

Expanding Double Brackets

Booklet 2 – Revision practice – 15 minutes

Name:	Date:	Time: 15 min	Score: / 21
-------	-------	--------------	-------------

Remember: every term in the first bracket multiplies every term in the second

Worked example: $(x+4)(x+5)$ – use a grid (or FOIL: First, Outer, Inner, Last).

$\times$	x	$+5$
x	x^2	$5x$
$+4$	$4x$	20

$$(x+4)(x+5) = x^2 + 5x + 4x + 20$$

$$= x^2 + 9x + 20 \quad (\text{collect the like terms})$$

Watch the signs in the grid: $- \times - = +$.

Section A: Warm-up Level 1 of 3 · 2 marks each · mostly positive

Expand and simplify.

1. $(x+2)(x+3)$

Answer: _____

2. $(x+7)(x+2)$

Answer: _____

3. $(x+5)(x-2)$

Answer: _____

Section B: Building confidence Level 2 of 3 · 2 marks each · negatives and a bigger coefficient

4. $(x-3)(x+6)$

Answer: _____

5. $(x-4)(x-3)$

Answer: _____

6. $(2x+1)(x+5)$

Answer: _____

7. Sam says that $(x+6)^2 = x^2 + 36$

(a) Explain Sam's mistake.

[1 mark]

.....

.....

(b) Expand and simplify $(x+6)^2$.

[2 marks]

Answer: _____

8. Expand and simplify $(3x-2)(2x-7)$

[3 marks]

Answer: _____

9. Expand and simplify $(x+3)(x-2) + (x+1)^2$

[3 marks]

Answer: _____

END OF BOOKLET – check your answers on the next page

Answers and mark scheme

Booklet 2: Expanding Double Brackets (M = method mark, A = accuracy mark)

Q	Answer	Marking notes / watch out for
1	x^2+5x+6	M1 for 3 of 4 terms correct: $x^2+3x+2x+6$. A1 for x^2+5x+6 .
2	$x^2+9x+14$	M1 $x^2+2x+7x+14$. A1 for $x^2+9x+14$.
3	$x^2+3x-10$	M1 $x^2-2x+5x-10$. A1 for $x^2+3x-10$. Trap: $5 \times -2 = -10$.
4	$x^2+3x-18$	M1 $x^2+6x-3x-18$. A1 for $x^2+3x-18$.
5	$x^2-7x+12$	M1 $x^2-3x-4x+12$. A1 for $x^2-7x+12$. Trap: $-4 \times -3 = +12$.
6	$2x^2+11x+5$	M1 $2x^2+10x+x+5$. A1 for $2x^2+11x+5$.
7	(a) Sam squared each term separately. $(x+6)^2$ means $(x+6)(x+6)$, which gives extra $6x$ terms. (b) $x^2+12x+36$	(a) 1 mark for idea that $(x+6)^2 = (x+6)(x+6)$ or the missing $12x$. (b) M1 $x^2+6x+6x+36$; A1 $x^2+12x+36$.
8	$6x^2-25x+14$	M1 for 3 of 4 terms correct; M1 for $6x^2-21x-4x+14$; A1 for $6x^2-25x+14$. Trap: $-2 \times -7 = +14$.
9	$2x^2+3x-5$	M1 $(x+3)(x-2) = x^2+x-6$; M1 $(x+1)^2 = x^2+2x+1$; A1 $2x^2+3x-5$.

How did you do? (out of 21)

Green – 17 or more: brilliant, try the next booklet.

Amber – 11 to 16: good progress – redo the questions you lost marks on.

Red – under 11: re-read the worked examples, then try the booklet again in a few days.