AQA, OCR, Edexcel

GCSE

GCSE Maths

Functions Answers

Name:

MME
Mathsmadeeasy.co.uk

Total Marks: /42

Functions

1. f is a function such that $f(x) = x^2 + 2x - 2$.
   a. Find $f(3)$ = 13
   b. Find $f(10)$ = 118
   c. Find $f(1.5)$ = 3.25

(3 Marks)

2. f is a function such that $f(x) = -5(x + 5)$.
   a. Find $f(12)$ = -85
   b. Find $f(-0.5)$ = -22.5
   c. Find $f(-\pi)$ = $5(\pi - 5)$

(3 Marks)

3. f is a function such that $f(x) = \frac{10}{3x-5}$.
   a. Find $f(10)$ = $\frac{2}{5}$
   b. Find $f(-1)$ = $-\frac{5}{4}$
   c. Find $f(0.25)$ = $-\frac{40}{17}$

(3 Marks)

4. Let $f(x) = 5x - 10$ and $h(x) = -\frac{5}{x}$.
   a. Find $fh(x)$ = $-5\left(\frac{5}{x} + 2\right)$
   b. Find $hf(x)$ = $\frac{1}{2-x}$

(4 Marks)

5. Let $g(x) = \dfrac{-2}{2x+5}$ and $h(x) = 2x - 3$.
   a. Find $gh(x)$ $= \dfrac{2}{1-4x}$
   b. Find $hg(x)$ $= -\dfrac{(6x+19)}{2x+5}$

(4 Marks)

6. Let $f(x) = \dfrac{2+x}{5}$.
   a. Find $f^{-1}(x)$ $= 5x - 2$
   b. Find $f^{-1}(10)$ $= 48$

(4 marks)

7. Let $f(x) = x^2 + 4x - 6$.
   a. Find $f^{-1}(x)$ $= -2 \pm \sqrt{x + 10}$
   b. Find $f^{-1}(-10)$ $= -2$

(4 Marks)

8. Let $f(x) = x^2 + 3x - 2$ and $h(x) = x + 3$.
   a. Find $fh(x)$ $= x^2 + 9x + 16$
   b. Find $hf(x)$ $= x^2 + 3x + 1$

(4 marks)

9. f is a function such that $f(x) = \dfrac{2}{3x-3}$.
   a. Find $f^{-1}(x)$ $= \dfrac{2}{3y} + 1$
   b. Find $ff^{-1}(x)$ $= x$
   c. Find $ff^{-1}(-2)$ $= -2$

(7 Marks)

10. f is a function such that $f(x) = \frac{4x+1}{3x-5}$.

    a. Find $f^{-1}(x)$ $= \frac{5y+1}{3y-4}$

    b. Find $ff^{-1}(x)$ $= x$

(6 Marks)