

Score:

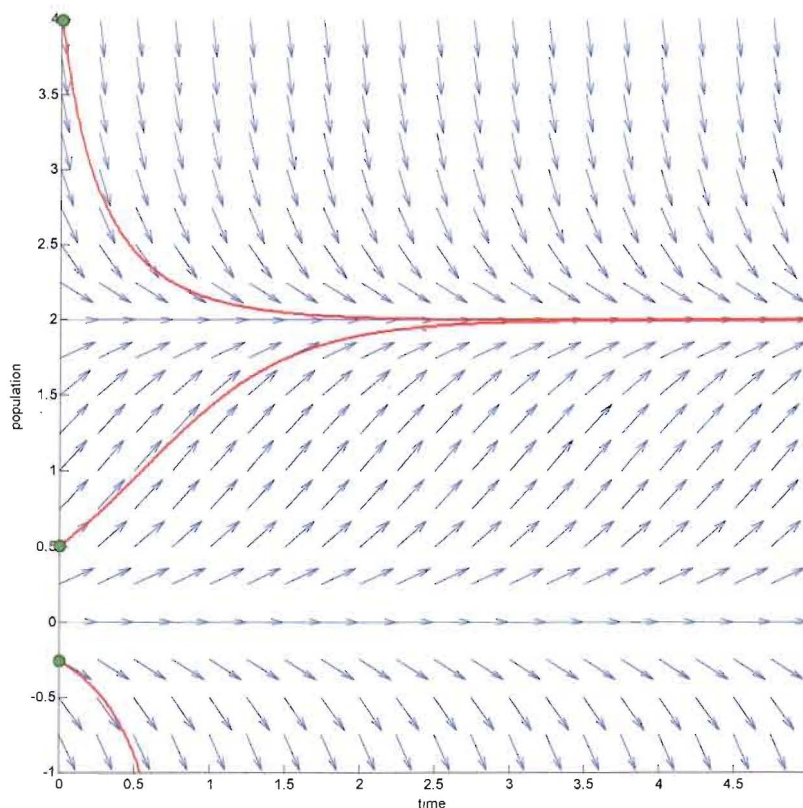
Name: Solutions

Period (circle one): 1 2 3 4 5 6

Team (circle one): a b c d e f

SM286 –Quiz 3 – Sections Direction Fields/Euler's Method

1. $\frac{dP}{dx} = P(2 - P)$. Plot the trajectories on the direction field below for the following initial conditions: $P(0) = -.25$, $P(0) = .5$, $P(0) = 4$.



2. Using the DE above, use Euler's method to approximate $P(.3)$ if $P(0)=4$. Use three steps (i.e. $\Delta t = .1$). Estimate to 3 decimal places.

t	P	dP/dt	Δt	ΔP
0	4.000	-8.000	0.100	-0.800
0.1	3.200	-3.840	0.100	-0.384
0.2	2.816	-2.298	0.100	-0.230
0.3	2.586			