

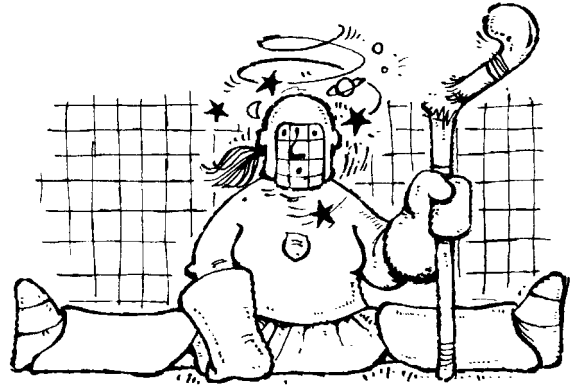
Super substitutions

Substitute integers into simple linear expressions

C

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

$a^2 + 2$	$b^3 + 6$	$a^2 - 4$
$3(a^2 + b^3)$	$1 - a^2$	$3 - 2b^3$
$2(1 - b^3 - a^2)$	$3a^2 - 3$	$a^2 + 3b^3 + 5$



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.

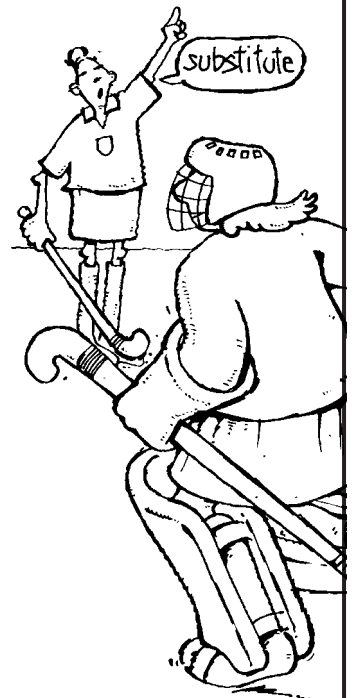
(a) Let $a = 3$ and $b = 2$

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(b) Let $a = 4$ and $b = 1$

(c) Let $a = 5$ and $b = 3$

(d) Let $a = 6$ and $b = 4$



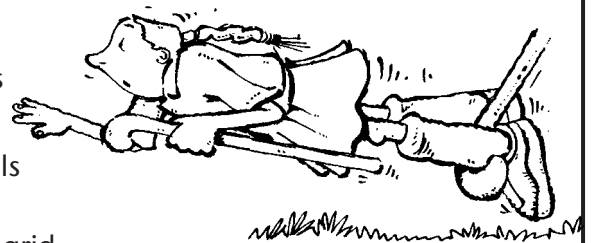
2. Find the total of each row and column for each grid. What do you notice?

Write the totals around the edges of the grids.



NOW TRY THIS!

- Find the total of the expressions in each row and column of the large grid. Give your answers as simply as you can. What do you notice?
- Write your own expressions grid, where the totals of the expressions in each row are equivalent. Substitute numbers for the letters to check your grid.



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 $2b^3$ you should cube first, then multiply by 2.

Developing Numeracy
Algebra
Year 8

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