

Remember to always show all supporting work.

1. (2 points) (See WeBWorK 3.5 #3) Find $\frac{dy}{dx}$ for $y = \frac{\cos(x)}{1 + \sin(x)}$.

2. (3 points) (See WeBWorK 3.5 #3) Find $\frac{dy}{dx}$ for $y = 4x^2 \sin(x) + 8x \cos(x) - 8 \sin(x)$.

3. (See WeBWorK 3.4 #5) Suppose that the equation of motion for a particle (where s is in meters and t in seconds) is $s(t) = \frac{t^3}{3} - 3t^2 + 9t + 7$.
 - (a) (2 points) Find the velocity and acceleration as functions of t .

 - (b) (1 point) Find the acceleration after 1 second.

 - (c) (2 points) Find the acceleration at the instant when the velocity is 0.