

22. [Algebra - Substitution]

Skill 22.1 Substituting into expressions involving + and -

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Substituting into an expression means replacing the letters (pronumerals) with numbers and follow the order of operations.

Q. If $x = 3$,
find the value of:
 $x + 4$

$$\begin{aligned} \text{A. } x + 4 \\ &= 3 + 4 \\ &= 7 \end{aligned}$$

Substitute x with 3.
Add 3 and 4.

Q. If $m = 6$ and $n = 2$,
find the value of:
 $m - n + m + 4$

$$\begin{aligned} \text{A. } m - n + m + 4 \\ &= 6 - 2 + 6 + 4 \\ &= 4 + 6 + 4 \\ &= 14 \end{aligned}$$

Substitute m with 6 and n with 2.
Working from left to right, take 2 from 6.
Add 4 and 6 and 4.

a) If $t = 7$,
find the value of:
 $t + 5$

$$\begin{aligned} &= 7 + 5 \\ &= 12 \end{aligned}$$

b) If $r = 8$,
find the value of:
 $r + 3$

$$\begin{aligned} &= \dots\dots\dots \\ &= \dots\dots\dots \end{aligned}$$

c) If $p = 5$,
find the value of:
 $p + 4$

$$\begin{aligned} &= \dots\dots\dots \\ &= \dots\dots\dots \end{aligned}$$

d) If $a = 6$,
find the value of:
 $a + a + 4$

$$\begin{aligned} &= \dots\dots\dots \\ &= \dots\dots\dots \\ &= \dots\dots\dots \end{aligned}$$

e) If $h = 3$,
find the value of:
 $h + h + h + 9$

$$\begin{aligned} &= \dots\dots\dots \\ &= \dots\dots\dots \\ &= \dots\dots\dots \end{aligned}$$

f) If $k = 6$,
find the value of:
 $k + k + 9 - k$

$$\begin{aligned} &= 6 + 6 + 9 - 6 \\ &= 21 - 6 \\ &= \dots\dots\dots \end{aligned}$$

g) If $f = 15$ and $g = 4$,
find the value of:
 $f - g$

$$\begin{aligned} &= \dots\dots\dots \\ &= \dots\dots\dots \end{aligned}$$

h) If $l = 8$ and $m = 5$,
find the value of:
 $m + l$

$$\begin{aligned} &= \dots\dots\dots \\ &= \dots\dots\dots \end{aligned}$$

i) If $q = 42$ and $r = 27$,
find the value of:
 $q - r$

$$\begin{aligned} &= \dots\dots\dots \\ &= \dots\dots\dots \end{aligned}$$

j) If $s = 9$ and $t = 2$,
find the value of:
 $s - t + s + 4$

$$\begin{aligned} &= \dots\dots\dots \\ &= \dots\dots\dots \\ &= \dots\dots\dots \end{aligned}$$

k) If $y = 8$ and $z = 5$,
find the value of:
 $12 - y + 7 - z$

$$\begin{aligned} &= \dots\dots\dots \\ &= \dots\dots\dots \\ &= \dots\dots\dots \end{aligned}$$

l) If $a = 6$ and $b = 3$,
find the value of:
 $9 + a + a - b$

$$\begin{aligned} &= \dots\dots\dots \\ &= \dots\dots\dots \\ &= \dots\dots\dots \end{aligned}$$