7. $9y^2 - 4x^2 + 18y + 40x - 127 = 0$

$9y^2 + 18y - 4x^2 + 40x = 127$

$9(y^2 + 2y) - 4(x^2 - 10x) = 127$

$9(y^2 + 2y + 1 - 1) - 4(x^2 - 10x + 25 - 25) = 127$

$9(y^2 + 2y + 1) + 9(-1) - 4(x^2 - 10x + 25) - 4(-25) = 127$

$9(y+1)^2 - 9 - 4(x-5)^2 + 100 = 127$

$9(y+1)^2 - 4(x-5)^2 = 127 - 100 + 9$

$9(y+1)^2 - 4(x-5)^2 = 36$

$\frac{9(y+1)^2}{36} - \frac{4(x-5)^2}{36} = \frac{36}{36}$

$\frac{(y+1)^2}{4} - \frac{(x-5)^2}{9} = 1$

$k = -1$, $h = 5$

$\frac{(y+1)^2}{(2)^2} - \frac{(x-5)^2}{(3)^2} = 1$

$a = 2$, $b = 3$

WRITING IN STANDARD FORM

1. GROUP X'S, GROUP Y'S, TAKE NUMBER TO RIGHT SIDE
2. FACTOR OUT THE NUMBER IN FRONT OF SQUARES
3. COMPLETE THE SQUARE ON Y'S AND ON THE X'S

y's	x's
$(2 \cdot \frac{1}{2})^2$	$(-10 \cdot \frac{1}{2})^2$
$(1)^2$	$(-5)^2$
1	25

4. GET A "ONE" ON RIGHT SIDE

RIGHT

FIND C

$b^2 = c^2 - a^2$

$3^2 = c^2 - 2^2$

$9 = c^2 - 4$

$9 + 4 = c^2$

$13 = c^2$

$c = \sqrt{13}$