**Guided Practice: Interpreting Exponential Functions**

Describe the scenario being modeled using the following functions.

1. **Radioactive Half-life** with f(t) = amount of radioactive material left in grams with t = 20 year intervals (t =1 means 20 years)

f(t) = 347(0.5)t

a. What is the initial amount/value?

b. Is the function modeling growth or decay?

c. What is the growth/decay factor?

d. Graph the function and create a table of values on a separate piece of paper or on the back of this sheet.

2. **Trout population** with f(t) = number of trout in t years.

f(t) = 888(1 + 0.17)t

a. What is the initial amount/value?

b. Is the function modeling growth or decay?

c. What is the growth/decay factor?

d. Graph the function and create a table of values on a separate piece of paper or on the back of this sheet.

3. **Cancer cells** with f(m) = number of cells in m months.

f(m) = 23000(1 - 0.7)m

a. What is the initial amount/value?

b. Is the function modeling growth or decay?

c. What is the growth/decay factor?

d. Graph the function and create a table of values on a separate piece of paper or on the back of this sheet.

e. Interpret the meaning of the function – on other words what happens to the cancer cells over time?