Intermediate Algebra
Skill Builder # PF - 4
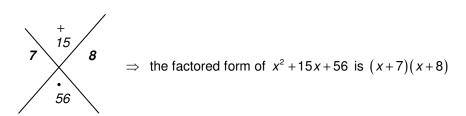**Factoring Quadratic Trinomials with Leading Coefficient of 1**

A quadratic trinomial with leading coefficient of 1 looks like
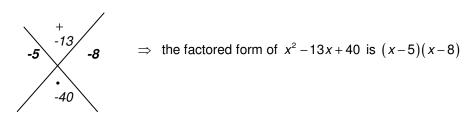
$$x^2 + bx + c.$$

To factor such a trinomial find two numbers that multiply to the constant term c and that add up to the middle coefficient b.
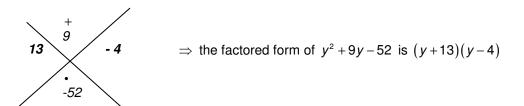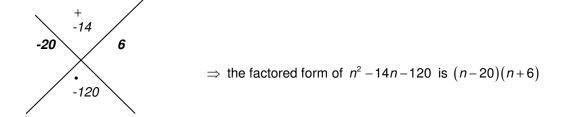
<u>Examples</u>

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

Solution:

$\Rightarrow$ the factored form of $x^2 + 15x + 56$ is $(x+7)(x+8)$

2. $x^2 - 13x + 40$

$\Rightarrow$ the factored form of $x^2 - 13x + 40$ is $(x-5)(x-8)$

3. $y^2 + 9y - 52$

$\Rightarrow$ the factored form of $y^2 + 9y - 52$ is $(y+13)(y-4)$

4. $n^2 - 14n - 120$

$\Rightarrow$ the factored form of $n^2 - 14n - 120$ is $(n-20)(n+6)$

Intermediate Algebra
Skill Builder # PF - 4
Factoring Quadratic Trinomials with Leading Coefficient of 1

Factor the given quadratic trinomial.

1. $x^2 + 11x + 28$

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

3. $y^2 + 8y - 48$

4. $y^2 - 16y + 64$

5. $n^2 - 13n - 140$

6. $n^2 + 7n - 78$

7. $t^2 + 20t + 99$

8. $t^2 - 30t + 225$

Intermediate Algebra
Skill Builder # PF - 4
Factoring Quadratic Trinomials with Leading Coefficient of 1

Answers

1. $(x+4)(x+7)$

2. $(x-20)(x+3)$

3. $(y+12)(y-4)$

4. $(y-8)(y-8)$

5. $(n-20)(n+7)$

6. $(n+13)(n-6)$

7. $(t+11)(t+9)$

8. $(t-15)(t-15)$