

**Warm Up**

1)  $12x^2 - 19x + 4$

$\begin{matrix} 1,12 \\ 2,6 \\ 3,4 \end{matrix} = \begin{matrix} 1,4 \\ 2,2 \end{matrix}$

$(2x-2)(6x-2)$   $(2x-1)(6x-4)$   
 $(2x-4)(6x-1)$

$(3x-4)(4x-1)$  ✓

2)  $6x^2 + 7x - 20$

$\begin{matrix} 1,6 \\ 2,3 \end{matrix} \quad \begin{matrix} 1,20 \\ 2,10 \\ 4,5 \end{matrix}$

$(2x+5)(3x-4)$  ✓

**Homework Questions?**

$\frac{29}{6}$      $\frac{31}{7}$      $\frac{23}{6}$      $\frac{26}{1}$

$$31) \quad 2z^2 + \underline{19z} - 10$$

1, 2
1, 10  

2, 5

$$(1x + 10)(2x - 1)$$

$20x$ 
 $-1x$

$$\begin{array}{cc} - & - \\ + & - \\ & + \end{array}$$

## Self Scoring Scale

**4-** I can *summarize* the concepts and explain it to others.

**3-** I can *apply* the concepts to answer questions correctly.

**2-** I can *apply* the concepts but with some *mistakes*.

**1-** I *need help* to know how to apply the concepts.

**0-** I *can't* apply the concepts even with help.

# 10.6 Factoring $ax^2 + bx + c$

- Goals:**
- Factor a quadratic expression of the form  $ax^2 + bx + c$ .
  - Solve quadratic equations by factoring.

**EQ:**

What form should your answers be in after you factor?

Algebra 1.5		←	→
② LAST UNIT/Experience Quadratic Equations	① CURRENT UNIT <b>Polynomials &amp; Factoring</b>		③ NEXT UNIT/Experience Rational Equations
⑧ Student Activities or Assignments	⑤ UNIT MAP		
<ol style="list-style-type: none"> <li>1. 10.1</li> <li>2. 10.2</li> <li>3. 10.3</li> <li>4. 10.4</li> <li>5. 10.5</li> <li>6. 10.6</li> <li>7. 10.7</li> <li>8. 10.8</li> </ol>			
⑦ UNIT SELF-TEST QUESTIONS	<ol style="list-style-type: none"> <li>1. When adding &amp; subtracting polynomials, how do you combine like terms?</li> <li>2. How do you use distributive property, FOIL, and diagrams to multiply polynomials?</li> <li>3. What is the method for factoring trinomials?</li> <li>4. How is factoring &amp; the Zero-Product Property used to solve polynomials?</li> </ol>		⑥ UNIT RELATIONSHIPS
	Factor Solve Calculate Simplify		

**Example 3: A Common Factor for a, b, and c**

Factor  $9x^2 + 42x - 15$ .

$1, 9$        $1, 15$   
 $3, 3$        $3, 5$

$(1x + 3)(9x - 5)$        $(1x - 5)(9x + 3)$   
 $27x$        $-45x$   
 $-5x$        $3x$

$(1x + 5)(9x - 3)$        $(1x + 5)(9x - 3)$   
 $45x$        $-3x$

$(3x - 1)(3x + 15)$        $3(3x - 1)(1x + 5)$

$3(1x + 5)(3x - 1)$  ✓

ex:

$(4x + 10)(7x + 1)$   
 $2(2x + 5)(7x + 1)$

**Example 3: A Common Factor for a, b, and c**

Factor  $9x^2 + 42x - 15$ .

$\frac{\quad}{3} \quad \frac{\quad}{3} \quad \frac{\quad}{3}$

$3(3x^2 + 14x - 5)$   
 $1, 3$        $1, 5$

$3(1x + 5)(3x - 1)$  ✓  
 $15x$        $-1x$

**Try It**

Complete the following exercises.

1) Factor  $28x^2 - 5x - 12$

$$\begin{array}{l} 1, 28 \\ 2, 14 \\ 4, 7 \end{array}$$

$$\begin{array}{l} 1, 12 \\ 2, 6 \\ 3, 4 \end{array}$$

$$\begin{array}{l} - \\ + \\ - \\ - \end{array}$$

$$(7x - 4)(4x + 3) \quad \checkmark$$

$-16x$        $21x$

2) Factor  $\frac{12n^2}{2} - \frac{26n}{2} + \frac{12}{2}$

$$2(6n^2 - 13n + 6)$$

$$\begin{array}{l} 1, 6 \\ 2, 3 \end{array} \quad \underline{\quad \quad} \quad \begin{array}{l} 1, 6 \\ 2, 3 \end{array}$$

$$2(2x - 3)(3x - 2) \quad \checkmark$$

$-9x$        $-4x$

**FINISH 10.6 p.614 #18-31**

Factoring Trinomials wkst (p.43)

*Show work on separate sheet!*

**\*\*GRADE SHEET SIGNED (Due Friday)**