

NAME: \_\_\_\_\_

## **UNIT 3 • LINEAR AND EXPONENTIAL FUNCTIONS**

### **Lesson 4: Analyzing Linear and Exponential Functions**

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#### **Problem-Based Task 3.4.2: Trout Pond**

The population of trout in a certain pond doubles every year. The current population is 275 trout. Use technology to model this scenario. According to the model, how many trout were in the pond 1 year ago? How many trout will be in the pond in 3 years?

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##### Coaching

- a. What kind of model would best fit this scenario?
  
- b. What is the starting population?
  
- c. Is this growth or decay?
  
- d. What is the growth factor?
  
- e. Write the function that models this scenario.
  
- f. Use technology to graph the function.
  
- g. What window settings should you use to see the graph and be able to answer the questions?
  
- h. Use technology to determine the number of trout in the pond 1 year ago. What value did you use for  $x$ ? What kind of number is appropriate to answer the question?
  
- i. Use technology to determine the number of trout in the pond in 3 years. What value did you use for  $x$ ? What kind of number is appropriate to answer the question?