Math 3130 Take Home 5 Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6-27-18

Read each problem carefully and show all of your work. Enjoy!

1) Find all equilibrium points and sketch the phase diagram for the nonlinear system below.

a) 

b) 

2) Use nullclines to sketch the phase diagram for the competition model below.

a) 

b)

