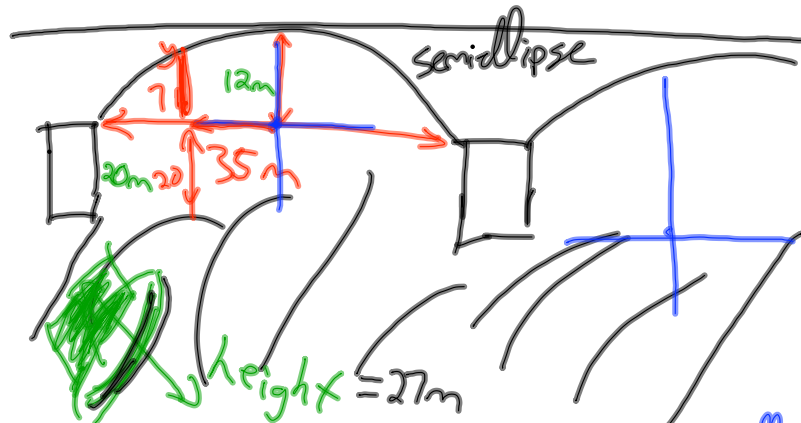


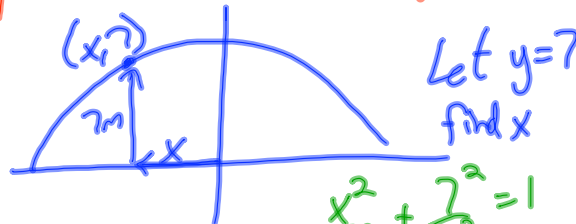
# Using conics for geometry problems



Find the equation of the semicircle

$$y \geq 0 \quad \boxed{\frac{x^2}{(17.5)^2} + \frac{y^2}{12^2} = 1} \quad \frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$$

How far from the center of the elliptical arch can the 27m high boat travel & still pass under the bridge.



$$\frac{x^2}{(17.5)^2} + \frac{7^2}{12^2} = 1$$

$$\frac{x^2}{17.5^2} = 1 - \frac{7^2}{12^2}$$

$$x^2 = 17.5^2 \left( 1 - \left( \frac{7}{12} \right)^2 \right)$$

BFOMAS

√(Ans 8122328621  
Ans\*17.5  
14.21407509

1 - (7/12)<sup>2</sup>  
= .6597222222