

Take-home quiz. Due date: Thursday, March 21. To receive credit you MUST SHOW ALL YOUR WORK.

1. (12 pts) Compute dy/dx . Simplify or factor your end result when possible. (1 pt each)

$$y = \frac{2}{3}x^6 - \frac{x^4}{2} + \pi$$

$$y = x^2 \sec x$$

$$y = (2x+1)^{101}(5x^2+3)$$

$$y = \frac{x^2 - 1}{\sqrt{x}}$$

$$y = \ln(x^3)$$

$$y = (\ln x)^3$$

$$y = \arcsin(e^{-x^2})$$

$$y = \sin^3(\ln x)$$

$$y = \ln \left(\frac{\sqrt{x} \sin x}{e^{x^2}} \right)$$

$$y = x^{(2^x)}$$

$$\frac{1}{y} + \frac{1}{x} = 2$$

$$x^3 + y^3 = 2x^2y^2$$