CLASS VII

SUBJECT : MATHEMATICS

CHAPTER : 4 (SIMPLE EQUATIONS)

HOT'S QUESTIONS AND CASE STUDIES

CASE STUDY 1

$$27+5(2x-7) = -12$$

Answer the following questions from the above equation:

Q(1). Identify the variable from it.

Q(2). In the given equation can you find any expressions? Identify those.

Q(3). Solve the equation.

Q(4). If we add +10 in both sides would the equation become same?

Q(5). Subtract 5 from LHS and find the value x.

CASE STUDY 2

Rohini subtracts three-fifth of a number from 54, she finds the result to be 24.

Answer the following questions from the above statement:

Q(1). Set up an equation of it.

Q(2). Find that number.

Q(3). If she subtracts seven-tenth of the number from 54, then the result will be how much less than the previous?

Q(4). At the time of solving in place of 54 if she takes 45 mistakenly, then what changes will occur in result? Describe it by your own words.

Q(5).Instead of subtracting three-fifth of a number from 54 if she subtracts 54 from three-fifth of the number would the result be same? Justify your answer.

CASE STUDY 3

The present age of a daughter is half the present age of her father. Twelve years ago, the father was thrice as old as his daughter.

Answer the following questions from the above statement:

Q(1). Set up two expressions from the above information which are equal.
(Hint: Make two expressions of the age of both of the father and his daughter 12 years ago by taking a single variable and equate them in order to the clue that has been provided in the statement).

Q(2). Find the present age of the father and his daughter.

Q(3). What was the age of the daughter 12 years ago?

Q(4). What would be the age of the father after 5 years?

Q(5). What would be the ratio of father's age to the daughter's age after 8 years?

HOT'S QUESTIONS

Q(1). What do you think : Are expressions and equations same? Justify your answer.

Q(2). If three-fourth of a number exceeds its three-seventh by 9, find the number.

Q(3). The length of the rectangle is thrice its breadth, if its perimeter is 120 cm, find the area of the rectangle.

Q(4). Write the following statements in the form of equations:

(a) One-sixth of a number is 9 less than 12.

(b) Hiya thinks of a number. If she takes away 8 from three-fifth of the number, she gets 8.

Q(5). If m - 4 = - 2 Then find the value of 3m – 16.

Q(6).Check whether for the given values of the variables following equations are satisfied or not.

(a) 9x – 81 = 0 (x = - 9) **(b) y – 13 = -12 (y = -1)**

(c) $\frac{5x}{3} - \frac{10}{3} = 0$ **(x = 2)** **(d)** $\frac{9n}{7} = 18$ **(n= 14)**

Q(7). Solve the equations by using balancing method:

(a) 9p – 70 = 101 **(b) $\frac{13x}{5}$ + 3 = 68**

Q(8). Solve the equations by using transposition method:

(a) 8 + 5(x – 3)= -2 **(b) 36 – 2(y – 12) = 60**

(c) 5y - $\frac{9}{7}$ = $\frac{20}{7}$ **(d) $\frac{15k}{8}$ = - 135**

Q(9). Ten times a number is eight more than six times the same number. Find the number.

Q(10). A man travelled one-third of his journey by bus, two-fifth by train, one-sixth by car and remaining 2 km on foot. What is the length of his total journey?

Q(11). Construct two equations starting with y = -6 .

Q(12). Each of the two equal sides of an isosceles triangle is twice as large as the third side. If the perimeter of the triangle is 85 cm, find the length of each side of the triangle.

Q(13). Write two expressions which are containing variable and two expressions with constants only.

Q(14).The sum of four consecutive multiplies of 3 is 114. Find the smallest and the greatest numbers among four.

Q(15). Set up four statements of simple equations by your own which are related to your daily life and write them in the form equations also.