Name:	
J#:	Team:

Take-Home Exercise

Standard:	Assigned:	Due:	Mark:
AM	11-15	11-20	

Available to students with credit for S2 by 11-15.

Suppose the population of bluegill and greenfish is modeled by the following system of ODEs:

$$\frac{dB}{dt} = 0.2B - 0.004B^2 - 0.005BG$$
$$\frac{dG}{dt} = 0.24G - 0.003G^2 - 0.008BG$$

Draw the isoclines for this model in the first quadrant of the plane. Then use a phase plane to determine the long-term viability of each species (both survive, both die out, or one survives as the other dies out), assuming the current population is 6 bluegill and 42 greenfish.