

Recall: A binomial has two terms.

When multiplying two binomials, we multiply each term in the first binomial by each term in the second binomial.

$$(x + 4)(x + 5)$$

Example 1 Practice:

1)  $(x - 6)(x + 1)$

2)  $(9 - p)(4 + p)$

3)  $(2k + 3)(4k + 1)$

4)  $(6r - 2)(3r - 5)$

### Special Products - Square of a Binomial

Expand:  $(x + 4)^2$

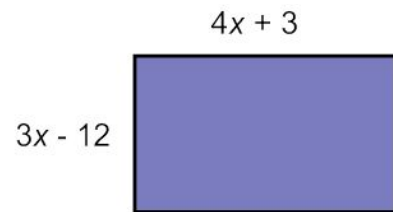
Example 2: Expand  $(p - 9)^2$

Example 3: Expand  $(2p - 3)^2$

Ex: 4

A backyard has length  $4x + 3$ , and width  $3x - 12$ , as seen below.

a) Write a general expression for the area of the backyard.



b) If you know that  $x = 5$  metres, what is the area of the backyard?

Sometimes we have to expand brackets to simplify polynomials.

Example 1.  $(x + 5)^2 + (3x - 2)(x + 7)$

Example 2.  $(6 - w)(6 + w) + 2(14 - w)$