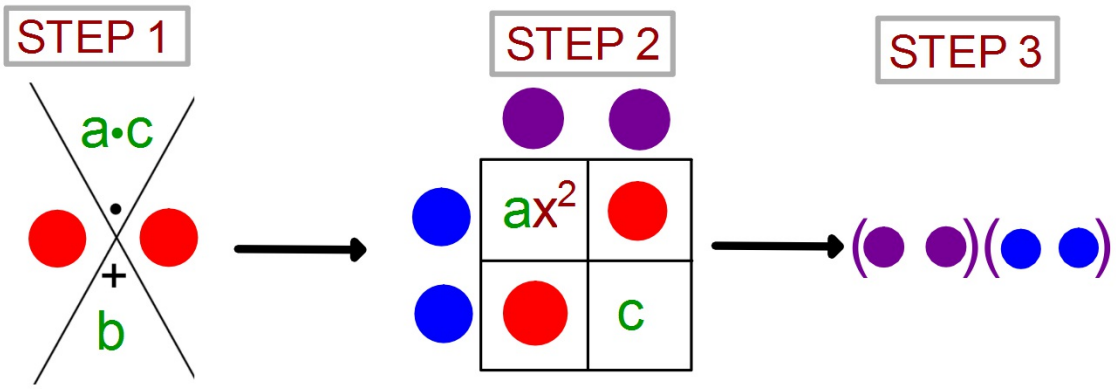
Standard Form of a Quadratic:

$ax^2 + bx + c$

- a is the coefficient of the quadratic term
- b is the coefficient of the linear term
- c is the constant

Factoring Trinomials: $ax^2 + bx + c$

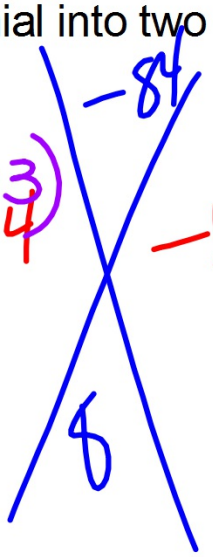
$x^2 + 4x - 12 = (x + 6)(x - 2)$

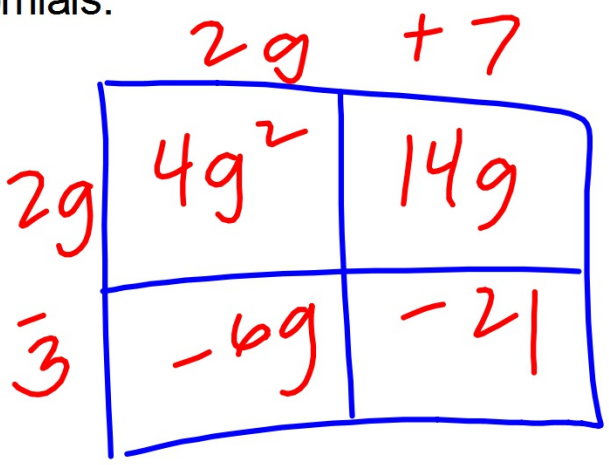


Factor each trinomial into two binomials.

