

October 11, 2002

Show all work for credit.

Leave all answers as exact answers unless otherwise stated.

1. Find $\frac{dy}{dx}$ for $3x^2 + 4xy - 6y^2 = 42x$

2. Let α be a constant. Find $\frac{dy}{dx}$ for $y = \frac{1}{16 + \ln(\sin(\alpha + e^\alpha))}$

3. (Bonus) What did I say $\frac{6x(3 + 17x^2) - (14x + \cos(x))}{13x\pi + 1}$ equals?