

**Homework Set 9**  
Due Friday, October 26

- I. You tell your technician to solve  $y' = x/(x^2y + y^3)$  on the computer and graph the results for some initial values. He or she comes back to you with the output below and says, with a panic stricken voice, "What does this mean? What should I do boss?"

> dsolve({diff(y(x),x)=x/(x^2\*y(x)+y(x)^3),y(0)=2},y(x));

$$y(x) = \sqrt{-\text{LambertW}\left(-5 \frac{e^{(-5)} e^{(-x^2-1)}}{e^{(-1)}}\right) - x^2 - 1}$$

- II. Show all work.
  - 3.8:** 5 (insert computer graph), 10, 16, 22.
  - 3.9:** 3, 4, 8 (insert computer graph).
- III. Bonus Problem! 3.8, # 32.