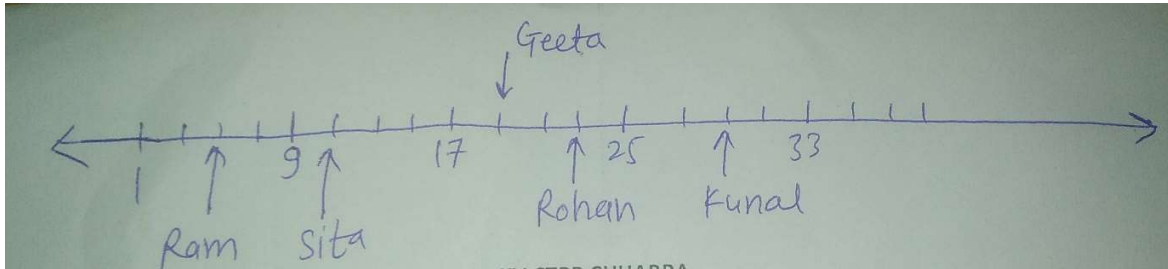KV CTPP CHHABRA

HOLIDAY HOMEWORK

CLASS – VII

Ques.1. Following number line shows the age in years of different persons:

(1) Observe the number line and write the age of each persons.
(2) What is the age difference between the oldest and youngest among the above ?

Ques.2. Use the sign >,< or = in the box to make the statement true.

(1) -5-(-8)☐ 5-8
(2) -3-2 ☐3+2
(3) 2+3+(-5) ☐8+3-11
(4) 2-5+8-9 ☐ 3-5-6+11

Ques.3. Write down a pair of integers whose.

(1) Sum is -53.
(2) Difference is -24.
(3) Sum is 0.
(4) Difference is 0.

Ques.4. Write down 10 Addition of two digit numbers like 10+(-20)+(-10) and calculate them.

Ques.5. Write down 10 Subtractions of two digit numbers like 20-(-39)-(-67) and calculate them.

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3.4.4
3.4.6

① Find the matrix Y so that

$$Y \begin{bmatrix} 2 & 5 & 6 \\ 8 & 7 & 1 \end{bmatrix} = \begin{bmatrix} 8 & 9 & -2 \\ 0 & 3 & 4 \end{bmatrix}$$

② For what value of x:

$$\begin{bmatrix} 1 & 3 & 5 \end{bmatrix} \begin{bmatrix} 2 & 2 & 0 \\ 2 & 0 & 1 \\ 2 & 5 & 3 \end{bmatrix} \begin{bmatrix} x \\ 2 \\ 0 \end{bmatrix} = 0$$

③ Find the value of $A^2 + 5A + 7I$

if $A = \begin{bmatrix} 3 & 2 & 1 \\ 5 & 7 & 3 \\ 0 & 3 & 4 \end{bmatrix}$

④ Using elementary transformations, find the inverse of the matrices, if it exists

(i) $\begin{bmatrix} 3 & 4 \\ 2 & 3 \end{bmatrix}$ (ii) $\begin{bmatrix} 3 & -5 \\ -1 & 2 \end{bmatrix}$ (iii) $\begin{bmatrix} -\frac{2}{5} & 0 & \frac{3}{5} \\ \frac{-1}{5} & \frac{1}{5} & 0 \\ \frac{2}{5} & \frac{1}{5} & \frac{-2}{5} \end{bmatrix}$

(iv)
$$\begin{bmatrix} \frac{1}{2} & -\frac{1}{2} & \frac{1}{2} \\ -4 & 3 & -1 \\ \frac{5}{2} & -\frac{3}{2} & \frac{1}{2} \end{bmatrix}$$

(5) if $A' = \begin{bmatrix} 2 & 3 \\ 5 & 2 \end{bmatrix}$ and $B = \begin{bmatrix} 5 & 4 \\ 7 & 8 \end{bmatrix}$

then find $(A+2B)' + (A+2B)$

(6) Express the matrix $B = \begin{bmatrix} 2 & -4 & 3 \\ 5 & 3 & 2 \\ 5 & 4 & 8 \end{bmatrix}$

(7) Find x and y if

$$5X + 4Y = \begin{bmatrix} 2 & 5 \\ 4 & 0 \end{bmatrix}$$

$$3X + 2Y = \begin{bmatrix} 2 & -1 \\ 3 & 5 \end{bmatrix}$$

(8) Find x and y

$$2\begin{bmatrix} 2 & 3 \\ 5 & x \end{bmatrix} + \begin{bmatrix} y & 0 \\ 2 & 3 \end{bmatrix} = \begin{bmatrix} 10 & 6 \\ 8 & 2 \end{bmatrix}$$

Ques.1. Write the coefficients of x^3 in each of the following:

     (1) $3x^3+4x^2+4$ (3) $x^5- x^3+ 4$

     (2) $x^4+x^2-x^3$ (4) $4x^7+x^8-x^3$

Ques.2. Classify the following as linear , quadratic and cubic polynomials:

     5x , $3x^2+2$, $2x^3$, 5x+3 , 5x + x^2+x , $x^2 + x^3$, x + x^2

Ques.3. Find the value of the polynomial $3x^2+10x+2$ at x = -1 , 1 ,$\sqrt{2}$, 3 , 5.

Ques.4. Find the zeroes of the polynomials in each of the following cases:

     (1) P(x)= x^2+2x+1

     (2) P(x)= 2x+$\sqrt{2}$

     (3) P(x)= x^3+x^2-x-1

     (4) P(x)= x^2+25x+100

Ques.5. Divide the polynomials by 2x+5.

     (1) $3x^5 + 4x^2$+ x

     (2) $3x^2+2x^2$+1

Ques.6. Find the remainder obtained on dividing p(x)= x^3 + 3 by 2x+1.

Ques.7. Factorise the following:

     (1) x^3 - 23 x^2 – 142x – 120

     (2) $5x^2$ + 13x +2

     (3) x^2 +10x +25