

C12 - 12.0 - Conics Notes

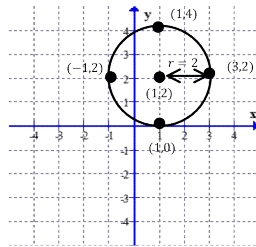
Roger

Testing

- Circle
- Radius
- Center
- Find Equation
- Distance
- Midpoint
- Transform
- Parabola
- Ellipse
- Hyperbola
- Vertex/Co
- Axis
- Directrix
- Focus/i
- Transverse Axis
- Eccentricity
- Asymptotes

Circle
Find r
Find center
Vertices
 $(x - 3)^2 + (y + 2)^2 = 9$

Find the Equation



Find
 $(-1, 2)$ & $(3, 2)$
Midpoint
Distance

Find
 $(2, 2)$ & $(8, 10)$
Midpoint
Distance

Find
 $(0, 2 - \sqrt{3})$ & $(2, 2 + \sqrt{3})$
Midpoint
Distance

Find the Equation of a circle/with Endpoints:

Centre $(1, 2)$ & $r = \sqrt{10}$

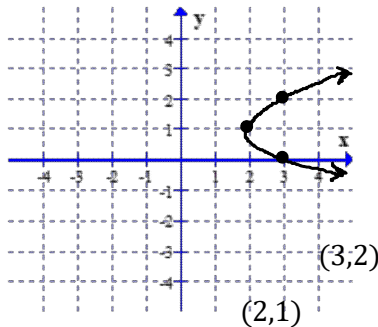
$(-2, -2)$ & $(4, 8)$
 $r = 5$

$(-1, -1)$ & $(3, -7)$
 $r = \sqrt{13}$

Transform
 $x^2 + y^2 = 4$
VE=2, left 3 and up 1

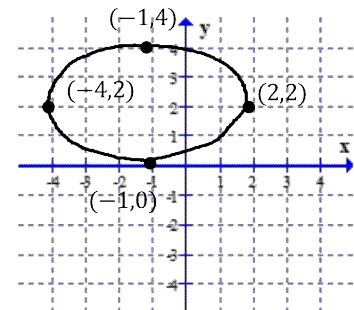
Parabola
Find:
Vertex
Axis
Directrix
Focus
 $y = 2x^2$
 $x = \frac{1}{4}y^2$

Find the Equation



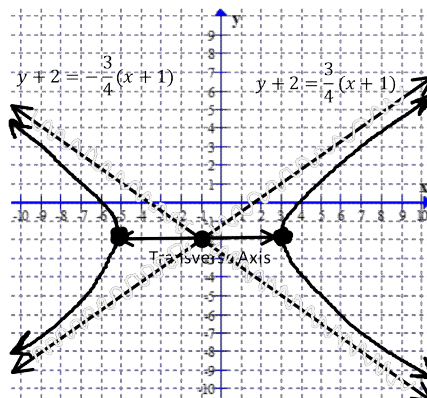
Ellipse
Find:
Vertices/Co-Vertices
Length of Transverse Axis
Foci/us
Directrix
Eccentricity
 $\frac{(x + 1)^2}{16} + \frac{(y + 2)^2}{9} = 1$

Find the Equation



Hyperbola
Find:
Vertices
Foci/us
Directrix
Asymptote Equations
 $\frac{(x + 1)^2}{16} - \frac{(y + 2)^2}{9} = 1$

Find the Equation



Convert to General form
 $ax^2 + bx + cy^2 + dy + e = 0$
 $\frac{(x + 1)^2}{4} + \frac{(y + 2)^2}{25} = 1$

Complete the square in x & y .
 $x^2 + y^2 + 6y - 4 = 0$
 $x^2 - 4x + y^2 - 6y = 0$
 $9x^2 + 18x - 16y^2 - 64y - 199 = 0$

Find the intersection
 $x^2 + y^2 = 4$
 $(x - 5)^2 + y^2 = 9$

Find two functions to:
 $x^2 + y^2 = 9$
 $y = \pm\sqrt{9 - x^2}$