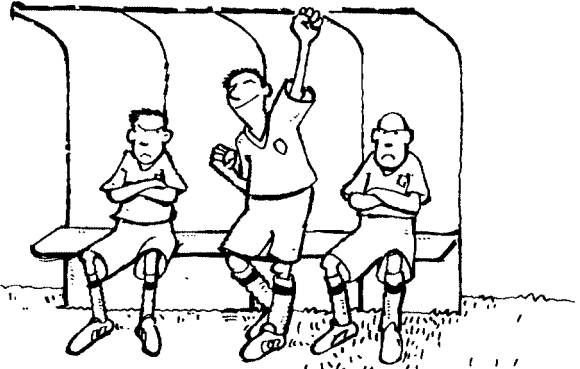


Super substitutions

A

This grid shows expressions which use the letters a and b .

$b - 2a$	$b + 4$	$4(a + b - 1)$
$6a + b$	$b - 2a - 1$	$4b - 2a + 1$
$2(2b - a)$	$4(a + b) - 3$	$3 - 2b$



1. **Substitute** the following values of a and b into the expressions. Write the value of each expression in the corresponding section of the grid.

(a) Let $a = 3$ and $b = 2$

-4		

(b) Let $a = 4$ and $b = -3$

(c) Let $a = 0.5$ and $b = 1.5$

(d) Let $a = 2.5$ and $b = -6$



2. Find the total of each row and column for each grid. What do you notice?

Write the totals around the edges of the grids. **!**

B

Find the value of each expression for the given value of x .

(a) $x^2 - 5$ if $x = 6$ _____

(b) $3(2x + 19)$ if $x = -7$ _____

(c) $2x^2 + 6$ if $x = 7$ _____

(d) $x^3 - 4$ if $x = 4$ _____

(e) $2x^3$ if $x = 2$ _____

(f) $x^2 + x$ if $x = 4$ _____

(g) $-5x$ if $x = -3$ _____

(h) $6x + 22$ if $x = -\frac{1}{2}$ _____



Substituting means 'replacing'. In the same way that a footballer is substituted (he or she is replaced by another player), in algebra you can replace a letter with any number. Remember to use the order of BODMAS: for example, in $4(a + b) - 3$ calculate the part in brackets first, then multiply by 4 and finally subtract 3.