  and  $y=-4$  \_\_\_\_\_.  
a)  $(4, 4)$       b)  $(4, -4)$       c)  $(1, 1)$       d)  $(1, 2)$
- The line graph for linear equation is called a \_\_\_\_\_ graph.  
a) Bar Graph      b) Straight      c) Linear      d) None of these
- What is the eleventh Fibonacci number?  
a) 55      b) 77      c) 89      d) 144
- Every 3<sup>rd</sup> number of the Fibonacci sequence is a multiple of \_\_\_\_\_.  
a) 2      b) 3      c) 5      d) 8
- The process of converting the plain text to the cipher text is called \_\_\_\_\_.  
a) Decoding      b) Encoding      c) Encryption      d) Decryption
- Common prime factors of 30 and 250 are \_\_\_\_\_.  
a)  $2 \times 5$       b)  $3 \times 5$       c)  $2 \times 3 \times 5$       d)  $5 \times 5$

17. Two numbers are said to be co-prime numbers of their H.C.F is \_\_\_\_\_.

- a) 2      b) 3      c) 0      d) 1
18. In a certain code, “MEDICINE” is coded as “EOJDJEFM”, then how is “COMPUTER” written in the same code?  
a) CNPRVUFQ      b) CMNQTUDR      c) RFUVQNPC      d) RNVFTUDQ
19. \_\_\_\_\_ is defined as the science which is concerned with communication in secured form.  
a) Psychology      b) Cryptology      c) Ophthalmology      d) None of these
20. Common prime factors of 36, 60 and 72 are \_\_\_\_\_.  
a)  $2 \times 2$       b)  $2 \times 3$       c)  $3 \times 3$       d)  $3 \times 2 \times 2$

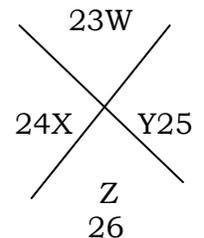
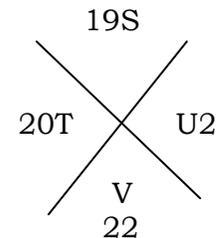
II. Answer any 9 of the following questions.

Question **No. 34** is compulsory either ‘a’ or ‘b’. (9×3=27)

21. Using repeated subtracting method find HCF of the following  
i) 42 and 70
22. Decode the given Pigpen cipher text and compare your answer to get the Activity 3 result.  
I. The room number in which the treasure took place,  $\square \square$

<sup>1</sup> A	<sup>2</sup> B	<sup>3</sup> C	<sup>10</sup> J	<sup>11</sup> K	<sup>12</sup> L
<sup>4</sup> D	<sup>5</sup> E	<sup>6</sup> F	<sup>13</sup> M	<sup>14</sup> N	<sup>15</sup> O
<sup>7</sup> G	<sup>8</sup> H	<sup>9</sup> I	<sup>16</sup> P	<sup>17</sup> Q	<sup>18</sup> R

II. Place of the treasure:



III. The name of the treasure:



23. Using repeated division method. Find HCF of the following:  
i) 455 and 26

24. Match the following. (a=00.....z=25)
- i) Mathematics - 00 03 03 08 19 08 14 13  
 ii) Addition - 03 08 21 08 18 08 14 13  
 iii) Division - 12 00 19 07 04 12 00 19 08 02 18
25. Will a line pass through (2, 2) if it intersects the axes at (2, 0) and (0, 2)
26. Find the quadrants without plotting the points on a graph sheet.  
 i) (3, -4)    ii) (5, 7)    iii) (2, 0)
27. Write True or False:  
 i) (-10, 20) lies in the second quadrant  
 ii)  $5(3x+2) = 3(5x-7)$  is a linear equation in one variable.  
 iii) Linear equation in one variable has only one variable with power 2.
28. Find x i)  $\frac{2x}{3} - 4 = \frac{10}{3}$
29. One number is even times another. If their difference is 18, find the numbers.
30. A mother is five times as old as her daughter. After 2 years, The mother will be four times as old as her daughter. What is their present age?
31. Find x: i)  $-3(4x + 9) = 21$
32. Fill in the blanks.  
 i) In an equation  $a+b=23$ . The value of a is 14, then the value of b is \_\_\_\_\_.  
 ii) The x - coordinate is always \_\_\_\_\_ on the y-axis.  
 iii) The value of m in the equation  $8m=56$  is \_\_\_\_\_
33. Find the values, Let  $y = x+3$   
 i) If  $x = 0$ , find y  
 ii) If  $y = 0$ , find x
34. a) Using repeated division method find the HCF of 396 and 300  
 (or)  
 b) The sum of two number is 36 and one number exceeds another by 8. Find the numbers.

III. Answer any 5 of the following questions. (5×5=25)

Question No. 43 is compulsory either 'a' or 'b'.

35. i)  $\frac{m+9}{3m+15} = \frac{5}{3}$ , find m.
36. Using repeated division method find HCF of 184, 230 and 276.
37. A total of 90 currency notes, consisting only of Rs. 5 and Rs. 10 denominations, amount to Rs. 500. Find the number of notes in each denomination.

38. The length of a rectangle is  $\frac{1}{3}$  of its breadth. If its perimeter is 64m, then find the length and breadth of the rectangle.
39. The length of a rectangular field exceeds its breadth by 9 metres. If the perimeter of the field is 154m, find the length and breadth of the field.
40. Match the following:  
 i)  $\frac{x}{2}=10$  -  $x = 4$   
 ii)  $20=6x-4$  -  $x = 1$   
 iii)  $2x-5=3-x$  -  $x = 20$   
 iv)  $7x-4-8x=20$  -  $x = \frac{8}{3}$   
 v)  $\frac{4}{11}-x = \frac{-7}{11}$  -  $x = -24$
41. Kalai wants to cut identical squares as big as she can, from a piece of paper measuring 168mm and 196mm. What is the length of the side of the biggest square? (To find HCF using repeated subtraction method)
42. Fill in the blanks (Use Atbash cipher) that is given from A to Z and then in reverse from Z to A.  
 i) GZNR0 - \_\_\_\_\_  
 ii) VMTORHS - \_\_\_\_\_  
 iii) NZGSVNZGRXH - \_\_\_\_\_  
 iv) HXRVMXV - \_\_\_\_\_  
 v) HLXRZO HXRVMXV - \_\_\_\_\_
43. a) Using repeated subtraction method, find HCF of 144 and 120.  
 (or)

b) Solve  $\frac{4y}{3} - 7 = \frac{2}{5}y$

- IV. Answer any 1 of the following questions. (1×8=8)
44. a) If the points P(5, 3) Q (-3, 3), R (-3, -4) and S form a rectangle, find the coordinate of S.

(or)

- b) Plot the following points in a graph sheet.  
 A (5, 2), B (-2, 4), C(2, 0), D (-4, 0), E (-1, -1)