



Expanding One and Two Brackets Home Learning **Answers**

1. Expand and simplify:

a. $4(x + 5)$

$4x + 20$

e. $7(3x + 2y)$

$21x + 14y$

b. $3(x - 7)$

$3x - 21$

f. $3x(x + 4)$

$3x^2 + 12x$

c. $2(5x + 8)$

$10x + 16$

g. $4x(3x - 9)$

$12x^2 - 36x$

d. $5(4x - 9)$

$20x - 45$

h. $6x(2x + 3y - z)$

$12x^2 + 18xy - 6xz$

2. Expand and simplify:

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

$x^2 + 5x + 6$

e. $(3x - 2)(2x - 7)$

$6x^2 - 25x + 14$

b. $(x + 4)(x - 1)$

$x^2 + 3x - 4$

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

$4x^2 - 17xy + 15y^2$

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

$x^2 - 8x + 15$

g. $(x + 8)(x - 8)$

$x^2 - 64$

d. $(2x + 5)(x - 6)$

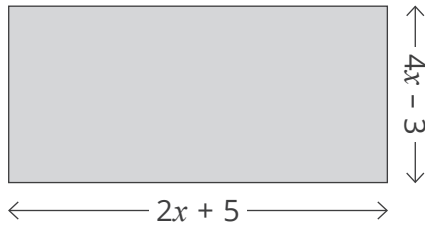
$2x^2 - 7x - 30$

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

$9x^2 - 49$

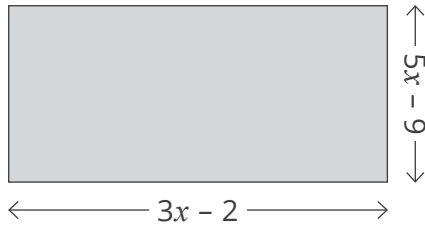
3. Find an expression for the area of each of the following shapes. Write your answers in both non-expanded and expanded form. All lengths are given in centimetres.

a.



$$(4x - 3)(2x + 5) = 8x^2 + 14x - 15$$

b.



$$(5x - 9)(3x - 2) = 15x^2 - 37x + 18$$

Challenge

Find the smallest possible integer value of x for each rectangle above (in question 3).

a: $x = 1$ (since if $x = 0$, then $4x - 3 = -3$)

b: $x = 2$ (since if $x = 1$, then $5x - 9 = -4$)