

$$x^2 - 3x - 4$$

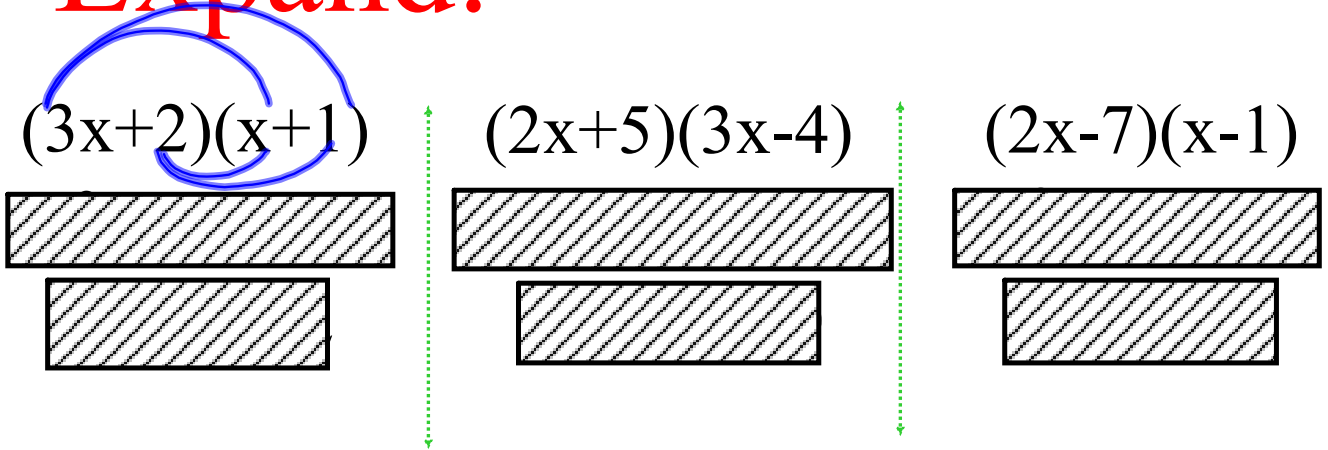
$$y^4 + 11y^2 + 30$$

# TRINOMIALS

$$z^2 + 5zy + 6y^2$$

$$m^2 - 8m + 16$$

Expand:



# Work sdrawkcab



1.  $10x^2 + 17x + 3$

$10x^2 + 15x$        $+ 2x + 3$


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

Find two numbers that  
15 + 2 = 17 to give 17  
15 x 2 = 30 and  
multiply  
to give 30.

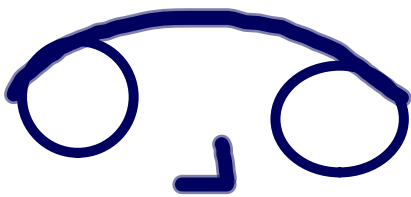
$30 \times 1$   
 $15 \times 2$   
 $10 \times 3$

# *DECOMPOSITION*

If there is a numerical coefficient in front of  $x$ , then we use a method for factoring called *DECOMPOSITION*.


$$4x^2 + 5x - 6$$

Multiply



$$4x^2 + 5x - 6$$

$$\begin{array}{l} 4x^2 + 8x \\ \underline{4x(x+2)} \end{array}$$

$$\begin{array}{l} -3x - 6 \\ \underline{-3(x+2)} \end{array}$$

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



8 + -3 = 5 **And that adds to give you the coefficient of x**

8 x -3 = -24 **Find two numbers that multiply to give you the new number!**

- 1 x 24
- 2 x 12
- 3 x 8
- 4 x 6

$$(6x^2 - 23x + 7)$$

$$(6x^2 - 2x)$$

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

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

$$(-21x + 7)$$

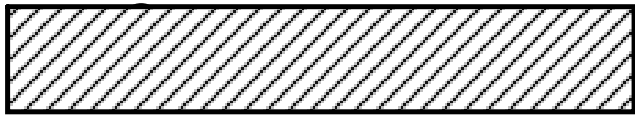
$$-7(3x - 1)$$



$$\begin{aligned} -2 + (-21) &= -23 \\ -2 \times (-21) &= +42 \end{aligned}$$

$$\begin{aligned} 1 \times 42 \\ 2 \times 21 \\ 3 \times 14 \\ 6 \times 7 \end{aligned}$$

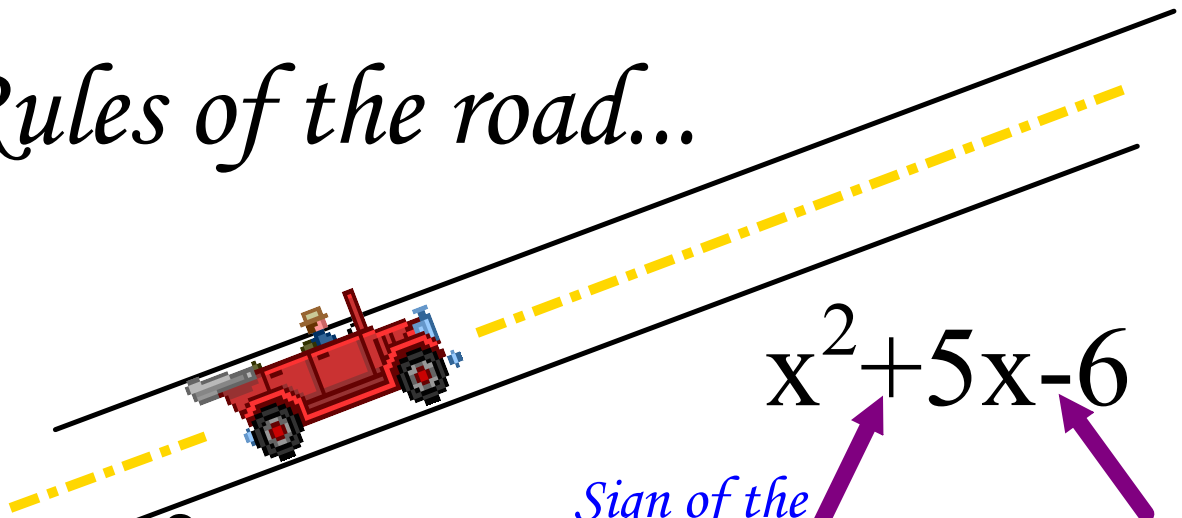
$$2x^2+5x+3$$



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

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

# Rules of the road...



$$x^2 - 5x + 6$$

*Sign of the  
biggest number.*

*Signs are  
the same.*

$$x^2 + 5x - 6$$

*Sign of the  
biggest number.*

*Signs are  
different.*



Check out pages 177 and 178.

Numbers 13 and 15. :)



