

Substitute into 2-step expressions

1 Substitute $y = 6$ into each of these expressions.

a) $3y + 2 =$

y	y	y	2
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b) $3(y + 2) =$

y	2
y	2
y	2

c) $8 + 2y =$

8	y	y
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d) $2(4 + y) =$

4	y
4	y

2 Jack is substituting $g = 3$ into these expressions.

$4g + 5$

$4(g + 5)$

I will get the same answer for both as I just need to multiply g by 4 and add on 5



Draw a function machine for each expression to show why Jack is incorrect.

3 Evaluate the expressions when $z = 6$

a) $3z + 7 =$

c) $4 + z =$

$2z - 5 =$

$4 + 3z =$

$10z + 6.3 =$

$20 - 2z =$

b) $3(z + 7) =$

d) $\frac{z - 1}{5} =$

$2(z - 5) =$

$\frac{z}{3} + 2 =$

$10(z + 5.3) =$

$3 + \frac{z}{2} =$

4 Dora has evaluated the expression $4x^2$ when $x = 3$

$$4 \times 3 = 12$$
$$12^2 = 144$$

Dora has made a mistake.

a) What calculation should Dora have completed first?
Correct her working out.

b) What would the expression need, for the answer 144 to be correct?

c) Work out the value of these expressions when $x = 5$

$2x^2$

$(2x)^2$

$4x^2$

$(4x)^2$



5 Use a calculator to evaluate these expressions when $k = 16$ and $m = 0.5$

a) $k + m =$

h) $m(k - 8) =$

b) $k - m =$

i) $m(8 - k) =$

c) $m - k =$

j) $k^2 =$

d) $\frac{k}{m} =$

k) $3k^2 =$

e) $\frac{m}{k} =$

l) $(3k)^2 =$

f) $mk =$

m) $k^m =$

g) $3k - 7m =$

n) $4k^m =$

6 Substitute different values of m in to each of these expressions.

$5m + 1$

$5(m + 1)$

$5m + 5$

a) Explain why for any value of m , the second and third expressions will always be equal.

b) Explain why for any value of m , the second expression will always be 4 more than the first.

