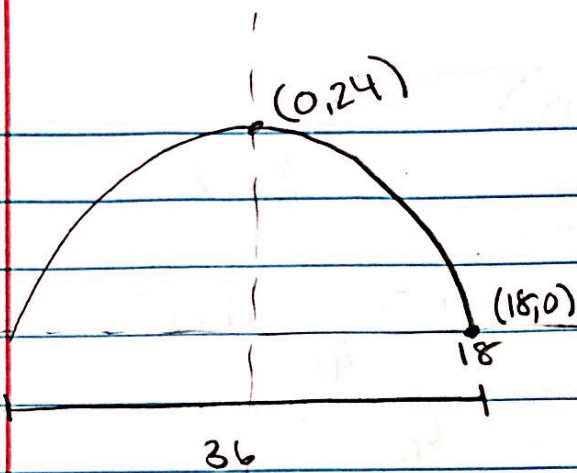


1)



$$y = \frac{-2}{27} x^2 + 24$$

$$y = \frac{1}{4c} x^2 + 24$$

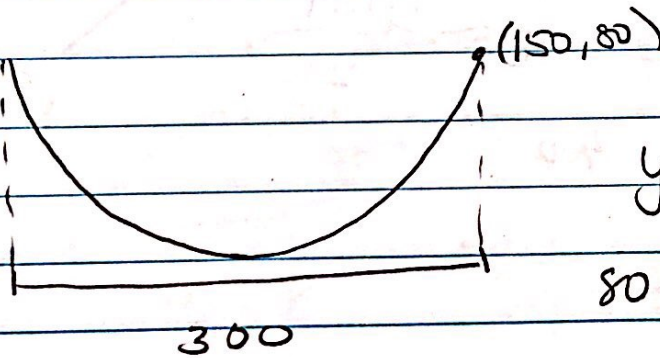
$$0 = \frac{1}{4c} 18^2 + 24$$

$$-24 = \frac{18^2}{4c}$$

$$4c = \frac{18^2}{-24}$$

$$4c = \frac{-27}{2}$$

2)



$$y = \frac{4}{1125} x^2$$

$$y = \frac{1}{4c} x^2$$

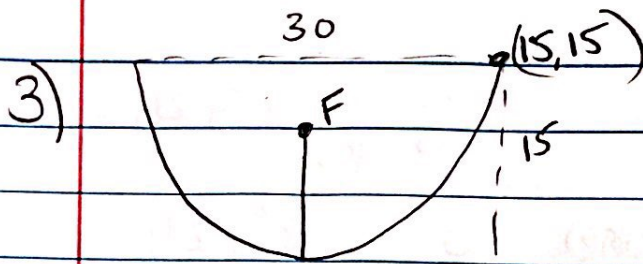
$$80 = \frac{1}{4c} 150^2$$

$$4c = \frac{150^2}{80}$$

$$4c = \frac{1125}{4}$$

$$y = \frac{4}{1125} (100)^2$$

$$y = 35.56 \text{ ft}$$



$$y = \frac{1}{4c} x^2$$

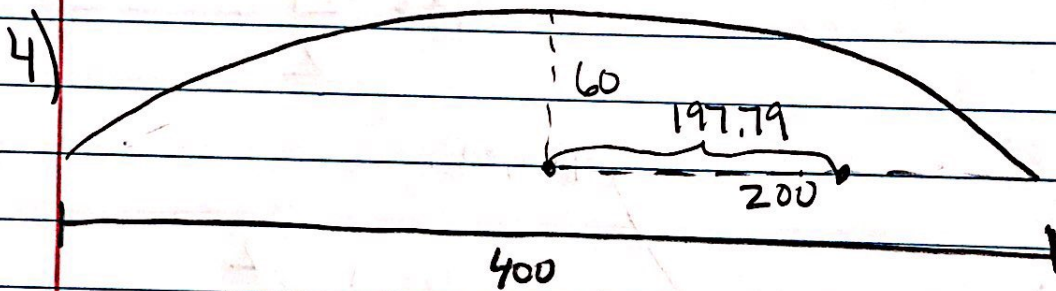
$$15 = \frac{1}{4c} (15)^2$$

$$4c = \frac{15^2}{15}$$

$$4c = 15$$

$$c = 15/4$$

3.75 cm



$$\frac{x^2}{200^2} + \frac{y^2}{60^2} = 1$$

$$\frac{x^2}{40000} + \frac{y^2}{3600} = 1$$

381.58 ft

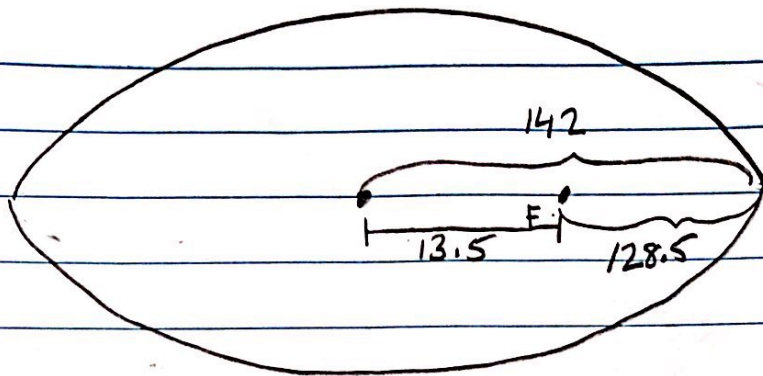
$$c^2 = a^2 - b^2$$

$$c^2 = 40,000 - 3600$$

$$c^2 = 36400$$

$$c = 190.79$$

5)



$$\frac{x^2}{142^2} + \frac{y^2}{19981.75} = 1$$

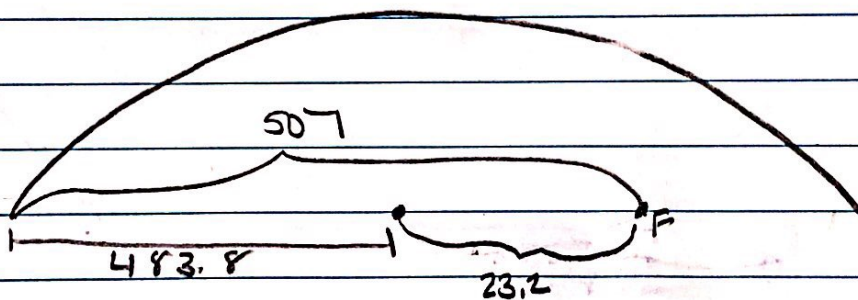
$$c^2 = a^2 - b^2$$

$$13.5^2 = 142^2 - b^2$$

$$b^2 = 19981.75$$

Aphelion: 155.5 million miles

6)



$$\frac{x^2}{234062.44} + \frac{y^2}{233524.2} = 1$$

$$c = 23.2$$

$$a = 483.8$$

$$a^2 = 234062.44$$

$$23.2^2 = 483.8^2 - b^2$$

$$b^2 = 233524.2$$