'Class - VII' 'Mathematics'

'Ch - 04' 'Simple Equations'

Ex - 4.2

Q.1. "To separate the variable."

(a) $x - 1 = 0$

Adding 1 to both sides of given equation.

$\Rightarrow x - 1 + 1 = 0 + 1$

$\Rightarrow \boxed{x = 1}$ which is required solution.

(b) $x + 6 = 2$

Subtracting 6 from both sides of given equation.

$\Rightarrow x + 6 - 6 = 2 - 6$

$\Rightarrow \boxed{x = -4}$, which is the required solution.

(c) $y - 4 = 4$

Adding 4 to both sides of given equation.

$\Rightarrow y - 4 + 4 = 4 + 4$

$\Rightarrow \boxed{y = 8}$, which is the required solution.

(d) $y + 4 = -4$

Subtracting 4 from both sides of given equation.

$\Rightarrow y + 4 - 4 = -4 - 4$

$\Rightarrow \boxed{y = -8}$, which is the required sol.

Q.2. To separate the variable and solve them.

(a) $3l = 42$

Divide both sides by 3. to the given equation

$\Rightarrow \frac{3l}{3} = \frac{42}{3}$

$\Rightarrow \boxed{l = 14}$, which is the solution.

(b) $\frac{p}{7} = 4$

Multiply both sides by 7, to the given eq.

$\Rightarrow \frac{p}{7} \times 7 = 4 \times 7$

$\Rightarrow \boxed{p = 28}$, which is the solution.

(c) $8y = 36.$

Divide both sides by 8, to the equation

$\Rightarrow \frac{8y}{8} = \frac{36}{8}$

$\Rightarrow y = \frac{9}{2}$ or, $\boxed{y = 4\frac{1}{2}}$ which is the sol.

(d) $\frac{a}{5} = \frac{7}{15}$

Multiply both sides by 5

$\Rightarrow \frac{a}{5} \times 5 = \frac{7}{15} \times 5$

$\Rightarrow a = \frac{7}{3} \Rightarrow \boxed{a = 2\frac{1}{3}}$. which is the solution.

Q.3. To separate the variables and solve them

(a) $3n - 2 = 46.$

Add 2 to both sides.

$\Rightarrow 3n - 2 + 2 = 46 + 2$

$\Rightarrow 3n = 48$

Divide both sides by 3

$\Rightarrow \frac{3n}{3} = \frac{48}{3}$

$\Rightarrow \boxed{n = 16.}$, which is the solution.

(b) $\frac{3p}{10} = 6$

Multiply both sides by 10

$\Rightarrow \frac{3p}{10} \times 10 = 6 \times 10$

$\Rightarrow 3p = 60$

Divide both sides by 3

$\Rightarrow \frac{3p}{3} = \frac{60}{3}$

$\Rightarrow \boxed{p = 20}$, Which is the solution.

Q.4. Solve the following equations:

(a) $10p = 100$.

Divide both sides by 10.

$\Rightarrow \frac{10p}{10} = \frac{100}{10}$

$\Rightarrow \boxed{p = 10}$, which is the solution.

(b) $2q + 6 = 0$

Subtract 6 from both sides.

$\Rightarrow 2q + 6 - 6 = 0 - 6$

$\Rightarrow 2q = -6$

Divide both sides by 2.

$\Rightarrow \frac{2q}{2} = \frac{-6}{2}$

$\Rightarrow \boxed{q = -3}$ which is the solution.

(c) $2q = 6$.

Divide both sides by 2

$\Rightarrow \frac{2q}{2} = \frac{6}{2}$

$\Rightarrow \boxed{q = 3}$, which is the solution.

The End.