

# Group Quiz 1

I'll assign you all to groups of up to three. I want you to work together to solve these problems. I recommend getting together on either Google meet or Zoom and be sure to introduce yourselves! Remember that some students may be overseas or difficult to reach. In those cases, if you're not able to get together "in person", then by email is fine.

When you're finished, each person in the group should upload their own copy of the answers; be sure everyone's name is on your solution sheets.

## 1. Direction Fields.

Use the online direction field plotter with lots of examples so that you're able to answer the following question, having to do with being able to classify a differential equation based on its direction field.

"When looking at a direction field,

- I can tell the differential equation is of the form  $y' = f(t)$  because (fill in the blank).
- I can tell the differential equation is of the form  $y' = f(y)$  because (fill in the blank).
- I can tell the differential equation is of the form  $y' = F(y/x)$  because (fill in the blank).

## 2. Practice with "homogeneous" differential equations.

Write up the solution to Section 2.2, Exercise 32. For part (c), use the online plotter that's on the class website (and use a screenshot).