

Name:

UMID:

Question 1: Fill the table, show your work!

C:	Choose center\spiral\node\saddle
C=0	
C=1.5	
C=3	
C=5	
The eigenvalues, as a function of c, are:	

Show your work:

Question 2: Hint – use the Theorem 2 from page 388.

Question 3:

**a) Mark your answer (no explanation is needed, See section 6.3)
predator-prey / competition / cooperation.**

**b) Answer the question for:
 $x=0$:**

$y=0$:

c) The Jacobian is:

d) Fill the table, show your work.

Critical point	Type of stability

Show your work:

e) Sketch phase portrait: