

FACTORING TRINOMIALS

WE KNOW HOW TO MULTIPLY...

$$\begin{array}{l} (x+4)(x+2) \\ x^2 + 2x + 4x + 8 \\ x^2 + 6x + 8 \end{array} \begin{array}{l} \left. \begin{array}{l} \text{"FACTORED FORM"} \\ \text{"STANDARD FORM"} \end{array} \right\} \\ \text{"ax}^2 + \text{bx} + \text{c"} \end{array}$$

• BUT HOW DO WE GO FROM STANDARD FORM TO FACTORED FORM?

• IF I ONLY GAVE YOU $x^2 + 6x + 8$ HOW WOULD YOU KNOW WHAT TO BREAK IT DOWN INTO?

WHERE DID 8 COME FROM?

WHERE DID 6 COME FROM?

WE CAN FACTOR BY ANSWERING THIS SENTENCE....

WHAT TWO NUMBERS MULTIPLY TO GET c AND ADD TO GET b?

$x^2 + 10x + 24$	<u>multiples of 24</u> 1, 24 2, 12 3, 8 <u>4, 6</u>	$x^2 + 23x - 24$	<u>multiples of 24</u> <u>1, 24</u> 2, 12 3, 8 4, 6
<u>$(x+4)(x+6)$</u>		<u>$(x+24)(x-1)$</u>	
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$x^2 - 11x + 24$	<u>multiples of 24</u> 1, 24 2, 12 3, 8 <u>4, 6</u>	$x^2 + x - 6$	<u>multiples of 6</u> 1, 6 <u>2, 3</u>
<u>$(x-8)(x-3)$</u>		<u>$(x+3)(x-2)$</u>	