

$$(67) f(x) = \sin^2 x - \cos^2 x$$

$$\left(\frac{\pi}{4}, \frac{3\pi}{4}\right) f'(x) = 2 \sin x \cos x - 2 \cos x (-\sin x)$$

$$= 4 \sin x \cos x = 0 \quad x = \pi/2$$

$$\frac{dy}{dx} = \frac{-x}{200} = \frac{\Delta y}{\Delta x}$$

T + point of tangency

↓  
(0, 116)

↓  
(x, 100 - \frac{x^2}{400})