

April 12, 2016

Factoring in General

- ① Factor out a GCF if it exists.
- ② Find ac & b
- ③ Determine "sign" pattern
- ④ Find numbers
- ⑤ Factor by Grouping
- ⑥ Check

Apr 12-9:02 AM

$7x^2 - 4x - 11$
 $\begin{matrix} a & b & c \\ 7 & -4 & -11 \end{matrix}$
 $\begin{matrix} \textcircled{1} ac = 7 \cdot (-11) = -77 \\ \textcircled{2} b = -4 \end{matrix}$

-	+	-77	-4
5	1	-5	✓
6	2	-12	✓
10	6	-60	✓
12	8	-96	✓
11	7	-77	✓

$7x^2 - 11x + 7x - 11$
 $x(7x-11) + 1(7x-11)$
 $(7x-11)(x+1)$

Apr 12-9:20 AM

$4x^2 - 8x - 21$
 $\begin{matrix} \textcircled{1} ac = 4 \cdot (-21) = -84 \\ \textcircled{2} b = -8 \end{matrix}$

-	+
14	6

$4x^2 - 14x + 6x - 21$
 $2x(2x-7) + 3(2x-7)$
 $(2x-7)(2x+3)$

OK
 $4x^2 + 6x - 14x - 21$
 $4x^2 - 8x - 21$ ✓

Apr 12-9:33 AM

$30a^2 + 38a - 20$
 $\begin{matrix} \textcircled{1} ac = -600 \\ \textcircled{2} b = 38 \end{matrix}$

+	-	-600	38
40	2	-80	✓
42	4	-148	✓
50	12	-600	✓

$30a^2 + 50a - 12a - 20$
 $10a(3a+5) - 4(3a+5)$
 $(3a+5)(10a-4)$
 ~~$(3a+5)2(5a-2)$~~ *Not F.P.*
 $(3a+5)2(5a-2)$ *fully factored*

$2(15a^2 + 19a - 10)$
 $\begin{matrix} \textcircled{1} ac = -150 \\ \textcircled{2} b = 19 \end{matrix}$

Apr 12-9:40 AM