PROJECT - First Draft - 2013 Names _____ _____

Introduction _____ _____

1. (a) Solve for P(t).

   (b) Find C when P(0)=40. Substitute C into P(t). Find $\lim_{t\to\infty} P(t)$. Find $\frac{dP}{dt}$ when P=40. What happens to P as time increases

   (c) Find C when P(0)=80. Substitute C into P(t). Find $\frac{dP}{dt}$ when P=80.

   (d) Find C when P(0)=100. Substitute C into P(t). Find $\lim_{t\to+\infty} P(t)$. Find $\frac{dP}{dt}$ when P=100. What happens to P as time increases?

   (e) Graph P(t) for all three initial conditions.

2. (a) Solve for P(t).

   (b) Find C when P(0)=10. Substitute C into P(t). Find t when P(t)=0. When are all fish gone?

   (c) Find C when P(0)=28. Substitute C into P(t). Find $\lim_{t\to+\infty} P(t)$. Find $\frac{dP}{dt}$ when P=28.

   (d) Find C when P(0)=80. Substitute C into P(t). Find $\lim_{t\to+\infty} P(t)$. Find $\frac{dP}{dt}$ when P=80.

   (e) Graph P(t) for all three initial conditions.

3. (a) Solve for P(t).

   (b) Find C when P(0)=30. Substitute C into P(t). Find t when P(t)=0. Find $\frac{dP}{dt}$ when P=30.

   (c) Find C when P(0)=40. Substitute C into P(t). Find $\frac{dP}{dt}$ when P=40.

   (d) Find C when P(0)=60. Substitute C into P(t). Find $\lim_{x\to+\infty} P(t)$.

   (e) Graph P(t) for all three initial conditions.

4. (a) Solve for P(t). Show growth rate is negative for all P & t. Interpret.

   (b) Find C when P(0)=40. Substitute C into P(t). Find t when P(t)=0.

   (c) Find C when P(0)=60. Substitute C into P(t). Find t when P(t)=0.

   (d) Graph P(t) for both of the initial conditions.

5. (a) Use Euler's technique to hand compute the first solution for each of the two initial conditions.

   (b) Graph the solutions for both initial conditions using Excel and discuss the results.

Conclusion