

SUBSTITUTING INTO FORMULAS PRACTISE

①

Given that $P = 3W + 2T$, find the value of P when $W = 20$ and $T = 4$.

$$P = (3 \times 20) + (2 \times 4) \\ = 60 + 8 = 68$$

[2]

②

Given that $W = 3P + 2R$, find the value of W when $P = 5$ and $R = 4$.

$$W = (3 \times 5) + (2 \times 4) \\ = 15 + 8 \\ = 23$$

[2]

③

Use the formula $R = 3V + 2T$ to find V when $R = 40$ and $T = 5$.

$$\begin{aligned} 40 &= 3V + (2 \times 5) \\ 40 &= 3V + 10 \\ 40 - 10 &= 3V \\ 30 &= 3V \\ V &= 30 \div 3 \\ V &= 10 \end{aligned}$$

[3]

④

Use the formula $F = 3W + 2T$ to find the value of F when $W = 8$ and $T = 6$.

$$F = (3 \times 8) + (2 \times 6) \\ = 24 + 12 \\ = 36$$

[2]

⑤

Find the value of $3x + 4y$ when $x = -2$ and $y = 5$.

$$(3 \times -2) + (4 \times 5) \\ = -6 + 20 \\ = 14$$

[2]

⑥

Find the value of $6x + 3y$ when $x = 5$ and $y = -4$.

$$(6 \times 5) + (3 \times -4) \\ = 30 - 12 \\ = 18$$

[2]