

## Inverse Functions





## REVISE THIS **TOPIC**

## CHECK YOUR **ANSWERS**



1 
$$f(x) = 2x + 9$$
  $g(x) = \sqrt{x-3}$   $h(x) = x^3 + 4$ 

**1** (a) Work out  $f^{-1}(x)$ [2 marks]



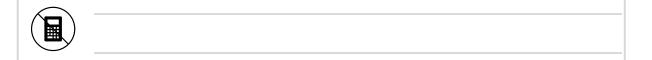
 $f^{-1}(x) =$ \_\_\_\_\_

**1 (b)** Work out  $g^{-1}(x)$ [2 marks]



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

1 (c) Work out  $h^{-1}(31)$ [2 marks]



Answer\_









2	f(x) =	2r + 3
		4

$$g(x) = x^2 - 6$$

2 (a) Work out  $f^{-1}(x)$  [2 marks]



 $f^{-1}(x) = \underline{\hspace{1cm}}$ 

**2 (b)** Work out  $g^{-1}(x)$ 

[2 marks]



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

3 
$$f(x) = 50 - x^2$$
  $g(x) = 4x^2 - 1$ 

$$g(x) = 4x^2 - 1$$

3 (a) Work out  $f^{-1}(1)$  [2 marks]



Answer\_\_\_\_

**3 (b)** Work out  $g^{-1}(0)$ 

[2 marks]



Answer\_



4 (a)

Work out  $f^{-1}(x)$ 

[2 marks]



 $f^{-1}(x) = \underline{\hspace{1cm}}$ 

Work out  $g^{-1}(x)$ 4 (b)

[2 marks]



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

5

$$f(x) = \sqrt[3]{100 - x}$$
  $g(x) = 2(x + 14)$ 

$$g(x) = 2(x + 14)$$

5 (a)

Work out  $f^{-1}(4)$ 

[2 marks]



Answer

**5 (b)** Work out  $g^{-1}(26)$ 

[2 marks]



Answer\_

Turn over ▶



$$f(x) = \frac{5}{x + 10}$$
  $g(x) = \sqrt{2x^3 - 3}$ 

$$g(x) = \sqrt{2x^3 - 3}$$

6 (a)

Work out  $f^{-1}(x)$ 

[2 marks]



 $f^{-1}(x) = \underline{\hspace{1cm}}$ 

**6 (b)** Work out  $g^{-1}(x)$ 

[2 marks]



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

7

$$f(x) = 3 - \frac{2}{x}$$
  $g(x) = (x - 5)^3$ 

$$g(x) = (x - 5)^3$$

7 (a) Work out  $f^{-1}(2.5)$ 

[2 marks]



Answer\_\_\_\_

**7 (b)** Work out  $g^{-1}(-27)$ 

[2 marks]



Answer\_



5



8	f(x) =	x + 4
		$\overline{x-3}$

$$g(x) = \sqrt{3x}$$

$$h(x) = 2x + 1$$

**8** (a) Work out  $f^{-1}(x)$ 

[3 marks]



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

**8 (b)** Work out  $g^{-1}(9)$ 

[2 marks]





8 (c) k(x) = gh(x)Work out  $k^{-1}(x)$ 

[4 marks]



