

Name: _____ Date: _____

Equations of Circles

$$Ax^2 + By^2 + Cx + Dy + E = 0 \rightarrow (x - h)^2 + (y - k)^2 = r^2$$

Converting from General to Standard Form:

1. A needs to be 1! Divide if needed.
 2. Move the x terms together, the y terms together & E to the other side.
 3. Complete the square (as needed) for x. Complete the square (as needed) for y.
 4. Factor the left & simplify the right.
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Write the standard form of the equation for the circle. State the center and radius.

1. $x^2 + y^2 - 8x + 7 = 0$

2. $x^2 + y^2 + 4x - 6y - 3 = 0$

3. $x^2 + y^2 + 22x + 8y + 88 = 0$

4. $2x^2 + 2y^2 - 16x + 4y + 20 = 0$

5. $x^2 + y^2 - 4x - 30y + 220 = 0$

6. $x^2 + y^2 - 22x + 28y + 313 = 0$
