Determine the values of a and k so that both points are on the graph of the quadratic function:

given $y = a(x - 6)^2 + k$

and the points (3,33) & (1, 65)

Use each point to create an equation with a and k in it.

$33 = a(3-6)^2 + k$

$33 = 9a + k$

$65 = a(1-6)^2 + k$

$65 = 25a + k$

You can now solve this system of eq's using Elim.

$-\ 33 = 9a + k$

$32 = 16a$

$2 = a$

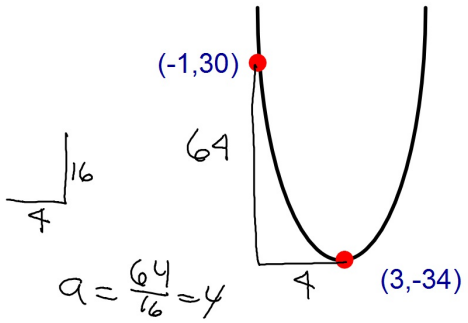
$33 = 9(2) + k$

$15 = k$

$y = 2(x-6)^2 + 15$

Write the equation of this quardratic in Standard Form.

Start with Vertex Form & change into Standard Form



$a = \frac{64}{16} = 4$

$ax^2 + bx + c$

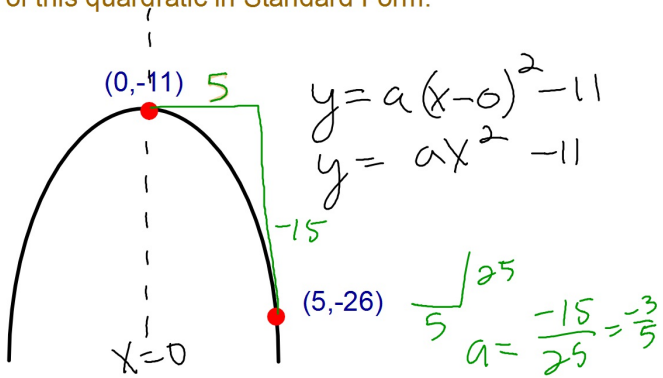
$y = 4(x-3)^2 - 34$

$4(x^2 - 6x + 9) - 34$

$4x^2 - 24x + 36 - 34$

$y = 4x^2 - 24x + 2$

Write the equation of this quardratic in Standard Form.



$y = -\frac{3}{5}x^2 - 11$

$y = a(x-0)^2 - 11$

$y = ax^2 - 11$

$a = \frac{-15}{25} = \frac{-3}{5}$

You can now finish Hwk # 17

Use the sheet I've printed.

Sec 5-4 Factoring Quadratic Expressions

Factoring should always start with **GCF**

Factor the following: $12x^2 - 18x$

$= 6x(2x-3)$

Always look for GCF because sometimes that is all you can do when factoring!

Factor. $0 = 6x^2 + 31x + 33$

You need 2 numbers that multiply to 198 and add to 31

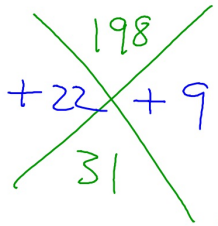
$1 \cdot 198$ X

$2 \cdot 99$ X

$3 \cdot 66$ X

$6 \cdot 33$ X

$9 \cdot 22$ ✓



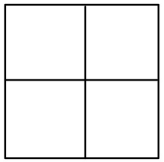
	3x	+11
2x	$6x^2$	+22x
+3	+9x	33

$(2x+3)(3x+11)$

After removing a GCF, if there is one, ...

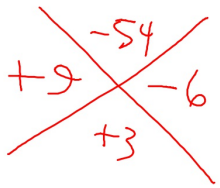
If you still have a trinomial quadratic you should do the following.....

then, if needed,



Factor the following: $4b^3 + 12b^2 - 216b$

$4b(b^2 + 3b - 54)$



$= 4b(b+9)(b-6)$