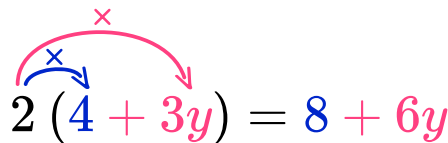


Expanding Single Brackets

To **expand a single bracket** we multiply every term inside of the bracket by the term outside of the bracket.

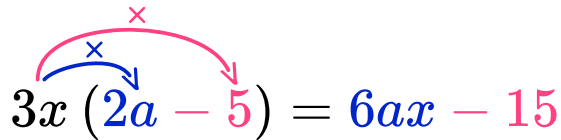
 Examples

Expand $2(4 + 3y)$


$$2(4 + 3y) = 8 + 6y$$

Multiply each term inside the bracket by 2

Expand $3x(2a - 5)$


$$3x(2a - 5) = 6ax - 15$$

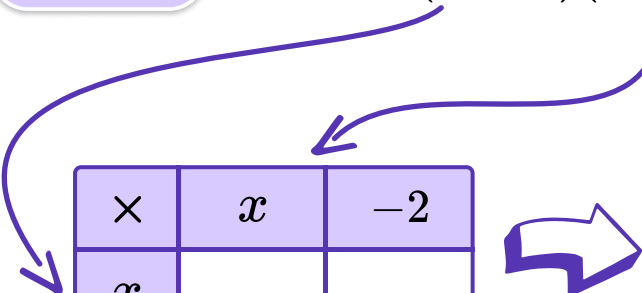
Multiply each term inside the bracket by $3x$

Expanding Double Brackets

To **expand double brackets** we multiply each term inside of the first bracket by each term inside of the second bracket. We can use a grid to help.

 **Example**

Expand $(x + 3)(x - 2)$




\times	x	-2
x		
$+3$		

 multiply terms

\times	x	-2
x	x^2	$-2x$
$+3$	$+3x$	-6

 write the expression


$$x^2 - 2x + 3x - 6$$

 collect like terms

$$x^2 + x - 6$$

Expanding Triple Brackets

To **expand triple brackets** we expand the first two brackets, then multiply every term in this new expression by every term in the third bracket.

 **Example** Expand $(x + 3)(2x - 1)(x + 5)$

1 Expand the first two brackets

	$2x$	-1
x	$2x^2$	$-x$
$+3$	$+6x$	-3

$2x^2 + 5x - 3$

2 Multiply this result by the terms in the third bracket

	$2x^2$	$+5x$	-3
x	$2x^3$	$+5x^2$	$-3x$
$+5$	$+10x^2$	$+25x$	-15

3 Collect like terms

$2x^3 + 15x^2 + 22x - 15$