



THIRD SPACE
LEARNING

GCSE Exam Questions

Simplifying Algebraic Expressions
| Algebra

GCSE Exam Questions: Simplifying Algebraic Expressions

1) (a) Simplify: $4f - 2e + 3f + 5e$

(2)

(b) Expand and simplify: $3(a - 3) - 2(a - 5)$

(2)
(4 marks)

2) (a) Simplify: $3x - 5y - 4x - 2y$

(2)

(b) Simplify $\frac{9x^3y^2}{3x^2y^3}$

(2)
(4 marks)

3) (a) Expand and simplify: $4a(a + b) - 2(a^2 - 2b)$

(2)

(b) Sarah is 4 years older than Tom. Tom is 2 times older than Jan.
Jan is 5 years younger than Andrea.
Write an expression for Sarah's age.

(3)
(5 marks)

GCSE Exam Questions: Simplifying Algebraic Expressions

4) (a) Simplify $\frac{x^2 + 3x - 40}{x - 5}$

(2)

(b) Simplify $\frac{2x^2 + 7x - 4}{x^2 + 2x - 8}$

(3)
(5 marks)

GCSE Exam Questions: Simplifying Algebraic Expressions Answers

	Question	Answer	Marks
1) (a)	Simplify:	$7f \pm 3e$	(1)
	$4f - 2e + 3f + 5e$	$7f + 3e$	(1)
(b)	Expand and simplify:	$3a - 9 - 2a + 10$	(1)
	$3(a - 3) - 2(a - 5)$	$a + 1$	(1)
2) (a)	Simplify:	$-x \pm 7y$	(1)
	$3x - 5y - 4x - 2y$	$-x - 7y$	(1)
(b)	Simplify: $\frac{9x^3y^2}{3x^2y^3}$	$\frac{3x^3y^2}{x^2y^3}$	(1)
		$\frac{3x}{y}$	(1)
3) (a)	Expand and simplify:	$4a^2 + 4ab - 2a^2 + 4b$	(1)
	$4a(a + b) - 2(a^2 - 2b)$	$2a^2 + 4ab + 4b$	(1)
(b)	Sarah is 4 years older than Tom. Tom is 2 times older than Jan. Jan is 5 years younger than Andrea. Write an expression for Sarah's age	Andrea is x years old Jan is $x - 5$ years old	(1)
		Tom is $2(x - 5) = 2x - 10$ years old	(1)
		Sarah is $2x - 10 + 4 = 2x - 6$ years old.	(1)
4 (a)	Simplify: $\frac{x^2 + 3x - 40}{x - 5}$	$\frac{(x - 5)(x + 8)}{x - 5}$	(1)
		$x + 8$	(1)
(b)	Simplify: $\frac{2x^2 + 7x - 4}{x^2 + 2x - 8}$	$(2x - 1)(x + 4)$	(1)
		$(x + 4)(x - 2)$	(1)
		$\frac{2x - 1}{x - 2}$	(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.