

Name: \_\_\_\_\_

11.3 Factoring  $x^2 + bx + c$  and  $x^2 - bx + c$

Objective: I CAN ... factor quadratic trinomials of the form  $x^2 + bx + c$  and  $x^2 - bx + c$

Warm-Up:

a.  $(x+7)(x+3)$

b.  $(x-6)(x-3)$

Factoring Quadratics: Writing a quadratic expression as the product of two linear expressions

Factoring Double Bubble	
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<b>C is Positive = Same Signs</b>	$x^2 + bx + c$	$x^2 - bx + c$
<b>B Determines Both Signs</b>	$(x + \underline{\quad})(x + \underline{\quad})$	$(x - \underline{\quad})(x - \underline{\quad})$

Factor the following quadratic expressions.

1.  $x^2 + 7x + 10$

2.  $x^2 + 8x + 15$

3.  $x^2 + 11x + 10$

4.  $x^2 + 11x + 18$

5.  $x^2 + 15x + 56$

6.  $x^2 + 12x + 36$

7.  $x^2 - 9x + 20$

8.  $x^2 - 11x + 24$

9.  $x^2 - 17x + 60$

10.  $x^2 - 15x + 56$

11.  $x^2 - 5x + 6$

12.  $x^2 - 14x + 49$

**11.4 Factoring**  $x^2 + bx - c$  **and**  $x^2 - bx - c$

Name: \_\_\_\_\_

**Objective:** I CAN ... factor quadratic trinomials of the form  $x^2 + bx - c$  and  $x^2 - bx - c$

**Factoring Quadratics:** Writing a quadratic expression as the product of two linear expressions

<b>Factoring Double Bubble</b>	
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<b>C is Negative = Different Signs</b>	$x^2 - bx - c$	$x^2 + bx - c$
<b>B Determines the Larger Factor's Sign</b>	$(x - \underline{\quad})(x + \underline{\quad})$	$(x + \underline{\quad})(x - \underline{\quad})$

1.  $x^2 + 3x - 10$

2.  $x^2 + 3x - 18$

3.  $x^2 + 4x - 12$

4.  $x^2 + 7x - 10$

5.  $x^2 + 3x - 54$

6.  $x^2 + 4x - 5$

7.  $x^2 - 8x - 9$

8.  $x^2 - 2x - 48$

9.  $x^2 - 5x - 14$

10.  $x^2 - 4x - 21$

11.  $x^2 - 4x - 12$

12.  $x^2 - 8x - 9$

## Factoring Trinomials (a = 1)

**Factor each completely.**

1)  $b^2 + 8b + 7$

2)  $n^2 - 11n + 10$

3)  $m^2 + m - 90$

4)  $n^2 + 4n - 12$

5)  $n^2 - 10n + 9$

6)  $b^2 + 16b + 64$

7)  $m^2 + 2m - 24$

8)  $x^2 - 4x + 24$

9)  $k^2 - 13k + 40$

10)  $a^2 + 11a + 18$

11)  $n^2 - n - 56$

12)  $n^2 - 5n + 6$

13)  $b^2 - 6b + 8$

14)  $n^2 + 6n + 8$

15)  $2n^2 + 6n - 108$

16)  $5n^2 + 10n + 20$

17)  $2k^2 + 22k + 60$

18)  $a^2 - a - 90$

19)  $p^2 + 11p + 10$

20)  $5v^2 - 30v + 40$

21)  $2p^2 + 2p - 4$

22)  $4v^2 - 4v - 8$

23)  $x^2 - 15x + 50$

24)  $v^2 - 7v + 10$

25)  $p^2 + 3p - 18$

26)  $6v^2 + 66v + 60$