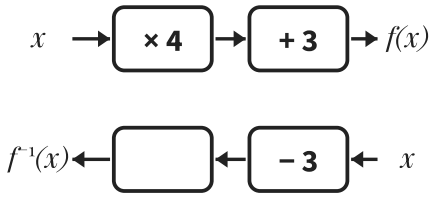
Inverse functions

1

$f(x) = 4x + 3$

Find $f^{-1}(x)$

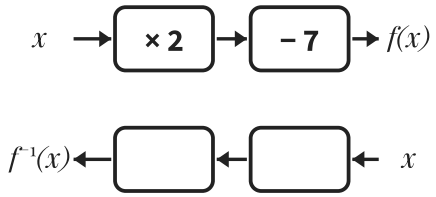


$f^{-1}(x) =$ _____

2

$f(x) = 2x - 7$

Find $f^{-1}(x)$



$f^{-1}(x) =$ _____

3

$f(x) = \frac{x+6}{5}$

Find $f^{-1}(x)$

write $y = f(x)$

$y = \frac{x+6}{5}$

make x the subject

$x =$

swap y for x

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

$f^{-1}(x) =$ _____

4

$f(x) = \frac{x}{3} - 2$

Find $f^{-1}(x)$

write $y = f(x)$

$y =$

make x the subject

$x =$

swap y for x

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

$f^{-1}(x) =$ _____

5

$f(x) = 5x + 4$

Find $f^{-1}(x)$, then work out $f^{-1}(19)$

$f^{-1}(19) =$ _____

6

$f(x) = 7 - 3x$

Find $f^{-1}(x)$

$f^{-1}(x) =$ _____

7

$f(x) = 3x - 2$

Ben says $f^{-1}(x) = \frac{1}{3x-2}$.

Explain his mistake, then find $f^{-1}(x)$.

$f^{-1}(x) =$ _____

8

$f(x) = 4x - 5$

Work out $f(2)$. Then find $f^{-1}(x)$ and use it to work out f^{-1} of your answer.

What do you notice?

Answer _____

Inverse functions *further practice*

9

$f(x) = \frac{2x+1}{5}$

Find $f^{-1}(x)$

$f^{-1}(x) =$ _____

10

$f(x) = 2(x-3)$

Find $f^{-1}(x)$

$f^{-1}(x) =$ _____

11

$f(x) = 3x - 4$

Solve $f^{-1}(x) = 6$

$x =$ _____

12

A gym charges £15 to join and £4 a visit, so x visits cost $f(x) = 4x + 15$ pounds.
Find $f^{-1}(x)$. Kemi has spent £63.
How many visits is that?

Visits _____

13

Ravi thinks of a number x.
He multiplies it by 4, then takes the result away from 30. Write this as $f(x)$.
Find $f^{-1}(x)$ and use it to find Ravi's number when he gets 10.

Number _____

14

$f(x) = \frac{9x}{5} + 32$ changes x degrees Celsius to degrees Fahrenheit.
Find $f^{-1}(x)$. Use it to change 77 °F to degrees Celsius.

Answer _____

15

$f(x) = 6 - 2x$

Find $f^{-1}(x)$, then solve $f(x) = f^{-1}(x)$

$x =$ _____

16

$f(x) = 2x + 6$ and $g(x) = \frac{x}{2} - 3$

Show that g is the inverse of f.
Explain how you know.

Answer _____