

11.2/11.3

Name _____

Making Connections Between Sequences and Mathematical Models

- **Scenario 1:** A fifty-gallon bathtub is empty. You turn the faucet, and the tub fills at a rate of 3.4 gallons a minute.
- **Scenario 2:** Suppose that you have \$80 saved in your drawer at home. You have no other income, and you need to pay your little brother \$6.50 each week as a bribe.
- Create a spreadsheet for each scenario. For each, put the independent variable in column A and the dependent variable in column B. For all columns use a recursive that can be filled down.
- What recursive formula is used for column A?
- What recursive formula is used for column B? Both scenarios?
Scenario 1
Scenario 2
- What type of sequence are these? Why?
- What is the domain? Why?
- Use your spreadsheet to graph these functions. What shape is the function?
- Attach a copy of your spreadsheet and graph.

Making Connections Between Sequences and Mathematical Models

- **Scenario 1:** Suppose you invest \$1500 in the bond market. The investment grows at a rate of 7.6 percent per year.
- **Scenario 2:** Suppose that you hold a superball 200 centimeters above the ground. You let go of the ball, and it bounces many times. On each bounce, it returns to a height that is 80 % of the height from which it started.
- Create a spreadsheet for each scenario. For each, put the independent variable in column A and the dependent variable in column B. For all columns use a recursive that can be filled down.
- What recursive formula is used for column A?
- What recursive formula is used for column B? Both scenarios?
Scenario 1
Scenario 2
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