

April 14, 2015

Factoring Trinomials

6.2 #1 - #10

#2) $x^2 - x + 56$

~~$(x-8)(x+7)$~~

F: $x \cdot x = x^2$

L: $-8 \cdot 7 = -56$

not Factorable
↓
Relatively Prime

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#10) $x^2 - 2x - 63$

$(x-9)(x+7)$

F: $x \cdot x = x^2$

O: $x \cdot 7 = 7x$

I: $-9 \cdot x = -9x$

L: $-9 \cdot 7 = -63$

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$ax^2 + bx + c$; $a = +1$

Sign Patterns

- $ax^2 + bx + c$ Both numbers have the same sign * Both are positive
 $x^2 + 7x + 12 = (x+4)(x+3)$
- $ax^2 - bx + c$ Same "sign" Both negative
 $x^2 - 7x + 12 = (x-4)(x-3)$
- $ax^2 + bx - c$ Opposite "signs" But the larger number is positive
 $x^2 + x - 12 = (x+4)(x-3)$
- $ax^2 - bx - c$ Opposite "signs" Larger number is negative
 $x^2 - x - 12 = (x-4)(x+3)$

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6.2

#15) $2x^2 + 14x - 12$

Factoring

- Factor out GCF if possible
 $2(x^2 + 7x - 6)$
- Try to factor the remaining trinomial

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6.2 Complete #11 - #20

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$ax^2 + bx + c$
But $a \neq 1$

Methods of Factoring

- Guess & Check
- Factoring by Grouping
 - ac & b method
 - Product & Sum Method

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ac q b Method

$$\boxed{a}x^2 + \boxed{b}x + \boxed{c}$$

$$5x^2 + 22x + 8$$

$$\begin{array}{l} a = 5 \\ b = 22 \\ c = 8 \end{array} \quad \begin{array}{l} \textcircled{1} a \cdot c = 5 \cdot 8 = 40 \\ \textcircled{2} b = 22 \end{array}$$

$$\boxed{5x^2 + 20x} \quad \boxed{+ 2x + 8}$$

$$5x(x+4) + 2(x+4)$$

$$(x+4)(5x+2)$$

+	+
20	2

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