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## 10-6 HW: Translating Conic Sections + Systems Homework

Identify the conic section represented by each equation, by first writing the equation in standard form. For a parabola, give the vertex. For a circle, give its center and radius. For an ellipse or hyperbola, give its center and foci.

1. $4 x^{2}+8 x+9 y^{2}-36 y+4=0$
2. $x^{2}-10 x-4 y^{2}+24 y-15=0$
3. $x^{2}+y^{2}+6 y-27=0$
4. $y^{2}+2 y-x+3=0$
5. $4 x^{2}+y^{2}+8 x-4 y=8$
6. $x^{2}+2 x+y^{2}-10 y-38=0$
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## Write an equation of a conic section with the given characterisitics.

7. Hyperbola with vertices $(0,2)$ and $(4,2)$, and foci $(-1,2)$ and $(5,2)$
8. Ellipse with center $(0,2)$, horizontal major axis of length 6 , and minor axis of length 4

## Solve the system of equations by graphing.

9. $x^{2}+y^{2}=100$
$x+y=10$

10. $3 x-2 y=6$
$\frac{x^{2}}{4}+\frac{y^{2}}{9}=1$

