## NAME

Module 12 Simplifying Algebraic Expressions by Factoring Polynomials

Factoring  $x^2 + bx + c$ Lesson 4



## **Lesson Objective**

• Factor trinomials of the form  $x^2 + bx + c$ .

To factor a trinomial, think of FOIL in reverse

For the trinomial, the constants in the binomial factors of the trinomial

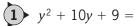
 $x^2 + 10x + 24$  must have a product of 24 and

a sum of 10

The factors of  $x^2 + bx + c$  are (x + r)(x + s) where  $\underline{r \cdot s}$  = c

and  $\underline{r+s} = b$ .

## Factor.



$$(y+1)(y+9)$$



$$t^2 + 2t + 1 =$$

$$(t+1)(t+1)$$
 or  $(t+1)^2$ 



(3) 
$$r^2 - 9r + 20 =$$

$$(r-4)(r-5)$$



$$k^2 + 8k - 20 =$$

$$(k-2)(k+10)$$