

Expanding Brackets

1. Using the area models below expand the brackets:

a. $(x + 3)(x + 7)$

	x	3
x		
7		

b. $(x + 6)(x + 4)$

c. $(x + 7)(x + 8)$

d. $(x - 3)(x + 7)$

	x	-3
x		
7		

e. $(x - 6)(x - 4)$

f. $(x + 7)(x - 8)$

g. $(2x + 3)(x + 7)$

h. $(2x + 5)(3x + 4)$

i. $(2x + 7)(3x - 8)$

2. Expand and simplify:

a. $(3x + 1)(2x + 7)$

b. $(3x + 4)(2x - 5)$

c. $(4x - 1)(2x + 5)$

d. $(3y + 4)(2y + 7)$

e. $(4b - 7)(7b + 9)$

f. $(5x + 7)(2x - 3)$

3. Find the two expressions that have been multiplied together and complete to find the expression in it's simplest form.

a.

x^2	$3x$
$5x$	

b.

x^2	$-7x$
$4x$	

c.

x^2	$7x$
$-4x$	

d.

$2x^2$	$8x$
$5x$	

e.

$2x^2$	$8x$
$-3x$	

f.

	3
$3x^2$	
	15

g.

$3x$	
$3x^2$	$5x$
	-20

h.

$2x$	$4x^2$	$6x$
	$10x$	

i.

	$3x$
	$5x$
2	10

j.

$4x^2$	x
$12x$	3

k.

$4x^2$	$2x$
$6x$	3

l.

$4x^2$	$10x$
$6x$	15

Expanding Brackets

1.

a. $x^2 + 10x + 21$

b. $x^2 + 10x + 24$

c. $x^2 + 15x + 56$

d. $x^2 + 4x - 21$

e. $x^2 - 10x - 24$

f. $x^2 - x - 56$

g. $2x^2 + 17x + 3$

h. $6x^2 + 23x + 20$

i. $2x^2 + 5x - 56$

2.

a. $6x^2 + 23x + 8$

b. $6x^2 - 7x - 20$

c. $8x^2 + 18x - 5$

d. $6y^2 + 29y + 28$

e. $28b^2 - 13b - 63$

f. $10x^2 - x - 21$

3.

a.

	x	3
x	x^2	$3x$
5	$5x$	15

b.

	x	-7
x	x^2	$-7x$
4	$4x$	-28

c.

	x	7
x	x^2	$7x$
-4	$-4x$	-28

d.

	x	4
$2x$	$2x^2$	$8x$
5	$5x$	20

e.

	x	4
$2x$	$2x^2$	$8x$
-3	$-3x$	-12

f.

	x	3
$3x$	$3x^2$	1
5	$5x$	15

g.

	$3x$	5
x	$3x^2$	$5x$
-4	$12x$	-20

h.

	$2x$	3
$2x$	$4x^2$	$6x$
5	$10x$	15

i.

	$3x$	5
x	$3x$	$5x$
2	$6x$	10

j.

	$4x$	1
x	$4x^2$	x
3	$12x$	3

k.

	$2x$	1
$2x$	$4x^2$	$2x$
3	$6x$	3

l.

	$2x$	5
$2x$	$4x^2$	$10x$
3	$6x$	15