

Section 8-6
Factoring $ax^2 + bx + c$

Multiply: $(2x-1)(x+4)$

$$2x^2 + \underline{8x} - \underline{x} - 4 = 2x^2 + 7x - 4$$

Students will be able to factor quadratic trinomials with a leading coefficient.

Aug 18-2:52 PM

Factor:

$$\underline{6x^2 + 13x + 5}$$

$$(2x+1)(3x+5)$$

| | | |
|---------------|---------------|---------------|
| $\frac{6}{2}$ | $\frac{1}{3}$ | $\frac{5}{1}$ |
|---------------|---------------|---------------|

$$6x^2 + \underline{10x} + \underline{3x} + 5$$

Aug 18-2:52 PM

$5x^2 + 11x + 2$

The middle coefficient is the sum of the factors of the first and last term.

$$(5x+1)(x+2)$$

OI 10x + 1x

Aug 18-2:52 PM

Factor $2x^2 - x - 3$

$$(2x-3)(x+1)$$

$$-2x + 3x = x$$

$$2x - 3x = -x$$

Aug 18-2:52 PM

Factor:

$$10x^2 + 31x - 14$$

$$\star (5x-2)(2x+7)$$

$$35x - 4x = 31x$$

$$(2x-7)(5x+2)$$

$$-35x + 4x = -31x$$

| | |
|----------------|----------------|
| $\frac{10}{2}$ | $\frac{14}{2}$ |
| $\frac{1}{5}$ | $\frac{7}{1}$ |

Aug 18-2:52 PM

The area of a rectangle is $8x^2 + 22x + 15$.
What are the possible dimensions of the rectangle?

$$A = Lw$$

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

Aug 18-2:52 PM

Remember to always factor out the greatest common factor to make sure that it is in simplest form.

Factor:

$$8x^2 - 36x - 20$$

$$\frac{4(2x^2 - 9x - 5)}{4(2x+1)(x-5)}$$

$$\frac{4(2x+1)(x-5)}{4(2x^2 - 9x - 5)}$$

$$8x^2 - 36x - 20$$

Aug 18-2:52 PM

Factor:

$$30m^2 + 14m - 8$$

$$(5m+4)(6m-2)$$

$$2(15m^2 + 7m - 4) \quad 2(3m-1)(5m+4)$$

$$2(5m+4)(3m-1)$$

$$-5m + 12m$$

Aug 18-2:52 PM

Hwk: pg 520-522
#8 - 24(4th), 28 - 36
(evens), 38 - 50 (4th)

Aug 18-2:52 PM