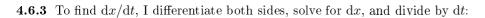
## Homework 7

## Math-1400-es31



$$x^{2} + y^{2} = 1;$$
  

$$d(x^{2} + y^{2}) = d(1);$$
  

$$2x dx + 2y dy = 0;$$
  

$$2x dx = -2y dy;$$
  

$$dx = -\frac{y dy}{x};$$
  

$$\frac{dx}{dt} = -\frac{y dy}{x} \frac{dy}{dt}.$$

When x = -0.6, y = 0.8, and dy/dt = -4,

$$\frac{\mathrm{d}x}{\mathrm{d}t} = -\frac{y}{x}\frac{\mathrm{d}y}{\mathrm{d}t} = -\frac{0.8}{-0.6}(-4) = -\frac{16}{3}.$$