2.6 Functions: Composite and Inverse Functions: 10-minute Pack

AQA 8365 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 $f(x) = 3x - 2$ and $g(x) = x^2$.

(a) Find $gf(3)$. **(2)**

.....

(b) Find $fg(-2)$. **(2)**

.....

(Total for Question 1 is 4 marks)

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2 $f(x) = 3x + 2$ and $g(x) = x - 4$. Find $g(9)$.

(Total for Question 2 is 1 mark)

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3 $f(x) = 2x + 5$ and $g(x) = x - 3$. Find $gf(3)$.

(Total for Question 3 is 1 mark)

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4 A parking garage charges a fee, in £, for a stay of t hours given by $C(t) = 1.5t + 2$. A stay of m minutes converts to hours using the function $h(m) = m/60$.

(a) Find an expression for $C(h(m))$, the fee in terms of the stay m in minutes. **(2)**

.....

(b) Use your expression to find the cost of a 120-minute stay. **(1)**

.....

(Total for Question 4 is 3 marks)

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Mark scheme · 2.6 Functions: Composite and Inverse Functions: 10-minute Pack

Question 1

(a) f(3) = 7 found **M1**

(a) gf(3) = 49 cao **A1**

(a) Answer: 49

(b) g(-2) = 4 found **M1**

(b) fg(-2) = 10 cao **A1**

(b) Answer: 10

Question 2

g(9) = 5 cao **B1**

Answer: 5

Question 3

gf(3) = 8 cao **B1**

Answer: 8

Question 4

(a) substitute h(m) into C, i.e. 1.5(m/60) + 2 **M1**

(a) C(h(m)) = m/40 + 2 oe **A1**

(a) Answer: C(h(m)) = m/40 + 2

(b) £5.00 cao, ft from (a) **B1**

(b) Answer: £5.00

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