

Name: SOLUTIONS

Quiz #5 - September 29, 2006

1. Find the equation of the tangent line to the graph $y = 3x^2 - \frac{2}{\sqrt{x}}$ at the point where $x = 4$.

$$y = 3x^2 - 2x^{-1/2}$$

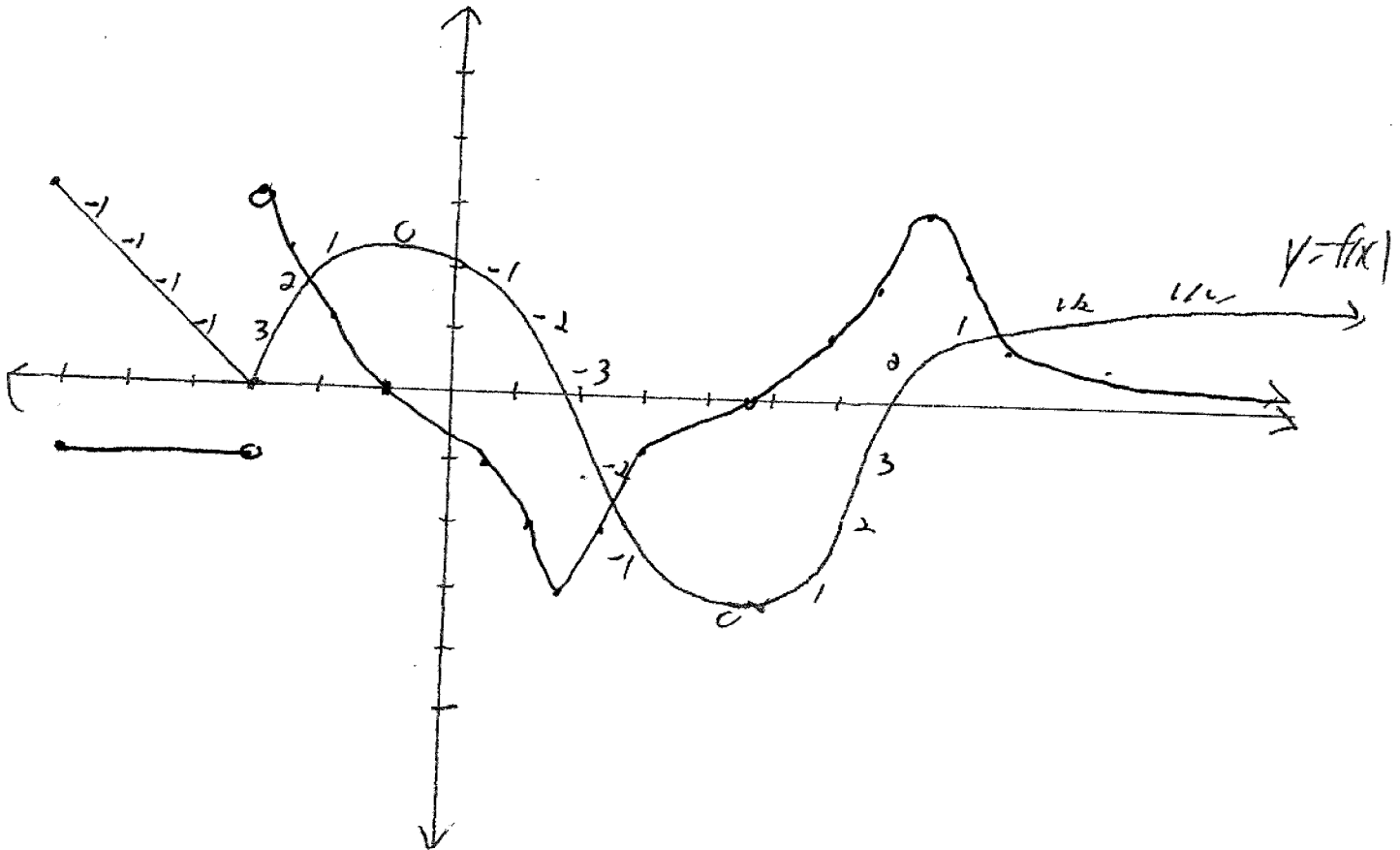
$$y' = 6x + x^{-3/2} = 6x + \frac{1}{\sqrt{x^3}}$$

$$x=4 \quad y = 48 - 1 = 47 \quad \text{point } (4, 47)$$

$$\text{slope} = 6 \cdot 4 + \frac{1}{\sqrt{64}} = 24\frac{1}{8} = 19\frac{3}{8}$$

$$y - 47 = 19\frac{3}{8}(x - 4)$$

2. Below is sketched the graph of $y = f(x)$. On the same axes sketch a graph of $y = f'(x)$.



I will write my estimates for f' on graph then plot.