



THIRD SPACE
LEARNING

GCSE Exam Questions

Function Notation | Algebra

GCSE Exam Questions: Function Notation

1) Given that $f(x) = 5x - 2$,

(a) Find $f(-4)$.

(1)

(b) Find x when $f(x) = 8$.

(2)
(3 marks)

2) (a) If $f(x) = 4x + 1$, write a simplified expression for $f(2a - 1)$.

(2)

(b) If $h(x) = x^2 + 2x - 3$, write a simplified expression for $h(2m + 3)$.

(3)
(5 marks)

3) Given that $f(x) = x^2 + 2$ and $g(x) = 3(x + 4)$, find the value of x which satisfies $f(x) = g(x)$.

(4 marks)

4) If $f(x) = x^2 + 4x - 5$, find a simplified expression for $f(x + 3) - f(x - 1)$.

(3 marks)

GCSE Exam Questions: Function Notation Answers

	Question	Answer	Marks
1) (a)	Given that $f(x) = 5x - 2$, Find $f(-4)$.	(a) -22	(1)
(b)	Find x when $f(x) = 8$.	(b) $5x - 2 = 8$ $x = 2$	(1) (1)
2) (a)	If $f(x) = 4x + 1$, write a simplified expression for $f(2a - 1)$.	(a) $4(2a - 1) + 1$ $8a - 3$	(1) (1)
(b)	If $h(x) = x^2 + 2x - 3$, write a simplified expression for $h(2m + 3)$.	(b) $(2m + 3)^2 + 2(2m + 3) - 3$ $4m^2 + 12m + 9 + 4m + 6 - 3$ $4m^2 + 16m + 12$	(1) (1) (1)
3)	Given that $f(x) = x^2 + 2$ and $g(x) = 3(x + 4)$, Find the value of x which satisfies $f(x) = g(x)$.	$x^2 + 2 = 3(x + 4)$ $x^2 - 3x - 10 = 0$ $(x - 5)(x + 2) = 0$ $x = 5$, and $x = -2$	(1) (1) (1) (1)
4)	If $f(x) = x^2 + 4x - 5$, Find a simplified expression for $f(x + 3) - f(x - 1)$.	$(x + 3)^2 + 4(x + 3) - 5$ or $(x - 1)^2 + 4(x - 1) - 5$ $x^2 + 6x + 9 + 4x + 12 - 5$ $- x^2 + 2x - 1 - 4x + 4 + 5$ $8x + 24$	(1) (1) (1)

Where to go next?

For more diagnostic questions, and GCSE maths revision resources and worksheets to support students in fixing any misconceptions take a look at the free Third Space Learning [GCSE maths revision](#) pages.

Scan the QR code to discover our library of FREE GCSE maths revision resources

Do you have KS4 students who need additional support in maths?



Our specialist tutors will help students to develop the skills they need to succeed at GCSE in weekly one to one online revision lessons. Trusted by secondary schools across the UK.

Visit thirdspacelearning.com to find out more.