

# Fill in the Blanks

# More Rearranging Formulae

Rearrange each formula to make  $x$  the subject.

Question	Multiply by Denominator	Multiply out bracket	Collect all $x$ terms	Take out $x$ as a common factor	Divide by bracket
$y = \frac{ax}{x-b}$	$y(x-b) = ax$	$xy - by = ax$	$xy - ax = by$	$x(y-a) = by$	$x = \frac{by}{y-a}$
$y = \frac{x}{a-x}$	$y(a-x) = x$	$ay - xy = x$	$ay = x + xy$	$ay = x(1+y)$	$x = \frac{ay}{1+y}$
$y = \frac{2x}{x+b}$	$y(x+b) = 2x$	$xy + by = 2x$	$by = 2x - xy$	$by = x(2-y)$	$x = \frac{by}{2-y}$
$2y = \frac{x}{x-1}$	$2y(x-1) = x$	$2xy - 2y = x$	$2xy - x = 2y$	$x(2y-1) = 2y$	$x = \frac{2y}{2y-1}$
$y = \frac{x+a}{x+1}$	$y(x+1) = x+a$	$xy + y = x+a$	$xy - x = a - y$	$x(y-1) = a - y$	$x = \frac{a-y}{y-1}$
$y = \frac{x+2}{x-a}$	$y(x-a) = x+2$	$xy - ay = x+2$	$xy - x = 2 + ay$	$x(y-1) = 2 + ay$	$x = \frac{2+ay}{y-1}$
$y = \frac{x-a}{x-b}$	$y(x-b) = x-a$	$xy - by = x-a$	$xy - x = by - a$	$x(y-1) = by - a$	$x = \frac{by-a}{y-1}$