

October 27, 2015

Factoring  $a=1$

#8)  $x^2 - 4x + 24$

$ac = 24$   
 $b = -4$

-	+
?	?
.	+

Relatively Prime

Oct 27-9:05 AM

#10)  $5m^2 + 10m + 20$

GCF = 5

$5(m^2 + 2m + 4)$

$ac = 4$   
 $b = 2$

+	+
1	1

Totally Factored

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#15)  $2m^2 + 6m - 108$

\* Always factor out a GCF if there is one!

$2(m^2 + 3m - 54)$

$ac = -54$   
 $b = 3$

+	-
9	6

$2(m^2 + 9m - 6m - 54)$

$2(m(m+9) - 6(m+9))$

$2(m+9)(m-6)$

Totally Factored

$(2m+18)(m-6)$

$2m^2 - 12m + 18m - 108$

$2m^2 + 6m - 108$

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#15)  $2m^2 + 6m - 108$

$ac = (2)(-108) = -216$   
 $b = +6$

+	-	.	+
12	6	-72	6
13	7	-91	6
15	9	-135	6
18	12	-216	6

$2m^2 + 18m - 12m - 108$

$2m(m+9) - 12(m+9)$

$(m+9)(2m-12)$

$(m+9)2(m-6)$

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$x^2 + 2x + 24$

GCF

$-(x^2 - 2x - 24)$

$ac = -24$   
 $b = -2$

-	+
6	4

$-(x^2 - 6x + 4x - 24)$

$-(x(x-6) + 4(x-6))$

$-(x-6)(x+4)$

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Factoring  $a > 1$

#4)  $5m^2 + 19m + 12$

\* Is there a GCF other than one? No!

$ac = (5)(12) = 60$   
 $b = 19$

+	+	.	+
10	9	90	19
12	7	84	19
15	4	60	19

$5m^2 + 15m + 4m + 12$

$5m(m+3) + 4(m+3)$

$(m+3)(5m+4)$

Oct 27-9:45 AM

$$\boxed{4xy} + \boxed{6} - \boxed{x} - \boxed{24y}$$

Commutative Tool!

$$4xy - x + 6 - 24y$$
$$x(4y-1) - 6(-1+4y)$$

Comm.

$$x(4y-1) - 6(4y-1)$$
$$(4y-1)(x-6)$$

Oct 27-9:54 AM