

NAME _____

Module 12 Simplifying Algebraic Expressions
by Factoring Polynomials
Lesson 4 Factoring $x^2 + bx + c$

guided
notes

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 **$r \cdot s$** _____ = c

and **$r + s$** _____ = b .

Factor.

1 $y^2 + 10y + 9 =$

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

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

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

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

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

4 $k^2 + 8k - 20 =$

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

