

MTH 1210, FALL 2013
DR. GRAHAM-SQUIRE

SECTION 5.3 AND 5.4: IN CLASS ACTIVITY

1. NAMES

2. INSTRUCTIONS

Read the problem given below, then work on it with the other members of your group. You should give a complete answer with all of your work shown for each question. It is fine for different people to work on different parts of the question, but you should check each other's work since everyone in the group will receive the same grade for the assignment. If you have any questions, ask the other members of your group first. If all of you are stuck, everyone in the group must raise their hand in order to get help from the professor. Attach this as a cover sheet to the work you turn in.

Do all of the work by hand, then you can check your work with a graphing calculator when you are done.

Exercise 1. For the function $f(x) = 2 \sin \frac{1}{3} \left(x + \frac{\pi}{2} \right)$, do the following:

- (a) Find the amplitude, period, and phase shift of the function.
- (b) Sketch a graph of the function, and do it in stages. You should first graph $\sin x$, then $\sin \left(x + \frac{\pi}{2} \right)$, then $\sin \frac{1}{3} \left(x + \frac{\pi}{2} \right)$, then $f(x) = 2 \sin \frac{1}{3} \left(x + \frac{\pi}{2} \right)$. Show all of the graphs to get full credit.

Exercise 2. For the function $f(x) = -\frac{1}{2} \tan 3x$, do the following:

- (a) Find the amplitude, period, and phase shift of the function.
- (b) Sketch a graph of the function, and do it in stages. You should first graph $\tan x$, then $\tan 3x$, then $f(x) = -\frac{1}{2} \tan 3x$. Show all of the graphs to get full credit.