

Fill in the Blanks

Inverse Functions

$f(x)$	Write as $y = \dots$	Swap x and y	Make y the subject	Write as $f^{-1}(x) = \dots$
$f(x) = 3x - 1$	$y = 3x - 1$	$x = 3y - 1$	$x + 1 = 3y$ $\frac{x + 1}{3} = y$	$f^{-1}(x) = \frac{x + 1}{3}$
$f(x) = 2x + 5$	$y = 2x + 5$	$x = 2y + 5$	$x - 5 = 2y$ $\frac{x - 5}{2} = y$	$f^{-1}(x) = \frac{x - 5}{2}$
$f(x) = x^2 + 8$	$y = x^2 + 8$	$x = y^2 + 8$	$x - 8 = y^2$ $\sqrt{x - 8} = y$	$f^{-1}(x) = \sqrt{x - 8}$
$f(x) = \sqrt{x - 3}$	$y = \sqrt{x - 3}$	$x = \sqrt{y - 3}$	$x^2 = y - 3$ $x^2 + 3 = y$	$f^{-1}(x) = x^2 + 3$
$f(x) = \frac{x + 2}{7}$	$y = \frac{x + 2}{7}$	$x = \frac{y + 2}{7}$	$7x = y + 2$ $7x - 2 = y$	$f^{-1}(x) = 7x - 2$
$f(x) = \frac{x}{3} - 5$	$y = \frac{x}{3} - 5$	$x = \frac{y}{3} - 5$	$x + 5 = \frac{y}{3}$ $3(x + 5) = y$	$f^{-1}(x) = 3(x + 5)$
$f(x) = \frac{9}{x}$	$y = \frac{9}{x}$	$x = \frac{9}{y}$	$xy = 9$ $y = \frac{9}{x}$	$f^{-1}(x) = \frac{9}{x}$
$f(x) = \frac{4}{x + 3}$	$y = \frac{4}{x + 3}$	$x = \frac{4}{y + 3}$	$x(y + 3) = 4$ $y + 3 = \frac{4}{x}$ $y = \frac{4}{x} - 3$	$f^{-1}(x) = \frac{4}{x} - 3$