

## 7.5 Factoring $x^2 + bx + c$

**Spiral Review:** Solve for x algebraically.

a)  $\frac{x+7}{5} = 4$

b)  $10 = x^2 + 3x$

**Critical thinking:**

Simplify  $(x + p)(x + q)$

What is factoring? Think reverse distribution.

**Example 1:** Factoring  $x^2 + bx + c$  when b and c are positive.

Factor  $x^2 + 10x + 16$

**Example 2:** Factoring  $x^2 + bx + c$  when b is negative and c is positive.

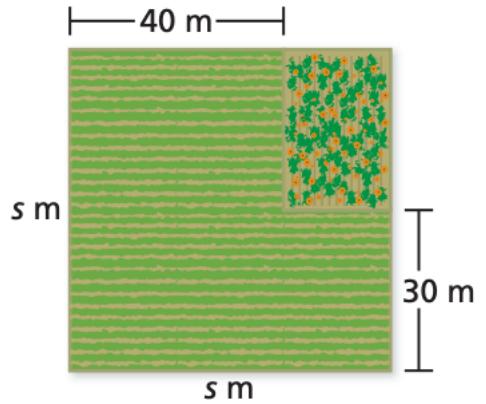
Factor  $x^2 - 8x + 12$

**Example 3:** Factoring  $x^2 + bx + c$  when c is negative.

Factor  $x^2 + 4x - 21$

**Example 4:** Solving a real life problem

A farmer plants a rectangular pumpkin patch in the northeast corner of a square plot of land. The area of the pumpkin patch is 600 square meters. What is the area of the square plot of land?



Homework

3, 6, 8, 9, 12, 14, 19, 23, 24, 29, 35, 37, 39, 44,