

Equation of an **Ellipse** with center (h,k)

h gives the x -coordinate of the center

k gives the y -coordinate of the center

$$\frac{(x - h)^2}{a^2} + \frac{(y - k)^2}{b^2} = 1$$

a gives the distance traveled in x -direction to get vertices or co-vertices

b gives the distance traveled in y -direction to get vertices or co-vertices

Equation of an **Ellipse** with center (h,k)

$$\frac{(x - h)^2}{a^2} + \frac{(y - k)^2}{b^2} = 1$$

Given the equation of an ellipse, label h , k , a and b .

$$\frac{(x - 1)^2}{8} + \frac{(y + 4)^2}{48} = 1$$

$$\frac{(x + 3)^2}{50} + \frac{(y - 1)^2}{32} = 1$$

$$\frac{(x + 1)^2}{12} + \frac{(y + 7)^2}{27} = 1$$

Graph the following ellipse

$$\frac{x^2}{12} + \frac{y^2}{28} = 1$$

Domain

Range

Center

Horizontal/ Vertical

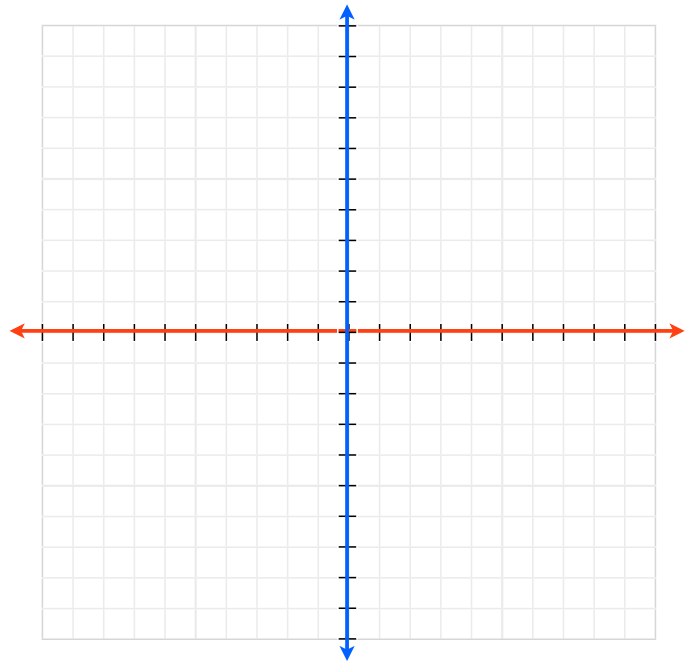
Major Axis Length

Minor Axis Length

