

Name :

Class :

SYSTEM OF LINEAR EQUATIONS IN TWO VARIABLES

Solving a System of Two Linear Equations in Two Variables by Substitution

Solve each system by substitution.

$$\begin{aligned} 1) \quad y &= -4x + 16 \quad \dots\dots\dots (1) \\ -3x + 8y &= 23 \quad \dots\dots\dots (2) \end{aligned}$$

Solution:

Put $y = -4x + 16$ in equation 2, we get

$$x = \boxed{}$$

and solving equation 1, we get

$$y = \boxed{}$$

$$\text{Therefore } x = \boxed{} \text{ and } y = \boxed{}$$

$$\begin{aligned} 2) \quad -3x + 6y &= -24 \quad \dots\dots\dots (1) \\ y &= 7x + 22 \quad \dots\dots\dots (2) \end{aligned}$$

Solution:

Put $y = 7x + 22$ in equation 1, we get

$$x = \boxed{}$$

and solving equation 2, we get

$$y = \boxed{}$$

$$\text{Therefore } x = \boxed{} \text{ and } y = \boxed{}$$

$$\begin{aligned} 3) \quad y &= 5x + 5 \quad \dots\dots\dots (1) \\ y &= x + 5 \quad \dots\dots\dots (2) \end{aligned}$$

Solution:

Put $y = x + 5$ in equation 1, we get

$$x = \boxed{}$$

and solving equation 2, we get

$$y = \boxed{}$$

$$\text{Therefore } x = \boxed{} \text{ and } y = \boxed{}$$

$$\begin{aligned} 4) \quad y &= 4x + 22 \quad \dots\dots\dots (1) \\ y &= -4x - 18 \quad \dots\dots\dots (2) \end{aligned}$$

Solution:

Put $y = 4x + 22$ in equation 2, we get

$$x = \boxed{}$$

and solving equation 1, we get

$$y = \boxed{}$$

$$\text{Therefore } x = \boxed{} \text{ and } y = \boxed{}$$