Instructions for Converting forms of Equations of Circles (Completing the Square)

1. Move the constant (plain number) over to the other side of the equal sign, either by adding or subtracting the number.
2. Rewrite the equation by putting x’s next to each other and putting y’s next to each other.
3. Write in blanks after the x term and the y term, and two blanks after the constant on the other side of the equal sign. We are going to put numbers in these blanks so for now they are acting as a place holder.
4. Look at the number in front of the x term. Divide it by two and square the answer. Write that number in the blank after the x and the first blank after the constant (on the other side of the equal sign).
5. Look at the number in front of the y term. Divide it by two and square the answer. Write that number in the blank after the y and the second blank after the constant.
6. Use quadratic factoring to factor the first 3 terms, and also factor the second 3 terms, beginning with the y2.
7. Add all three terms on the right side of the equal sign.
8. Using the standard form for the equation of a circle, you should now be able to name the center and radius of the circle.