22) $y = x\sqrt{16-x^2}$

Domain: $-4 \le x \le 4$

$$y' = \sqrt{16-x^2} - \frac{x^2}{\sqrt{16-x^2}}$$

$$y' = \frac{\left(\sqrt{16-x^2}\right)\left(\sqrt{16-x^2}\right) - x^2}{\sqrt{16-x^2}}$$

$$y' = \frac{16-x^2-x^2}{\sqrt{16-x^2}}$$

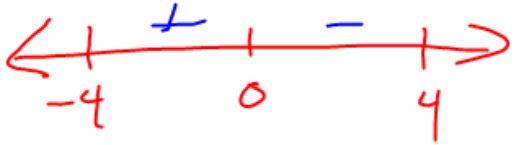
$$y' = \frac{16-2x^2}{\sqrt{16-x^2}}$$

C.P. $16-2x^2=0$

$$y'' = \frac{2x\left(x^2-24\right)}{\left(16-x^2\right)^{3/2}}$$

$x=0 \quad x=\pm\sqrt{24}$

$x=\pm 4.89$



Read 3.7