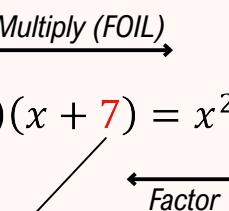


TOPIC: FACTORING TRINOMIALS OF THE FORM $x^2 + bx + c$

Factor Trinomials of the Form $x^2 + bx + c$

- ◆ Recall: *Multiply* two binomials $(x + p)(x + q)$ into a trinomial $x^2 + bx + c$ using the distributive property/FOIL.
 - Factor a trinomial back into two binomials by finding p & q that **multiply** to c and **add** to b .

New	Factoring $x^2 + bx + c$
<p style="text-align: center;"><u>Multiply (FOIL)</u> </p> $(x + 3)(x + 7) = x^2 + 7x + 3x + 21 = x^2 + 10x + 21$ <p style="text-align: center;"><u>Multiply to c = _____</u></p> <p style="text-align: center;"><u>Add to b = _____</u></p>	

EXAMPLE

Factor the given polynomial.

(A)

$$x^2 + 3x - 28$$

$$p \cdot q = \underline{\hspace{2cm}}$$

$$p + q \text{ must} = \underline{\hspace{2cm}}$$

$$(x + \underline{\hspace{1cm}})(x + \underline{\hspace{1cm}})$$

(B)

$$x^2 - 11x + 30$$

$$p \cdot q = \underline{\hspace{2cm}}$$

$$p + q \text{ must} = \underline{\hspace{2cm}}$$

$$(x + \underline{\hspace{1cm}})(x + \underline{\hspace{1cm}})$$

TOPIC: FACTORING TRINOMIALS OF THE FORM $x^2 + bx + c$

PRACTICE

Factor the following trinomials completely.

(A)

$$y^2 - 7y + 12$$

(B)

$$z^2 - 11z + 30$$

EXAMPLE

Factor the trinomial completely.

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