Function Notation

SCAN ME

REVISE THIS TOPIC

1 $f(x) = 6x - 1$ $g(x) = 8x^2$

(a) Work out the value of f(10)

$6(10) - 1$

59

(1)

(b) Work out the value of g(5)

8×5^2

200

(1)

(c) Work out the value of f(-2) + g(2)

$6(-2) - 1 = -13$

$8 \times 2^4 = 32$

$-13 + 32 = 19$

19

(2)

(d) Work out the value of f(0.5) – g(0.5)

$6(0.5) - 1 = 2$

$8 \times 0.5^2 = 2$

$2 - 2 = 0$

0

(2)

(Total for Question 1 is 6 marks)

2 $f(x) = 9 - x^2$ $g(x) = \frac{3}{x}$ $h(x) = 2^x$

(a) Work out the value of f(-2)

$9 - (-2)^2$

5

(1)

(b) Work out the value of g(0.5)

$3 \div 0.5$

6

(1)

(c) Work out the value of h(4)

2^4

16

(1)

(d) Work out the value of $f(\sqrt{3})$

$9 - (\sqrt{3})^2$
$= 9 - 3$

6

(2)

(e) Work out the value of g(4) + h(-2)

$\frac{3}{4} + 2^{-2} = \frac{3}{4} + \frac{1}{4}$

1

(2)

(Total for Question 2 is 7 marks)

3 $f(x) = x^2 + 6x - 40$ $g(x) = \frac{1}{x-4}$ $h(x) = \sqrt{2x-3}$

(a) Work out the value of f(2)

$2^2 + 6(2) - 40$

-24

(1)

(b) Work out the value of g(7)

$\frac{1}{7-4}$

$\frac{1}{3}$

(1)

(c) Work out the value of h(26)

$\sqrt{2(26)-3} = \sqrt{49}$

7

(1)

(d) Work out the value of $g\left(\frac{23}{5}\right)$

$\frac{1}{\frac{23}{5}-4} = \frac{1}{\frac{23}{5}-\frac{20}{5}} = \frac{1}{\frac{3}{5}} = \frac{5}{3}$

$1\frac{2}{3}$

(2)

(e) Work out the value of f(10) × g(10)

$10^2 + 6(10) - 40 = 120$

$\frac{1}{10-4} = \frac{1}{6}$ $120 \times \frac{1}{6} = 20$

20

(2)

(Total for Question 3 is 7 marks)