

## Binomial GCF factoring

## Factoring

$$14x^2 + 35x$$

$$\textcircled{7} \cdot \textcircled{2} \cdot \cancel{x} \cdot \cancel{x} \quad + \quad \textcircled{7} \cdot \textcircled{5} \cdot \cancel{x}$$

$$\underline{7x(2x+5)}$$

$$36x^3 - 27x^2$$

$$\textcircled{9} \cdot \textcircled{4} \cdot \cancel{x} \cdot \cancel{x} \cdot \cancel{x} \quad - \quad \textcircled{9} \cdot \textcircled{3} \cdot \cancel{x}$$

$$9x^2(4x-3)$$

## Factor each Trinomial

$$| x^2 + 4x - 12$$

$$\boxed{(x-2)(x+6)}$$

$$\begin{array}{l} x^2 + 6x - 2x - 12 \\ x^2 + 4x - 12 \end{array}$$

$$1, -12$$

$$-1, 12$$

$$2, -6$$

$$\textcircled{-2, 6} = 4$$

$$3, -4$$

$$-4, 3$$

$$| x^2 + 8x - 20$$

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

$$x^2 - 2x + 10x - 20$$

$$\checkmark x^2 + 8x - 20$$

$$| x^2 - 13x + 36$$

$$(x-9)(x-4)$$

$$x^2 - 4x - 9x + 36$$

$$\checkmark x^2 - 13x + 36$$

When first term does **not** have a coefficient of 1

1,3                      -1,10  
                              -10,1  
 1)  $3x^2 - 13x - 10$                       2,-5  
    -2,5

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

$3x^2 + 2x - 15x - 10$   
 $\checkmark 3x^2 - 13x - 10$

- ★ 1) Find factors of 1st term
- 2) Find factors of last term
- 3) Add to be middle term

-1,4    1,-4    2,-2

2)  $5x^2 - 19x - 4 = 0$

$(5x + 1)(1x - 4) = 0$

$5x + 1 = 0$  or  $x - 4 = 0$

$5x = -1$                        $x = 4$

$x = -\frac{1}{5}$

## Homework:

p. 1018, # 16 - 24 all,  
 37 - 40 all