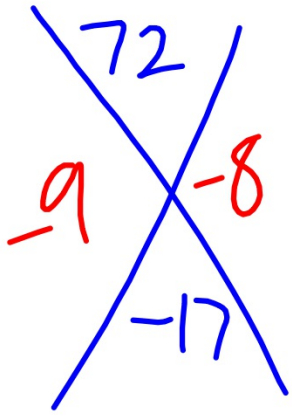
1. $4g^2 + 8g - 21$

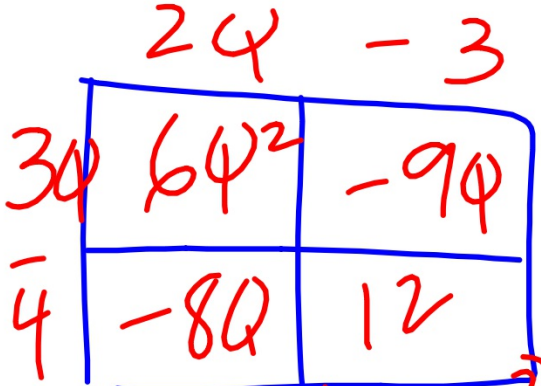
$(2g+7)(2g-3)$





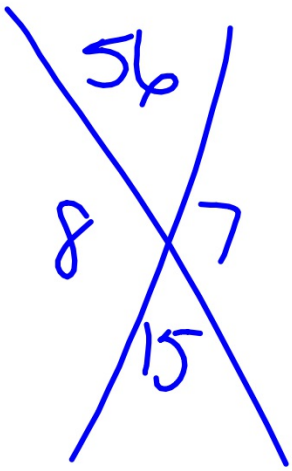
2. $6Q^2 - 17Q + 12$

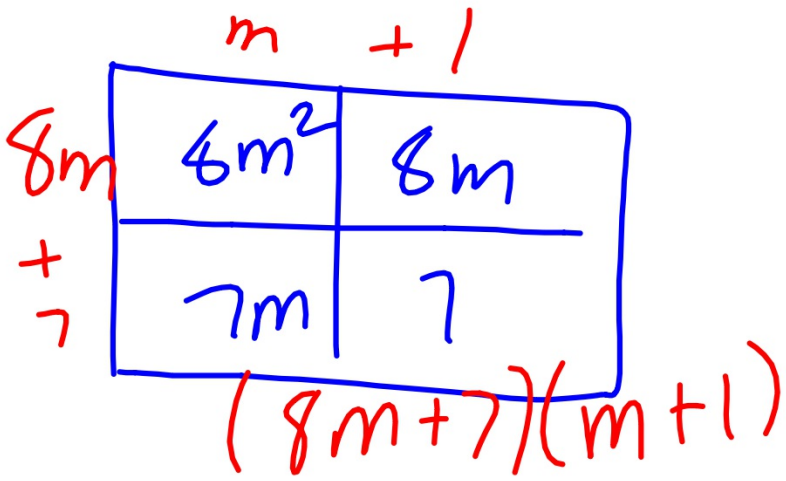




$(2Q-3)(3Q-4)$

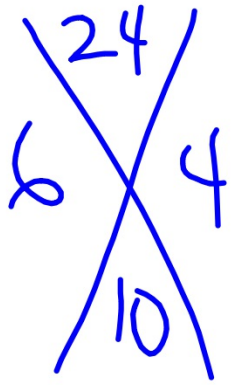
3. $8m^2 + 15m + 7$





$(8m+7)(m+1)$

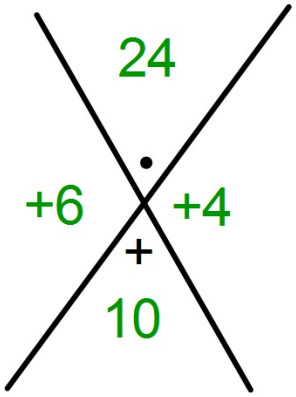
Factor this trinomial: $x^2 + 10x + 24$



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

$$x^2 + 10x + 24 = (x + 6)(x + 4)$$

Look at the "X" then look at the factors, what do you notice?

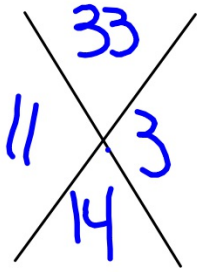


This always happens when the leading coefficient is 1

In the future when the leading coefficient is 1 you can skip the "Box" and go straight from the "X" to the Factors.

Factor completely: $x^2 + 14x + 33$

Because a=1 you can skip the "BOX".

