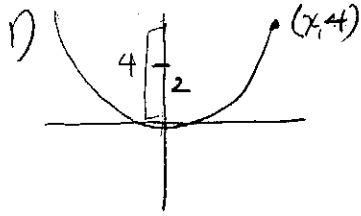


Conic Application Supplement



$$y = ax^2$$

$$4 = \frac{1}{8}x^2$$

$$2 = \frac{1}{4a}$$

$$a = \frac{1}{8}$$

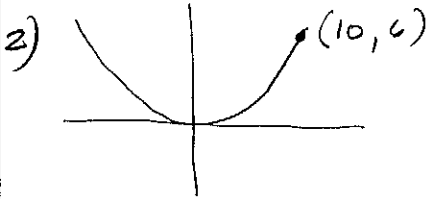
$$4 = \frac{1}{8}x^2$$

$$32 = x$$

$$4\sqrt{2} = x$$

$8\sqrt{2} =$ opening width

11.31 ft



$$y = ax^2$$

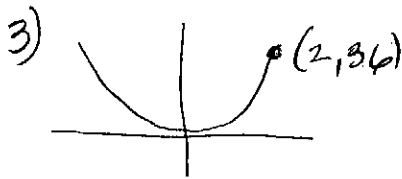
$$6 = 100a$$

$$\frac{3}{50} = a$$

$$p = \frac{1}{4(3/50)}$$

$$= \frac{1}{12/50} = 50/12 = 25/6$$

$\frac{25}{6}$ ft or 4.167 ft



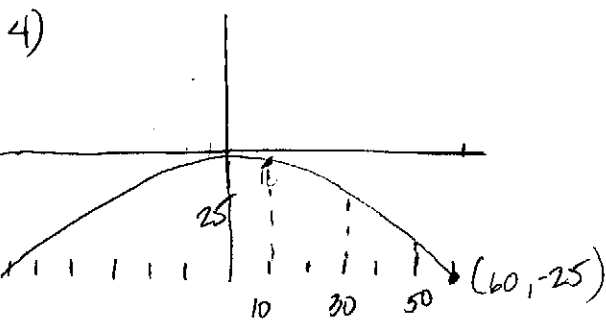
$$y = ax^2$$

$$36 = 4a$$

$$9 = a$$

$$p = \frac{1}{4(9)} = .028 \text{ in}$$

.028 in from bottom



$$y = ax^2$$

$$-25 = 3600a$$

$$-\frac{1}{144} = a$$

10 ft: $y = \frac{1}{144}(100)$
 $= -.69$

$25 - .69 = \boxed{24.3 \text{ ft}}$

30 ft: $y = \frac{1}{144}(900)$
 $= -6.25$

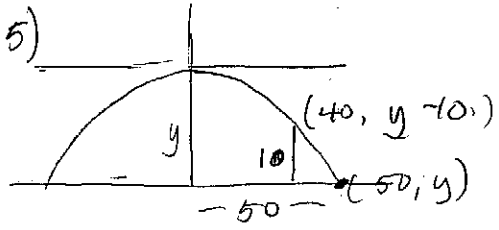
$25 - 6.25 = \boxed{18.75}$

50 ft:

$$y = \frac{1}{144}(2500)$$

$$= -17.36$$

$25 - 17.36 = \boxed{7.64 \text{ ft}}$



$$y = ax^2$$

$$y - 10 = 1600a$$

$$y = 2500a$$

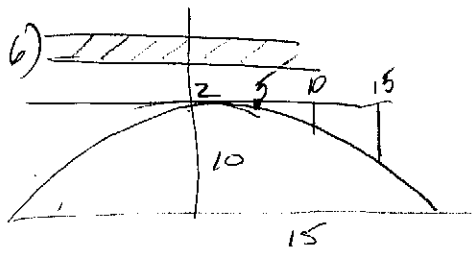
$$y = \frac{1}{90}(2500)$$

$$= 27.78 \text{ ft}$$

$$2500a - 10 = 1600a$$

$$900a = 10$$

$$a = \frac{1}{90}$$



$$\frac{x^2}{15^2} + \frac{y^2}{10^2} = 1$$

$$\frac{x^2}{225} + \frac{y^2}{100} = 1$$

$$x=10 \quad x=15$$

$$\frac{100}{225} + \frac{y^2}{100} = 1 \quad 10 + z = 12$$

$x=0 \quad 2 \text{ ft}$ $x=5 \text{ ft}:$

$$\frac{25}{225} + \frac{y^2}{100} = 1$$

$$\frac{y^2}{100} = \frac{8}{9}$$

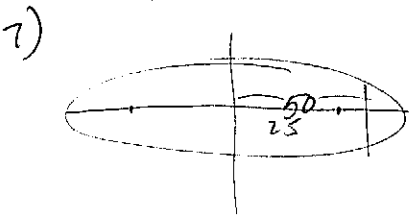
$$9y^2 = 800$$

$$y = 9.42$$

$$\frac{y^2}{100} = \frac{5}{9}$$

$$9y^2 = 500$$

$$y = 7.45$$



$$a = 50$$

$$b = 43.3 \text{ ft}$$

$$c = 25$$

$$625 = 2500 - b^2$$

$$43.3 \times 2$$

$$86.6 \text{ ft wide}$$

$$\frac{x^2}{50^2} + \frac{y^2}{43.3^2} = 1$$

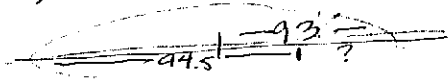
$$\frac{40^2}{50^2} + \frac{y^2}{43.3^2} = 1$$

$$\frac{y^2}{43.3^2} = .36$$

$$y = 25.98 \times 2$$

$$51.96 \text{ ft wide } 10 \text{ ft from end}$$

8)



$$a = 93 \text{ mill}$$

$$b =$$

$$c = 1.5 \text{ mill}$$

$$1.5^2 = 93^2 - b^2$$

$$b = 92.988$$

$$\begin{aligned} \text{aphelion} &= a + c \\ &= 94.5 \text{ mill} \end{aligned}$$

$$\text{perihelion} = 91.5 \text{ mill}$$

$$\frac{x^2}{93^2} + \frac{y^2}{92.988^2} = 1$$