

# Factoring - Watsons Rule

1)  $2x^2 - 3x - 2$

$x^2 - 3x - 4$

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

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

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

2)  $7x^2 + 19x - 6$

$x^2 + 19x - 42$

$(x + 21)(x - 2)$

$(x + 3)(x - \frac{2}{7})$

$(x + 3)(7x - 2)$

# Factoring

1)  $2x^2 - 3x - 2$

$a = 2$

$b = -3$

$c = -2$

$a \cdot c =$  find 2 numbers that  
multiply to  $= a \cdot c$   
 $b =$  same 2 numbers add to  
 $= b$

$a \cdot c = -4$

$b = -3$

$-4 \cdot 1 = -4$

$-4 \cdot 1 = -3$

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

$(x - 2)(2x - 3)$

Simplify

2)  $7x^2 + 19x - 6$

$a \cdot c = -42$

$b = 19$

$21 \cdot (-2) = -42$

$21 + (-2) = 19$

$(7x + 21)(7x - 2)$   
 $\div 7$

simplify

$(x + 3)(7x - 2)$

1) Factoring by Fractions

$$2x^2 - 3x - 2$$

$$a \cdot c = -4$$

$$b = -3$$

$$-4 \cdot 1 = -4$$

$$-4 + 1 = -3$$

Set both factors over A

$$\frac{-4}{2}$$

$$\frac{-3}{2}$$

simplify

$$\frac{-2}{1}$$

$$\frac{-3}{2}$$

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

2)  $7x^2 + 19x - 6$

$$a \cdot c = -42$$

$$21 \cdot -2$$

$$b = 19$$

$$\frac{21}{7}$$

$$\frac{-2}{7}$$

$$\frac{3}{1}$$

$$\frac{-2}{7}$$

$$(1x+3)(7x-2)$$