

## Conic Sections (General Form)

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Parabolas: solve + graph the following:

- $y=x^2+4x-5$
- $y=x^2+2x-3$
- $y=x^2+4x+4$
- $y=x^2-4$
- $y=x^2+3x+2$
- $y=x^2-5x+4$
- $y=2x^2-3x-2$
- $y=\frac{1}{2}x^2+2x-2\frac{1}{2}$
- $y=x^2-x+12$
- $y=2x^2-2$
- $x=4y^2+4y+1$
- $x=\frac{1}{3}y^2+2y+3$
- $x=2y^2+6y+4$
- $x=\frac{1}{2}y^2+1\frac{1}{2}y+1$
- $x=\frac{1}{2}y^2+y+\frac{1}{2}$
- $x=4y^2-1$
- $x=2y^2+3y+1$
- $x=6y^2-y-1$
- $x=y^2+1$
- $x=y^2+6y+5$

Circles: solve + graph the following:

- $x^2+y^2+2x+6y-6=0$
- $x^2+y^2+2x-10y-10=0$
- $x^2+y^2-9=0$
- $x^2+y^2+3x-5y-\frac{1}{2}=0$
- $x^2+y^2-10x+4y+20=0$
- $x^2+y^2-8x-10y+1=0$
- $x^2+y^2+x-8y+\frac{1}{4}=0$
- $-2y=x^2+5x+y^2+3\frac{1}{4}$
- $-y^2=x^2-16$
- $2x^2+2y^2-8=0$

Ellipses: solve + graph the following:

- $9x^2+16y^2-144=0$
- $9x^2+18x+4y^2+16y-11=0$
- $16x^2+25y^2-400=0$
- $4x^2+y^2-24x+4y+36=0$
- $16x^2+4y^2+48x-32y+36=0$
- $4x^2+25y^2+20x-150y+150=0$
- $x^2+4y^2-2x+8y+1=0$
- $x^2+9y^2-10x+16=0$
- $9x^2+4y^2+36x+24y+36=0$

Hyperbolas: solve + graph the following:

- $9x^2-4y^2+18x-16y-43=0$
- $4x^2-25y^2-100=0$
- $4x^2-y^2-24x+4y+16=0$
- $x^2-9y^2+4x+18y=14$
- $4x^2-y^2+12x-4y+1=0$
- $2x^2-8y^2+8x-24y-18=0$
- $8x^2-2y^2+32x-6y+19\frac{1}{2}=0$
- $x^2-4y^2-2x-8y-7=0$
- $9x^2-4y^2+36x-24y-36=0$