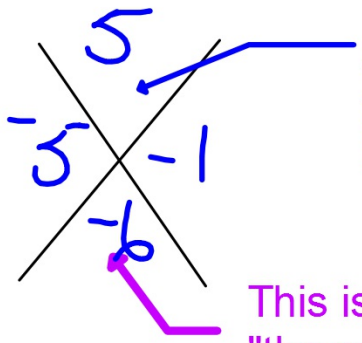


$\rightarrow (x+11)(x+3)$

Factor completely: $x^2 - 6x + 5$

because a=1 you can skip the box.

because a=1 you may also be able to skip the X

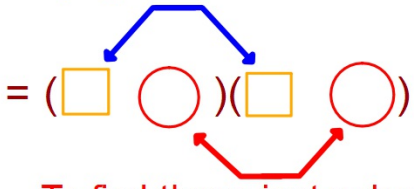


since a=1 the will just be c "the last"

This is always just b "the middle"

$x^2 - 6x + 5$

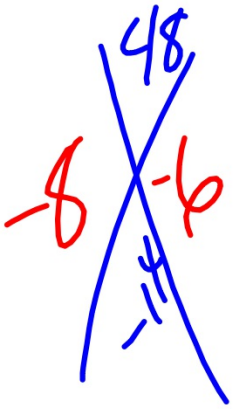
since a=1 these will always just be the variables



To find these just ask yourself: "what multiplys to the last and adds to the middle"

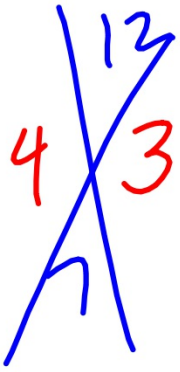
Factor each:

1. $y^2 - 14y + 48$



$(y-6)(y-8)$

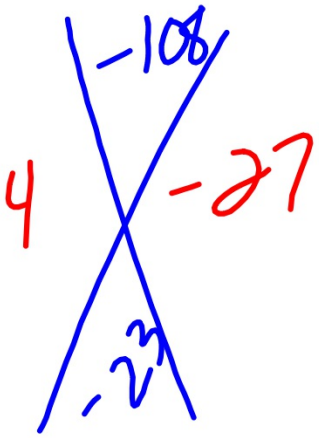
2. $c^2 + 7c + 12$ $(c+4)(c+3)$



6. $w^2 - 19w + 84 =$ $(w - 7)(w - 12)$

7. $20E^2 - 13E + 2$ $(5E - 2)(4E - 1)$

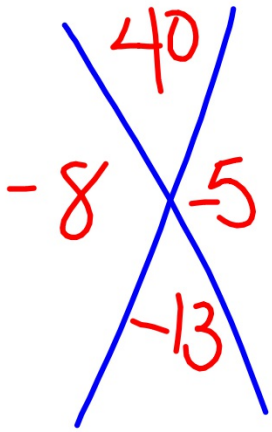
8. $18a^2 - 23a - 6$



	2a	−3
9a	$18a^2$	$-27a$
+2	$4a$	-6

$(9a+2)(2a-3)$

9. $4Q^2 - 13Q + 10$



	4Q	−5
Q	$4Q^2$	$-5Q$
−2	$-8Q$	10

$(Q-2)(4Q-5)$

10. $20y^2 + 36y + 9$

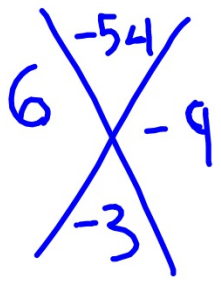
11. $15k^2 - 8k - 12$

Factoring out GCF first.

You should always look for a GCF before you do any other kind of factoring!

Factor completely.

$6k^2 - 18k - 324$ $6(k^2 - 3k - 54)$



	K	-9
K	K^2	-9K
6	6K	-54

$6(k-9)(k+6)$

Factor completely.

$15x^2 + 35x - 30$

$5(x+3)(3x-2)$

$5(3x^2+7x-6)$

-18

$9 \quad -2$

7

	x	$+3$
$3x$	$3x^2$	$9x$
-2	$-2x$	-6

Factor completely.

a. $16x^2 - 64x + 28$

Factor completely.

b. $4R^2 - 28R - 240$

IXL #11 -

Z.1 & Z.10 due Saturday, April 20th by 4pm!