VIII H.W-11 (Linear Equations in one Variable)
(one mark questions)

1) If $3x - 4(64 - x) = 10$, then the value of x is
(a) -266 (b) 133 (c) 66.5 (d) 38

2) If $\frac{1}{3} - x = -\frac{2}{3}$, then x is ____

3) $x = -12$ is the solution of the linear equation $5x - 3(2x+1) = 21 + x$. (True or False ?)

4) Solve: $\frac{x}{2} + \frac{x}{4} + \frac{x}{5} + 10000 = x$

5) The solution of which of the following equations is neither a fraction nor an integer.
(a) $3x+2 = 5x+2$ (b) $4x - 18 = 2$ (c) $4x+7 = x+2$
(d) $5x - 8 = x+4$.

6) The solution of the equation $ax + b = 0$ is
(a) $x = \frac{a}{b}$ (b) $x = -b$ (c) $x = -\frac{b}{a}$ (d) $x = \frac{b}{a}$

7) If $8x - 3 = 25 + 17x$, then x is
(a) a fraction (b) an integer (c) a rational number
(d) cannot be solved.

8) The shifting of a number from one side of an equation to other is called
(a) Transposition (b) Distributivity (c) commutativity
(d) Associativity

9) If $\frac{5x}{3} - 4 = \frac{2x}{5}$, then the numerical value of $2x - 7$ is
(a) $\frac{19}{13}$ (b) $-\frac{13}{19}$ (c) 0 (d) $\frac{13}{19}$

10) The value of x for which the expressions $3x - 4$ and $2x + 1$ become equal is
(a) -3 (b) 0 (c) 5 (d) 1

11) If a and b are positive integers, then the solution of the equation $ax = b$ has to be always

(a) positive (b) negative (c) one (d) zero.

12) Linear equation in one variable has
(a) only one variable with any power.
(b) only one term with a variable.
(c) only one variable with power 1
(d) only constant term.

13) which of the following is a linear expression:
(a) x^2+1 (b) $y+y^2$ (c) 4 (d) $1+z$

14) A linear equation in one variable has
(a) only one solution (b) two solutions (c) more than two solutions (d) no solutions.

15) Value of S in $\frac{1}{3}+S=\frac{2}{5}$

(a) $\frac{4}{5}$ (b) $\frac{1}{15}$ (c) 10 (d) 0

16) $-\frac{4}{3}y=-\frac{3}{4}$, then $y=$

(a) $-\left(\frac{3}{4}\right)^2$ (b) $-\left(\frac{4}{3}\right)^2$ (c) $\left(\frac{3}{4}\right)^2$ (d) $\left(\frac{4}{3}\right)^2$

17) In a linear equation, the _____ power of the variable appearing in the equation is one.

18) The solution of the equation $3x-4=1-2x$ is ____

19) The solution of the equation $2y=5y-\frac{18}{5}$ is ____

20) Any value of the variable which makes both sides of an ~~equati~~ equation equal is known as a _____ of the equation.

_____.

VIII Homework-11 (L.E - Solutions)

1) $3x - 4(64 - x) = 10$

$\Rightarrow 3x - 256 + 4x = 10$

$\Rightarrow 7x = 10 + 256$

$\Rightarrow 7x = 266$

$\therefore x = \frac{266}{7} = \underline{38}$ (d)

2) $\frac{1}{3} - x = -\frac{2}{3}$

$\Rightarrow -x = -\frac{2}{3} - \frac{1}{3}$

$\Rightarrow -x = -\frac{3}{3}$

$\Rightarrow \underline{x = 1}$

3) $5x - 3(2x+1) = 21 + x$

$\Rightarrow 5x - 6x - 3 = 21 + x$

$\Rightarrow -x - x = 21 + 3$

$\Rightarrow -2x = 24$

$\Rightarrow x = -\frac{24}{2}$

$\therefore x = -12$

$\therefore$ True, $x = -12$ is the solution of the given equation

4) $\frac{x}{2} + \frac{x}{4} + \frac{x}{5} + 1000 = x$

$\Rightarrow \frac{x^{\times 10}}{2\times 10} + \frac{x^{\times 5}}{4\times 5} + \frac{x^{\times 4}}{5\times 4} - \frac{x^{\times 20}}{1\times 20} = -1000$

$\Rightarrow \frac{10x + 5x + 4x - 20x}{20} = -1000$

$\Rightarrow -\frac{x}{20} = -1000$

$\Rightarrow +x = +20000$

$\therefore \underline{x = 20000}$

5) (a) $3x+2 = 5x+2$

$\Rightarrow 3x - 5x = 2-2$

$\Rightarrow -2x = 0$

$\therefore x = \frac{0}{-2} = \underline{\underline{0}}$

(b) $4x - 18 = 2$

$\Rightarrow 4x = 2+18 = 20$

$\therefore x = \frac{20}{4} = \underline{\underline{5}}$

(c) $4x+7 = x+2$

$\Rightarrow 4x - x = 2-7$

$\Rightarrow 3x = -5$

$\therefore x = \underline{\underline{-\frac{5}{3}}}$

(d) $5x - 8 = x+4$

$\Rightarrow 5x - x = 4+8$

$\Rightarrow 4x = 12$

$\therefore x = \frac{12}{4} = \underline{\underline{3}}$. Thus (c) is neither a fraction nor an integer.

6) $ax+b = 0$

$\Rightarrow ax = -b$

$\therefore x = -\frac{b}{a}$ (c)

7) $8x - 3 = 25 + 17x$

$\Rightarrow 8x - 17x = 25+3$

$\Rightarrow -9x = 28$

$\therefore x = -\frac{28}{9}$, a rational number (c)

8) transposition (a)

9) $\frac{5x}{3} - 4 = \frac{2x}{5}$

$\Rightarrow \frac{5x^{\times 5}}{3_{\times 5}} - \frac{2x^{\times 3}}{5_{\times 3}} = 4 \Rightarrow \frac{25x - 6x}{15} = 4$

$\Rightarrow 19x = 4 \times 15$

$\therefore x = \frac{60}{19}$

$\therefore 2x - 7 = 2 \times \frac{60}{19} - \frac{7}{1}^{\times 19} = \frac{120 - 133}{19} = -\frac{13}{19}$ (b)

10) $3x-4=2x+1$

$\Rightarrow 3x-2x=1+4$

$\Rightarrow x=5$ (c)

11) positive (a)

12) only one variable with power 1 (c)

eg:- $3x+1$, $7y-9$, $2a-5$ etc.

13) 1+2 (d)

14) only one solution (a)

15) $\frac{1}{3}+S=\frac{2}{5}$

$\Rightarrow S=\frac{2\times3}{5\times3}\frac{1\times5}{3\times5}$

$=\frac{6-5}{15}$

$\therefore S=\frac{1}{15}$ (b)

16) $-\frac{4}{3}y=-\frac{3}{4}$

$y=-\frac{3}{4}\times-\frac{3}{4}=\left(\frac{-3}{4}\right)^2=\left(\frac{3}{4}\right)^2$ (c)

17) highest

18) $3x-4=1-2x$

$\Rightarrow 3x+2x=1+4$

$\Rightarrow 5x=5$

$\therefore x=\frac{5}{5}=\underline{1}$

19) $2y=5y-\frac{18}{5}$

$\Rightarrow 2y-5y=-\frac{18}{5}$

$\Rightarrow -3y=-\frac{18}{5}$

$\therefore y=\frac{\cancel{18}\,6}{\cancel{3}\times5}=\underline{\frac{6}{5}}$

20) Solution.