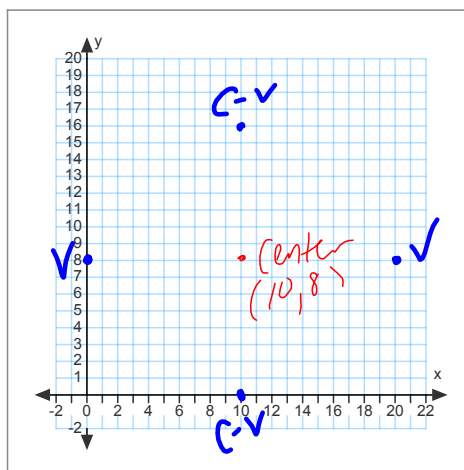


Write the standard equation for an ellipse with the given information:

6.) Vertices: (20, 8) and (0, 8)

Co-Vertices: (10, 16) and (10, 0)

$$\frac{(x-10)^2}{100} + \frac{(y-8)^2}{64} = 1$$



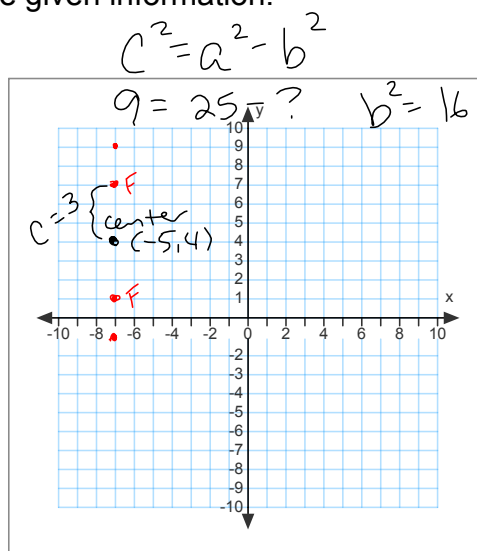
Write the standard equation for an ellipse with the given information:

7.) Vertices: (-5, 9) and (-5, -1)

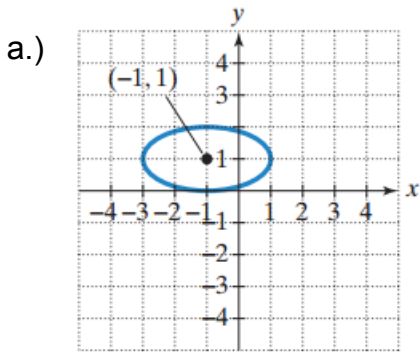
Foci: (-5, 7) and (-5, 1)

$$\frac{(x+5)^2}{16} + \frac{(y-4)^2}{25} = 1$$

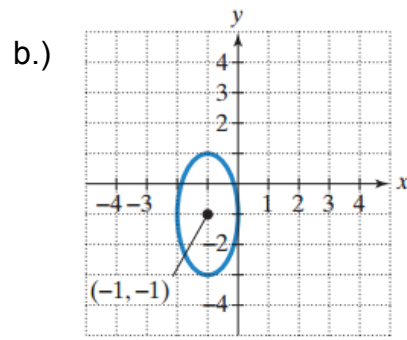
$$a^2 = 25$$



8.) Write the standard equation for an ellipse with the given information:



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

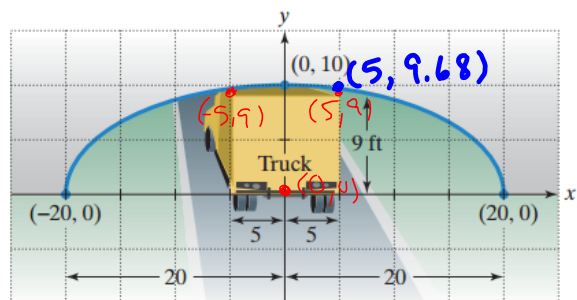


$$\frac{(x+1)^2}{1} + \frac{(y+1)^2}{4} = 1$$

9.) A semi-elliptical archway over a one-way road has a height of 10 feet and a width of 40 feet (see Figure 9.11 ). Your truck has a width of 10 feet and a height of 9 feet. Will your truck clear the opening of the archway?

$$\frac{x^2}{400} + \frac{y^2}{100} = 1$$

$$\frac{5^2}{400} + \frac{9^2}{100} \text{ (?)}$$



So yes! < the truck will clear the opening