



for **AQA, Edexcel** and **OCR**
two-tier GCSE mathematics

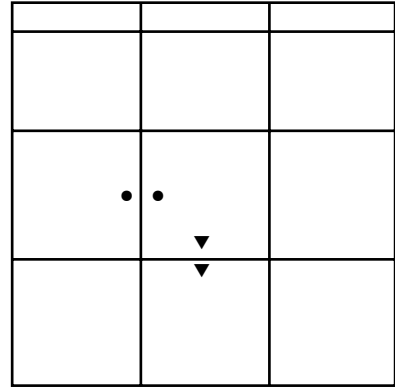
Resource sheets for *Higher transition*

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- Cut out the nine puzzle pieces below.
- Arrange the pieces to form a 3 by 3 square so that any pair of adjacent expressions are equivalent.
For example, the pairs of expressions in the positions shown should be equivalent.



Puzzle pieces

$\frac{1}{2}(6a - 8)$	A	$2(2a - 3)$
$(7 - a)$		$4(a + 6)$
$\frac{7}{1}$		$\frac{7}{1}$

$\frac{9a}{3} - 4$	B	$2(2a + 3)$
$(4 + a)2$		$\frac{6}{6 - 6a}$

$\frac{20a + 40}{10}$	C	$\frac{1}{2}(8a - 6)$
$(a9 - 8)\frac{7}{1}$		$3(a - 4)$

$2(a + 2)$	D	$\frac{12a}{3} + 18$
$(1 + a)2$		$\frac{21a + 28}{7}$

$\frac{10a}{5} + 3$	E	$\frac{20a + 4}{2}$
$\frac{21 + a8}{2}$		$\frac{16 - 4a}{4}$

$\frac{10a}{2} - 1$	F	$4(a + 3)$
$3 + \frac{2}{a4}$		$\frac{6a}{2} + 4$

$\frac{5a - 5}{5}$	G	$\frac{20a}{10}$
$\frac{a0c}{3}$		$\frac{1}{5}(5 - 5a)$

$\frac{8a + 6}{2}$	H	$4a - 3$
$\frac{8 - a8}{8}$		$\frac{8a + 12}{4}$

$\frac{1}{3}(12 - 3a)$	I	$2(2a + 6)$
$a7 \times 5$		$2a + 2$

- Choose one of the shaded squares below.
- Move (in any direction, including diagonally) to the neighbouring square that has an expression equivalent to the one on your chosen square.
- Now do the same from your new square, except that you can't visit the same square twice.
As you go you will spell out a word. What is it?
- Repeat for the remaining two shaded squares.
What words do you spell?

<p style="text-align: center;">C</p> <p style="text-align: center;">$10 - (2x - 2)$</p>	<p style="text-align: center;">A</p> <p style="text-align: center;">$8 - 2x$</p>	<p style="text-align: center;">G</p> <p style="text-align: center;">$3x - (6 - 2x)$</p>	<p style="text-align: center;">Y</p> <p style="text-align: center;">$7x - (4x - 6)$</p>	<p style="text-align: center;">S</p> <p style="text-align: center;">$3(x + 2)$</p>
<p style="text-align: center;">O</p> <p style="text-align: center;">$12 - 2x$</p>	<p style="text-align: center;">M</p> <p style="text-align: center;">$(5x + 4) - (2x - 2)$</p>	<p style="text-align: center;">M</p> <p style="text-align: center;">$(4x + 8) - (x + 2)$</p>	<p style="text-align: center;">R</p> <p style="text-align: center;">$(4x + 1) - (7 - x)$</p>	<p style="text-align: center;">O</p> <p style="text-align: center;">$\frac{9x}{3} + 2$</p>
<p style="text-align: center;">E</p> <p style="text-align: center;">$\frac{6x}{2} + 6$</p>	<p style="text-align: center;">M</p> <p style="text-align: center;">$2(6 - x)$</p>	<p style="text-align: center;">P</p> <p style="text-align: center;">$\frac{24 - 4x}{2}$</p>	<p style="text-align: center;">M</p> <p style="text-align: center;">$(3x + 7) + (2x - 1)$</p>	<p style="text-align: center;">A</p> <p style="text-align: center;">$(6x + 4) - (x + 10)$</p>
<p style="text-align: center;">I</p> <p style="text-align: center;">$(x + 6) + (2x - 3)$</p>	<p style="text-align: center;">T</p> <p style="text-align: center;">$(2x - 1) + (x + 7)$</p>	<p style="text-align: center;">R</p> <p style="text-align: center;">$(x + 9) - (3 - 2x)$</p>	<p style="text-align: center;">U</p> <p style="text-align: center;">$14 - (2 + 2x)$</p>	<p style="text-align: center;">P</p> <p style="text-align: center;">$(8x - 14) - (3x - 8)$</p>
<p style="text-align: center;">R</p> <p style="text-align: center;">$5 - (2x - 7)$</p>	<p style="text-align: center;">E</p> <p style="text-align: center;">$8 + (4 - 2x)$</p>	<p style="text-align: center;">T</p> <p style="text-align: center;">$12 - \frac{12x}{6}$</p>	<p style="text-align: center;">Y</p> <p style="text-align: center;">$(10 - 4x) - (4 - 7x)$</p>	<p style="text-align: center;">H</p> <p style="text-align: center;">$(x + 3) + (4x - 9)$</p>