## Sergio Villamaring assignment 1

### Equilibrium points

Finding the equilibrium points implies solving the equation

From where we can see the equilibrium solutions are

### Stability

Now to see if they are stable or unstable we use the local linearization method around the equilibrium points, we first find the derivative with respect to the solution variable of the function

Namely

Now we evaluate on the equilibrium points found before

From where we conclude that is an unstable fix point and is a stable fix point.