

Test Friday, 4/28 - derivatives, second derivatives

2.5 # 1-39 odd; 43, 47 - Implicit Differentiation

2.6 # 15-23 odd - Related Rates

2.6 # 25, 27, 35 - Related Rates (more challenging problems)

3.1 # 17-35 odd - Absolute Extrema on an Interval

3.2 # 9-21 odd - Rolle's Theorem

3.2 # 33-45 odd - Mean Value Theorem

3.3 # 17-39 odd - Increasing, Decreasing, and Relative Extrema

3.4 # 15-39 odd - Inflection Points and Concavity

due Fri

40. Find y'' in terms of x & y .

$$y^2 = 4x$$

$$\frac{d}{dx}[y^2] = \frac{d}{dx}[4x]$$

$$2yy' = 4$$

$$y' = \frac{4}{2y} = \frac{2}{y}$$

$$y' = 2y^{-1}$$

$$y'' = -2y^{-2} y' = \frac{-2y'}{y^2}$$

$$y'' = \frac{-2\left(\frac{2}{y}\right)}{y^2} = \frac{-4}{y^3}$$