

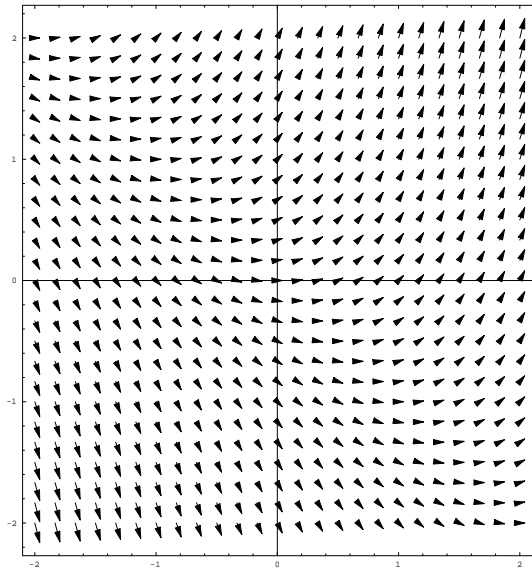
Homework Assignment 1 for Math 3280. Due Monday, June 1th.

(1) Ungraded:

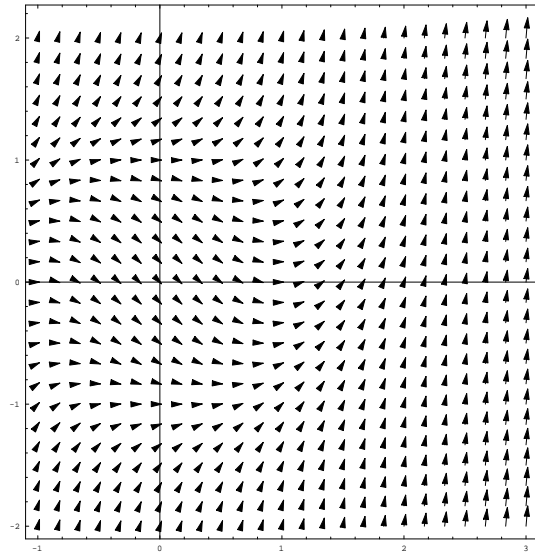
- (a) Read sections 1.1 - 1.5.
- (b) Chapter 1.1: 1, 2, 16, 18, 22, 32, 34.
- (c) Chapter 1.2: 24, 25, 42.
- (d) Chapter 1.3: 12-15, 22.
- (e) Chapter 1.4: 1-4, 17, 35, 45.

(2) Graded:

- (a) Chapter 1.2: 35.
- (b) Determine what Theorem 1 from Chapter 1.3 guarantees about solutions to the initial value problem $\frac{dy}{dx} = \sqrt{xy}$, $y(0) = 1$.
- (c) Sketch in the solution curves $y(x)$ which start at $(x, y) = (-2, 1)$ and $(0, 0)$. Estimate their value at $x = 1$.



- (d) Sketch in the solution curve $y(x)$ which starts at $(x, y) = (0, 0)$. Estimate its value at $x = 2$.



- (e) Find the general solution of the (separable) differential equation $\frac{dy}{dx} = \sqrt{xy}$.