



INVERSE FUNCTIONS

- 1) Given that $f(x) = 2x + 3$, work out $f^{-1}(x)$.
- 2) Given that $f(x) = \frac{x-4}{5}$, work out $f^{-1}(x)$.
- 3) Given that $f(x) = \frac{1}{2}x - 6$, work out $f^{-1}(x)$.
- 4) Find $f^{-1}(7)$, given that $f(x) = 3x + 1$.
- 5) Given that $g(x) = \frac{3x+2}{4}$, work out $g^{-1}(8)$.
- 6) Given that $f(x) = \frac{2x+1}{x+3}$, work out $f^{-1}(x)$.
- 7) Given that $f(x) = 2x - 5$, solve $f^{-1}(x) = f(x)$.
- 8) Given that $g(x) = \frac{x+1}{3}$, solve $g^{-1}(x) = g(x)$.
- 9) Given that $f(x) = \frac{4x-7}{2}$, solve $f^{-1}(x) = f(x)$.

10) Given that

$$f(x) = \sqrt{x+5}$$

$$g(x) = 1 - x$$

Solve $f^{-1}(x) = g^{-1}(x)$, given that $x \geq 0$.

11) Given that

$$f(x) = \frac{1}{x} \quad x \neq 0$$

$$g(x) = 4x + 3$$

Solve $f^{-1}(x) = g^{-1}(x)$

12) Given that $f(x) = \frac{x-1}{x-2} \quad x \neq 2$

Work out the value of x such that $f^{-1}(x) = f(x)$.

Challenge

13) a. Find the inverse of $f(x) = \frac{5x+3}{x-4}$.

b. Show that $f(f^{-1}(x)) = x$.

14) Given $f(x) = x^2 + 2x + 1$, where $x \geq -1$ Find $f^{-1}(x)$.

15) Given $f(x) = 3x^2 + 6x + 7$, where $x \geq -1$ Find $f^{-1}(x)$.