

2 worksheet

Solve the following systems of equations.

1) $x + y = 20$

$x = y - 4$

$x + y = 20$ ————— ①

$x = y - 4$ ————— ②

From ②, substitute the value of x in ①.

$(y - 4) + y = 20$

$\blacksquare - 4 = 20$

$2y = 20 + 4$

$2y = \blacksquare$

$y = \frac{24}{2}$

$y = \blacksquare$

Substitute the value of y in ②.

$x = \blacksquare$

$x = 8$

Therefore, the solution of the system of equations is $\blacksquare$.

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$$2) \quad x + y = 23$$

$$y = x - 5$$

$$x + y = 23 \quad \text{--- ①}$$

$$y = x - 5 \quad \text{--- ②}$$

From ②, substitute the value of y in ①.

$$x + (x - 5) = 23$$

$$\text{[redacted]} = 23$$

$$2x = 23 + 5$$

$$2x = \text{[redacted]}$$

$$x = \frac{28}{2}$$

$$x = \text{[redacted]}$$

Substitute the value of x in ②.

$$y = \text{[redacted]}$$

$$y = 9$$

Therefore, the solution of the system of equations is [redacted].

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3) $3x - y = 5$

$2x + 3y = 6$

$3x - y = 5$ ————— ①

$2x + 3y = 6$ ————— ②

From ①, find the value of y.

$y = 3x - 5$ ————— ③

From ③, substitute the value of y in ②.

$2x + 3(3x - 5) =$ [REDACTED]

$2x +$ [REDACTED] $- 15 = 6$

$11x =$ [REDACTED]

$11x = 21$

$x = \frac{21}{11}$ or $1\frac{10}{11}$

Substitute the value of x in ③.

$y = 3\left(\frac{21}{11}\right) -$ [REDACTED]

$y = \frac{63}{11} -$ [REDACTED]

$y = \frac{8}{11}$

Therefore, the solution of the system of equations is $\left(1\frac{10}{11}, \frac{8}{11}\right)$.