

Function Machines and Functions *ramp up*

ANSWERS

a $f(x) = 3x + 2$ Find $f(4)$ <u>14</u> function notation	b $f(x) = x^2 - 1$ Find $f(-3)$ <u>8</u> a negative input into a square	c $f(x) = 2x + 1$ Solve $f(x) = 11$ <u>$x = 5$</u> an output given: solve	d $f(x) = 3x - 1$ Find $f(x + 2)$ <u>$3x + 5$</u> an expression as the input
e $f(x) = 5x$ Find $f^{-1}(x)$ <u>$\frac{x}{5}$</u> the inverse of one step	f $f(x) = 4x - 3$ Find $f^{-1}(x)$ <u>$\frac{x + 3}{4}$</u> the inverse of two steps	g $f(x) = x^3 - 2$ Find $f^{-1}(x)$ <u>$\sqrt[3]{x + 2}$</u> the inverse of a power	h $f(x) = 2x$, $g(x) = x + 3$ Find $fg(1)$ <u>8</u> a composite: the inside first
i $f(x) = 2x$, $g(x) = x + 3$ Find $fg(x)$ <u>$2x + 6$</u> a composite function	j $f(x) = x^2$, $g(x) = x - 1$ Find $fg(x)$ <u>$(x - 1)^2$</u> the order matters in a composite	k $f(x) = 3x + 1$ Find $ff(x)$ <u>$9x + 4$</u> a function applied twice	l $f(x) = 2x$, $g(x) = x + 3$ Solve $fg(x) = 10$ <u>$x = 2$</u> solving with a composite

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