



## CLASS NOTES-ANSWERS

### EXERCISE 4.1

1. Complete the last column of the table.

S. No.	Equation	Value	Say, whether the Equation is Satisfied. (Yes/ No)
(i)	$x + 3 = 0$	$x = 3$	
(ii)	$x + 3 = 0$	$x = 0$	
(iii)	$x + 3 = 0$	$x = -3$	
(iv)	$x - 7 = 1$	$x = 7$	
(v)	$x - 7 = 1$	$x = 8$	
(vi)	$5x = 25$	$x = 0$	
(vii)	$5x = 25$	$x = 5$	
(viii)	$5x = 25$	$x = -5$	
(ix)	$m/3 = 2$	$m = -6$	
(x)	$m/3 = 2$	$m = 0$	
(xi)	$m/3 = 2$	$m = 6$	

Answer:

S. No.	Equation	Value	Say, whether the Equation is Satisfied. (Yes/ No)
(i)	$x + 3 = 0$	$x = 3$	No, $3 + 3 \neq 0$
(ii)	$x + 3 = 0$	$x = 0$	No, $0 + 3 \neq 0$
(iii)	$x + 3 = 0$	$x = -3$	Yes, $-3 + 3 = 0$
(iv)	$x - 7 = 1$	$x = 7$	No, $7 - 7 \neq 1$
(v)	$x - 7 = 1$	$x = 8$	Yes, $8 - 7 = 1$
(vi)	$5x = 25$	$x = 0$	No, $5 \times 0 \neq 25$
(vii)	$5x = 25$	$x = 5$	Yes, $5 \times 5 = 25$
(viii)	$5x = 25$	$x = -5$	No, $5 \times -5 \neq 25$



(ix)	$m/3 = 2$	$m = -6$	No, $\frac{-6}{3} \neq 2$
(x)	$m/3 = 2$	$m = 0$	No, $\frac{0}{3} \neq 2$
(xi)	$m/3 = 2$	$m = 6$	Yes, $\frac{6}{3} = 2$

2. Check whether the value given in the brackets is a solution to the given equation or not:

(a)  $n + 5 = 19$  ( $n = 1$ )

(b)  $7n + 5 = 19$  ( $n = -2$ )

(c)  $7n + 5 = 19$  ( $n = 2$ )

(d)  $4p - 3 = 13$  ( $p = 1$ )

(e)  $4p - 3 = 13$  ( $p = -4$ )

(f)  $4p - 3 = 13$  ( $p = 0$ )

Answer:

(a)  $n + 5 = 19$  ( $n = 1$ )

$$\text{L.H.S} = n + 5$$

By putting,  $n = 1$ ,

$$\text{L.H.S} = 1 + 5 = 6 \neq \text{R.H.S}$$

$$\text{L.H.S} \neq \text{R.H.S}$$

So,  $n = 1$  is not a solution of the equation.

(b)  $7n + 5 = 19$  ( $n = -2$ )

$$\text{L.H.S} = 7n + 5$$

By putting,  $n = -2$ ,

$$\text{L.H.S} = 7 \times (-2) + 5 = -9 \neq \text{R.H.S}$$





As, L.H.S  $\neq$  R.H.S

So,  $n = -2$  is not a solution of the equation.

(c)  $7n + 5 = 19$  ( $n = 2$ )

L.H.S =  $7n + 5$

By putting,  $n = 2$ ,

L.H.S =  $7 \times (2) + 5 = 19 =$  R.H.S

As, L.H.S = R.H.S

So,  $n = 2$  is a solution of the equation.

(d)  $4p - 3 = 13$  ( $p = 1$ )

L.H.S =  $4p - 3$

By putting,  $p = 1$ ,

L.H.S =  $4 \times (1) - 3 = 1 \neq$  R.H.S

As, L.H.S  $\neq$  R.H.S

So,  $p = 1$  is not a solution of the equation.

(e)  $4p - 3 = 13$  ( $p = -4$ )

L.H.S =  $4p - 3$

By putting,  $p = -4$ ,

L.H.S =  $4 \times (-4) - 3 = -19 \neq$  R.H.S

As, L.H.S  $\neq$  R.H.S

So,  $p = -4$  is not a solution of the equation.

(f)  $4p - 3 = 13$  ( $p = 0$ )

L.H.S =  $4p - 3$

By putting,  $p = 0$ ,





$$\text{L.H.S} = 4 \times (0) - 3 = -3 \neq \text{R.H.S}$$

As,  $\text{L.H.S} \neq \text{R.H.S}$

So,  $p = 0$  is not a solution of the equation.

