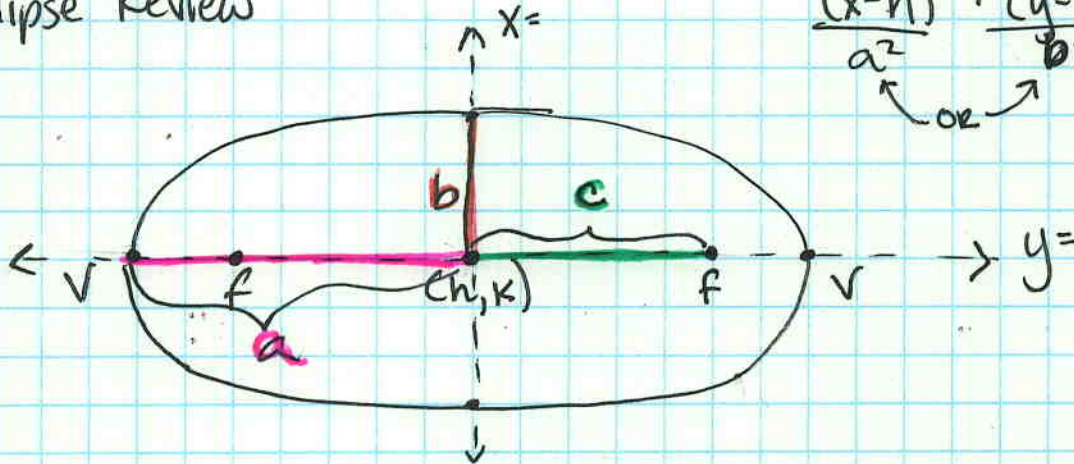


Ellipse Review



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

\swarrow or \searrow

$a \rightarrow$ big denominator
vertex to center

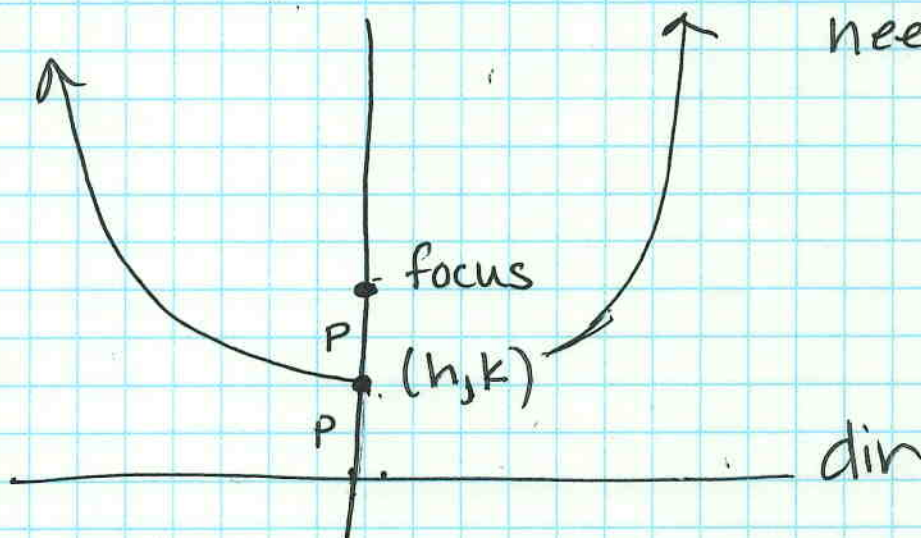
$$c^2 = a^2 - b^2$$

$b \rightarrow$ smaller denominator
co-vertex to center

$$e = \frac{c}{a}$$

$c \rightarrow$ focus to center (on major axis)

Parabola $(x-h)^2 = 4p(y-k)$ or $(y-k)^2 = 4p(x-h)$



need h, k, p

\neq

Circle ellipse w/ $a^2 = b^2$

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

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

$$\boxed{(x-h)^2 + (y-k)^2 = r^2}$$

Circles: Special Ellipse

minor axis = major axis
 $a^2 = b^2$

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

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

$$(x-h)^2 + (y-k)^2 = r^2$$

$$\downarrow \quad \downarrow \\ 9(x-3)^2 + 9(y+7)^2 = 36$$