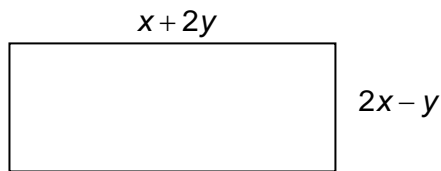
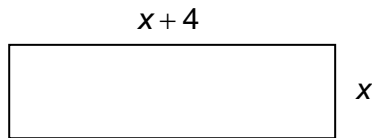


Foundation Check In - 6.01 Algebraic expressions

1. Simplify $2x + 3y - x + 2y$.
2. Multiply out the brackets from $3(2x + y - 4z)$.
3. Simplify $\frac{9a^4}{3a^2}$.
4. Factorise $4x + 12y$.
5. Write down an expression for the perimeter of this rectangle. Simplify your expression.



6. Show that the area of the rectangle below can be written as $x^2 + 4x$.



7. Robin says that $30x + 10x^2$ can be written as $5(6x + 2x^2)$ in its simplified form. Explain why this has not been fully simplified.
8. Explain why $(3x - 4) + x - (4x - 6)$ is a constant number whatever the value of x .
9. Shape A has an area of $3(x + 4)$ and shape B has an area of $5(2x - 1)$. If the two shapes are joined together so that they do not overlap, what is the area of the new shape? Write your answer in its simplest form.
10. A regular pentagon has a perimeter given by the expression $40x + 30$. Write an expression for the length of each side.



GCSE (9-1) MATHEMATICS

Extension

A 3×3 magic square is a square grid with each row and column having 3 cells. The sum of each row, each column and each diagonal adds to the same number.

Complete this magic square.

$3x + 2y$	$-(2x + 3y)$	$4y - x$
$3y - 4x$		
	$2x + 5y$	



Answers

1. $x + 5y$
2. $6x + 3y - 12z$
3. $3a^2$
4. $4(x + 3y)$
5. $2(3x + y)$
6. $x(x + 4) = x^2 + 4x$
7. Factorises fully to $10x(3 + x)$.
8. Independent of x because the expression simplifies to 2 with no x term.
9. $13x + 7$
10. $8x + 6$

Extension

$3x + 2y$	$-(2x + 3y)$	$4y - x$
$3y - 4x$	y	$4x - y$
$x - 2y$	$2x + 5y$	$-3x$

We'd
buttk
up p



the resources we produce. By clicking on the 'Like' or 'Dislike'
ire that our resources work for you. When the email template pops
ents if you wish and then just click 'Send'. Thank you.

OCR Resources: *the small print*

OCR's resources are provided to support the teaching of OCR specifications, but in no way constitute an endorsed teaching method that is required by the Board, and the decision to use them lies with the individual teacher. Whilst every effort is made to ensure the accuracy of the content, OCR cannot be held responsible for any errors or omissions within these resources. We update our resources on a regular basis, so please check the OCR website to ensure you have the most up to date version.

© OCR 2015 - This resource may be freely copied and distributed, as long as the OCR logo and this message remain intact and OCR is acknowledged as the originator of this work.

OCR acknowledges the use of the following content: Maths and English icons: Air0ne/Shutterstock.com



Assessment Objective	Qu.	Topic	R	A	G
AO1	1	Simplify an algebraic expression.			
AO1	2	Expand a single bracket and collect like terms.			
AO1	3	Simplify a quotient.			
AO1	4	Factorise into a single bracket.			
AO1	5	Write and simply an expression for a perimeter.			
AO2	6	Factorise an expression for a simple area.			
AO2	7	Simplify expressions fully.			
AO2	8	Simplify algebraic expressions.			
AO3	9	Translate a word problem into a simplified algebraic expression.			
AO3	10	Translate a perimeter problem into a simplified algebraic expression.			

Assessment Objective	Qu.	Topic	R	A	G
AO1	1	Simplify an algebraic expression.			
AO1	2	Expand a single bracket and collect like terms.			
AO1	3	Simplify a quotient.			
AO1	4	Factorise into a single bracket.			
AO1	5	Write and simply an expression for a perimeter.			
AO2	6	Factorise an expression for a simple area.			
AO2	7	Simplify expressions fully.			
AO2	8	Simplify algebraic expressions.			
AO3	9	Translate a word problem into a simplified algebraic expression.			
AO3	10	Translate a perimeter problem into a simplified algebraic expression.			

Assessment Objective	Qu.	Topic	R	A	G
AO1	1	Simplify an algebraic expression.			
AO1	2	Expand a single bracket and collect like terms.			
AO1	3	Simplify a quotient.			
AO1	4	Factorise into a single bracket.			
AO1	5	Write and simply an expression for a perimeter.			
AO2	6	Factorise an expression for a simple area.			
AO2	7	Simplify expressions fully.			
AO2	8	Simplify algebraic expressions.			
AO3	9	Translate a word problem into a simplified algebraic expression.			
AO3	10	Translate a perimeter problem into a simplified algebraic expression.			

Assessment Objective	Qu.	Topic	R	A	G
AO1	1	Simplify an algebraic expression.			
AO1	2	Expand a single bracket and collect like terms.			
AO1	3	Simplify a quotient.			
AO1	4	Factorise into a single bracket.			
AO1	5	Write and simply an expression for a perimeter.			
AO2	6	Factorise an expression for a simple area.			
AO2	7	Simplify expressions fully.			
AO2	8	Simplify algebraic expressions.			
AO3	9	Translate a word problem into a simplified algebraic expression.			
AO3	10	Translate a perimeter problem into a simplified algebraic expression.			