Vertices

Co-Vertices

Foci



Graph the following ellipse

$$\frac{(x + 1)^2}{32} + \frac{(y + 2)^2}{4} = 1$$

Domain

Range

Center

Horizontal/ Vertical

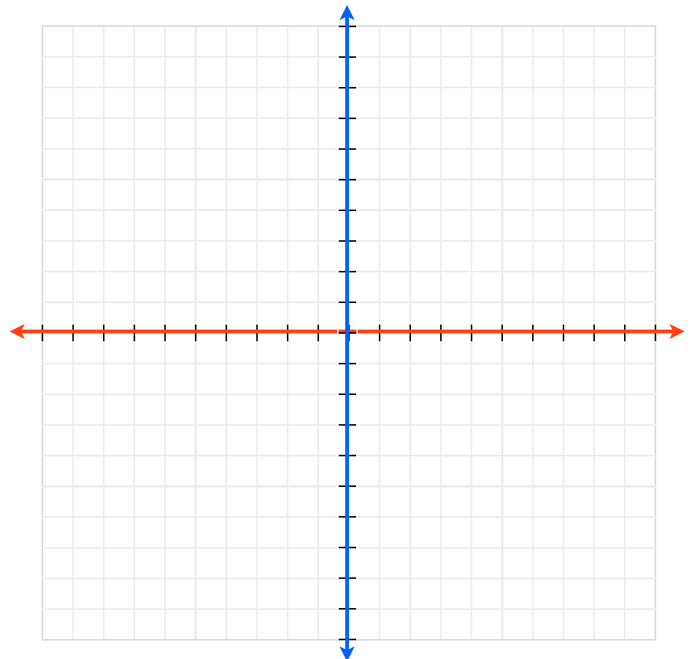
Major Axis Length

Minor Axis Length

Vertices

Co-Vertices

Foci



Graph the following ellipse

$$\frac{(x - 2)^2}{9} + \frac{(y - 1)^2}{45} = 1$$

Center

Horizontal/Vertical

Major Axis Length

Minor Axis Length

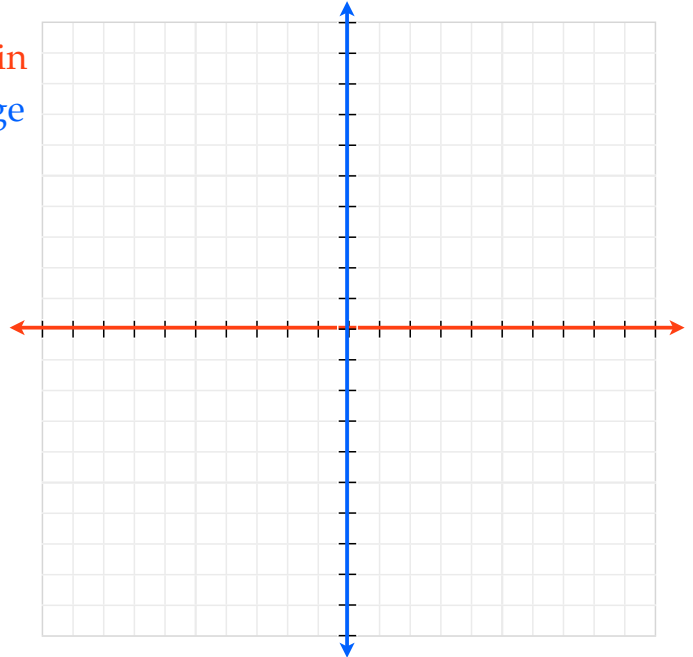
Vertices

Co-Vertices

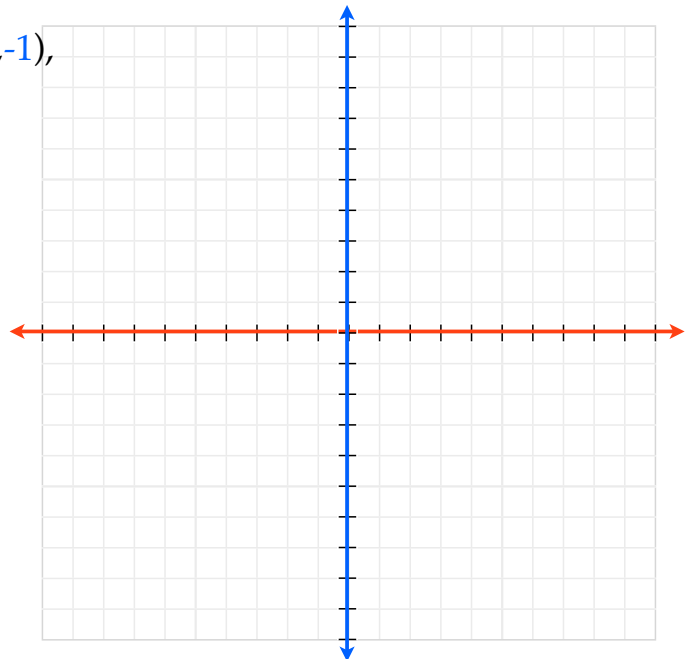
Foci

Domain

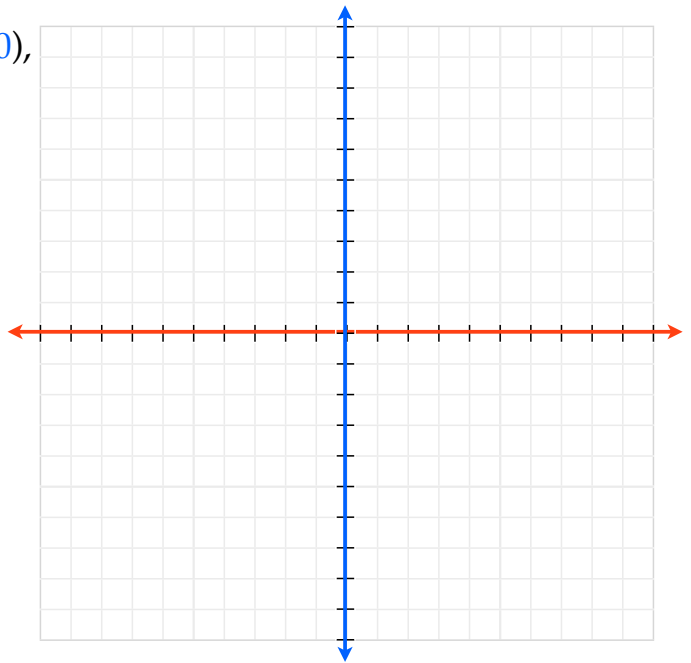
Range



Find the equation of an ellipse with center $(-2, -1)$, vertex at $(6, -1)$ and co-vertex at $(-2, 4)$



Find the equation of an ellipse with center $(3,0)$, vertex at $(3,6)$ and focus at $(3,5)$



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