

# Factoring

## Trinomials when a = 1

Name: Hirson

Period: \_\_\_\_\_ Date: \_\_\_\_\_

### Steps

1. Factor anything out (#'s & Variables)
2. Put in standard form. ( $ax^2 + bx + c$ )
3. Multiply a and c.
4. Make 2 sets of parentheses
5. Put your variable at the beginning of each set of ( ).
6. Put your factors of ac, who when added together equal b at the end of each ( ).

### Pay attention to signs!!

- \* The 2<sup>nd</sup> sign determines if your signs are the same or different.
  - If negative (-), signs will be different.  
( + )( - )
  - If positive (+), signs will be the same.  
( + )( + ) if 1<sup>st</sup> sign is (+)  
( - )( - ) if 1<sup>st</sup> sign is (-)

Ex 1.  $x^2 + 9x + 20$

$a \cdot c = 20$

1 · 20
2 · 10
4 · 5

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

Ex 2.  $x^2 - 7x - 18$

$a \cdot c = -18$

1 · 18
2 · 9
3 · 6

$(x+2)(x-9)$

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

$x^2 - 11x + 10$

$a \cdot c = 10$

-1 · 10
2 · 5

$(x-1)(x-10)$

Ex 4.  $\frac{5x^2 + 15x - 20}{5}$

$a \cdot c = -4$

-1 · 4
2 · 2

$5(x^2 + 3x - 4)$

$5(x-1)(x+4)$

You Try:

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

2.  $x^2 + 8x + 12$

# Factoring

Trinomials when  $a = 1$

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

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More Practice:

1.  $x^2 + 8x + 12$

2.  $x^2 + 10x + 21$

3.  $x^2 + 12x + 11$

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

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

6.  $x^3 - 3x - 4$

7.  $x^2 - 2x - 48$

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

9.  $x^3 + 12x^2 + 32x$

10.  $2x^4 + 8x^3 + 8x^2$