Memory

To substitute, replace the variable with it's corresponding value.

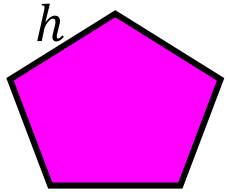
E.g. Let $a = 5$

$4a = 4 \times a$
$= 4 \times 5 = 20$

RoK

Simplify the following expressions

1) $3 \times a$
2) $b + b + b + b$
3) $a \div b$
4) $a \times a$
5) What is the formula for the perimeter of this regular shape?



Literacy

Explain the links between substitution and football. Use examples to enhance your explanation.

Skill 1

Let $x = 4$ *and* $y = -3$

1) $3x + 6$
2) $3x - 15$
3) $2y - 2$
4) $4x + 9$
5) $3 - x$
6) $3 - y$
7) $5 - 2x$
8) $7 + y$

Skill 2

Let x $= 2$ *and* $z = 5$

1) $x^2 + 5$
2) $x^2 - 3$
3) $2x^2 + 3$
4) $6x^2 - 7$
5) $x^3 - 7$
6) $z^2 + 3$
7) $3z^2 - 80$

Skill 3

Let s $= -2$ *and* $t = -4$

1) $s^2 + 4$
2) $s^2 - 7$
3) $2s^2 + 5$
4) $6s^2 - 2$
5) $t^2 + 7$
6) $t^2 - 20$
7) $t^3 + 1$

Stretch

1)

$\mathbf{10 - 2x}$	$\mathbf{3x + 10}$	$\mathbf{x^2}$
$\mathbf{-3x}$	$\mathbf{x^{-1}}$	$\mathbf{x^0}$

a) If $x = 5$ place the expressions in ascending order.
b) Is there a way of reversing the order?
c) Could you make every expressions value the same?

2) Find the values of *a* and *b* when *p* = 10.

$$a = \frac{3p^3}{2}$$

$$b = \frac{2p^2\,(p-3)}{7p}$$

Memory

To substitute, replace the variable with it's corresponding value.

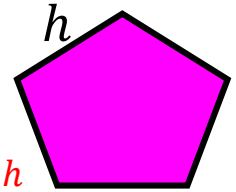
E.g. Let $a = 5$

$4a = 4 \times a$
$= 4 \times 5 = 20$

RoK

Simplify the following expressions

1) $3 \times a = 3a$
2) $b + b + b + b = 4b$
3) $a \div b = \frac{a}{b}$
4) $a \times a = a^2$
5) $Perimeter = h + h + h + h + h$
$= 5h$



Literacy

Explain the links between substitution and football. Use examples to enhance your explanation.

Skill 1

Let $x = 4$ and $y = -3$

1) $3x + 6$
$= 12 + 6$
$= 18$
2) $3x - 15$
$= 12 - 15$
$= -3$
3) $2y - 2$
$= -6 - 2$
$= -8$
4) $4x + 9$
$= 16 + 9$
$= 25$
5) $3 - x$
$= 3 - 4$
$= -1$
6) $3 - y$
$= 3 - (-3) = 3 + 3 = 6$
7) $5 - 2x$
$= 5 - 8$
$= -3$
8) $7 + y$ $= 7 + (-3)$ $= 7 - 3 = 4$

Skill 2

Let x $= 2$ and $z = 5$

1) $x^2 + 5$
$= 4 + 5 = 9$
2) $x^2 - 3$
$= 4 - 3 = 1$
3) $2x^2 + 3$
$= 8 + 3 = 11$
4) $6x^2 - 7$
$= 24 - 7 = 17$
5) $x^3 - 7$
$= 8 - 7 = 1$
6) $z^2 + 3$
$= 25 + 3 = 28$
7) $3z^2 - 80$
$= 75 - 80 = -5$

Skill 3

Let s $= -2$ and $t = -4$

1) $s^2 + 4$
$= 4 + 4 = 8$
2) $s^2 - 7$
$= 4 - 7 = -3$
3) $2s^2 + 5$
$= 8 + 5 = 13$
4) $6s^2 - 2$
$= 24 - 2 = 22$
5) $t^2 + 7$
$= 16 + 7 = 23$
6) $t^2 - 20$
$= 16 - 20 = -4$
7) $t^3 + 1$
$= -64 + 1 = -63$

Stretch

1)

$10 - 2x$	$3x + 10$	x^2
$-3x$	x^{-1}	x^0

a) If $x = 5$ place the expressions in ascending order.
b) Is there a way of reversing the order?
c) Could you make every expressions value the same?

2) Find the values of *a* and *b* when *p* = 10.

$a = \frac{3p^3}{2}$ $= \frac{3 \times 10^3}{2} = \frac{3 \times 1000}{2}$
$= \frac{3000}{2} = 1500$

$b = \frac{2p^2\,(p-3)}{7p}$ $= \frac{2 \times 100 \times 7}{70}$
$= \frac{1400}{70} = 20$