3. Solve the following equations by trial-and-error method:

(i)  $5p + 2 = 17$

(ii)  $3m - 14 = 4$

Answer:

(i)  $5p + 2 = 17$

$$5p + 2 = \text{L.H.S}$$

By putting,  $p = 0$ ,  $5 \times 0 + 2 = 2 \neq \text{R.H.S}$

By putting,  $p = 1$ ,  $5 \times (1) + 2 = 7 \neq \text{R.H.S}$

By putting,  $p = 2$ ,  $5 \times (2) + 2 = 12 \neq \text{R.H.S}$

By putting,  $p = 3$ ,  $5 \times (3) + 2 = 17 = \text{R.H.S}$

Therefore,  $p = 3$  is a solution of the equation.

(ii)  $3m - 14 = 4$

$$3m - 14 = \text{L.H.S}$$

By putting,  $m = 5$ ,  $3 \times (5) - 14 = 1 \neq 6$

By putting,  $m = 6$ ,  $3 \times (6) - 14 = 4 = \text{R.H.S}$

Therefore,  $m = 6$  is a solution of the equation.

4. Write equations for the following statements:

(i) The sum of numbers  $x$  and 4 is 9.

(ii) 2 subtracted from  $y$  is 8.



- (iii) Ten times a is 70.
- (iv) The number b divided by 5 gives 6.
- (v) Three-fourth of t is 15.
- (vi) Seven times m plus 7 gets you 77.
- (vii) One-fourth of a number x minus 4 gives 4.
- (viii) If you take away 6 from 6 times y, you get 60.
- (ix) If you add 3 to one-third of z, you get 30.

Answer:

- (i)  $x + 4 = 9$
- (ii)  $y - 2 = 8$
- (iii)  $10a = 70$
- (iv)  $\frac{b}{5} = 6$
- (v)  $\frac{3}{4}t = 15$
- (vi)  $7m + 7 = 77$
- (vii)  $\frac{1}{4}x - 4 = 4$
- (viii)  $6y - 6 = 60$
- (ix)  $\frac{1}{3}z + 3 = 30$



5. Write the following equations in statement forms:

- (i)  $p + 4 = 15$
- (ii)  $m - 7 = 3$
- (iii)  $2m = 7$
- (iv)  $\frac{m}{5} = 3$
- (v)  $\frac{3m}{5} = 6$



$$(vi) 3p + 4 = 25$$

$$(vii) 4p - 2 = 18$$

$$(viii) \frac{p}{2} + 2 = 8$$

Answer:

i) The sum of  $p$  and 4 is 15.

ii) 7 subtracted from  $m$  is 3.

iii) Two times  $m$  is 7.

iv) One-fifth of  $m$  is 3.

v) Three-fifth of  $m$  is 6.

vi) When 4 is added to three times of a number  $p$ , it gives 25.

vii) When 2 is subtracted from four times of a number  $p$ , gives 18.

viii) When 2 is added to half of  $p$  gives 8.

6. Set up an equation in the following cases:

(i) Irfan says that he has 7 marbles more than five times the marbles Parmit has. Irfan has 37 marbles. (Take  $m$  to be the number of Parmit's marbles.)

(ii) Laxmi's father is 49 years old. He is 4 years older than three times Laxmi's age. (Take Laxmi's age to be  $y$  years.)

(iii) The teacher tells the class that the highest marks obtained by a student in her class is twice the lowest marks plus 7. The highest score is 87. (Take the lowest score to be  $l$ .)

(iv) In an isosceles triangle, the vertex angle is twice either base angle. (Let the base angle be  $b$  in degrees. Remember that the sum of angles



of a triangle is 180 degrees).

Answer:

(i) Let permit has  $m$  number of marbles

Number of marbles Irfan has =  $5m + 7$

Total number of marbles Irfan has 37

So,  $5m + 7 = 37$

(ii) Let the age of Laxmi be  $y$  years

Laxmi's father is four years older than three times Laxmi's age

$$= 3y + 4$$

Age of Laxmi's father is 49 years,

So,  $3y + 4 = 49$

(iii) Let the lowest marks obtained by the student be  $l$

Highest marks obtained by the student be  $2l + 7$

And the highest score is 87

So,  $2l + 7 = 87$

(iv) Let the base angle of a triangle be  $b$

Vertex angle of the triangle =  $2b$ ,

So,  $b + b + 2b = 180^\circ$

$4b = 180^\circ$