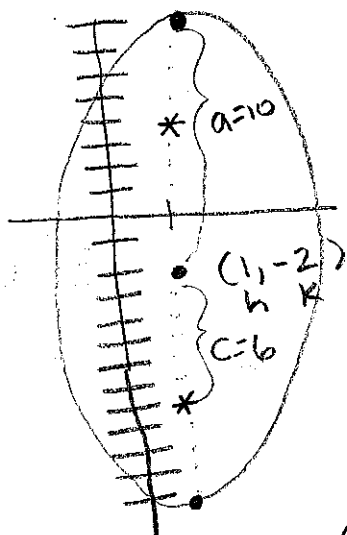


## Warm-up 8: Ellipses

Write the standard form of the equation of the ellipse with vertices  $(1,8)$  &  $(1,-12)$  and foci  $(1,4)$  &  $(1,-8)$ .



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

$$\frac{(x-1)^2}{64} + \frac{(y+2)^2}{100} = 1$$

$$\begin{aligned}c^2 &= a^2 - b^2 \\36 &= 100 - b^2 \\-64 &= -b^2 \\64 &= b^2\end{aligned}$$