



SCAN ME

Functions and Equations



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← REVISE THIS TOPIC

CHECK YOUR ANSWERS →

1 $f(x) = 2x - 9$ $g(x) = 7x + 1$

(a) Solve $fg(x) = 35$

(b) Solve $f^{-1}(x) + g^{-1}(x) = 5$

.....

(3)

.....

(4)

(Total for Question 1 is 7 marks)



2 $f(x) = \frac{8}{x}$ $g(x) = x - 3$ $h(x) = x^2$

(a) Solve $f(x) + g(x) = 3$

(b) Solve $h(x) = g(4x)$

(c) $h^{-1}(100) + g^{-1}(3) = f(k)$ where k is a constant.
Work out the value of k .

.....
(3)

.....
(3)

$k =$
(4)

(Total for Question 2 is 10 marks)



3 $f(x) = \frac{36}{x^2}$ $g(x) = \sin(x)$ $h(x) = 3x$

(a) Show that $f^{-1}(3) \times g(60)$ is an integer.

(b) Solve $hf(x) - fh(x) = 26$

(4)

.....
(4)
(Total for Question 3 is 8 marks)



4 $f(x) = x^2$

$g(x) = x + 4$

$h(x) = x + 2$

(a) Show that $fg(x) - fh(x) = 2g(x) + 2h(x)$

(b) Solve $gf^{-1}(x) = 9$

(5)

.....
(3)
(Total for Question 4 is 8 marks)



5 $f(x) = x^2$

$$g(x) = \frac{x + 8}{11}$$

$$h(x) = ax + b$$

(a) Solve $f(x + 2) = g^{-1}(x)$

.....
(4)

$$h(3) = 7$$

$$h^{-1}(55) = 15$$

(b) Work out the values of a and b .

$$a = \text{.....}$$

$$b = \text{.....}$$

(5)

(Total for Question 5 is 9 marks)

