

# Inverse Functions

- 1 Suppose  $f$  and  $g$  are the functions given by

$$f(x) = 2x + 1 \quad \text{and} \quad g(x) = x^2$$

- (a) Calculate
- (i)  $f(-\frac{2}{5})$ ;
  - (ii)  $g(-\frac{3}{4})$ .
- (b) Find an expression for  $f^{-1}(x)$ .
- (c) Find an expression for  $g^{-1}(x)$ .
- (d) Calculate
- (i)  $f^{-1}(7)$ ;
  - (ii)  $g^{-1}(16)$ .

- 2 Suppose  $f$  and  $g$  are the functions given by

$$f(x) = (x - 1)^2 \quad \text{and} \quad g(x) = 4 - 3x$$

- (a) Calculate
- (i)  $f(-\frac{1}{4})$ ;
  - (ii)  $g(-5)$ .
- (b) Find an expression for  $f^{-1}(x)$ .
- (c) Find an expression for  $g^{-1}(x)$ .
- (d) Calculate
- (i)  $f^{-1}(9)$ ;
  - (ii)  $g^{-1}(-2)$ .

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