### Lesson 11 Practice Problems

1. A line is defined by the equation .
   1. Line is the same as line , but shifted 1 unit right. What is an equation for a function that defines the line ?
   2. Line is the same as line , but shifted 2 units up. What is an equation for a function that defines the line ?
   3. What is the relationship between and ?

* (From Unit 5, Lesson 2.)

1. The functions and are related by the equation . Which sequence of transformations will take the graph of to the graph of ?

* (From Unit 5, Lesson 4.)

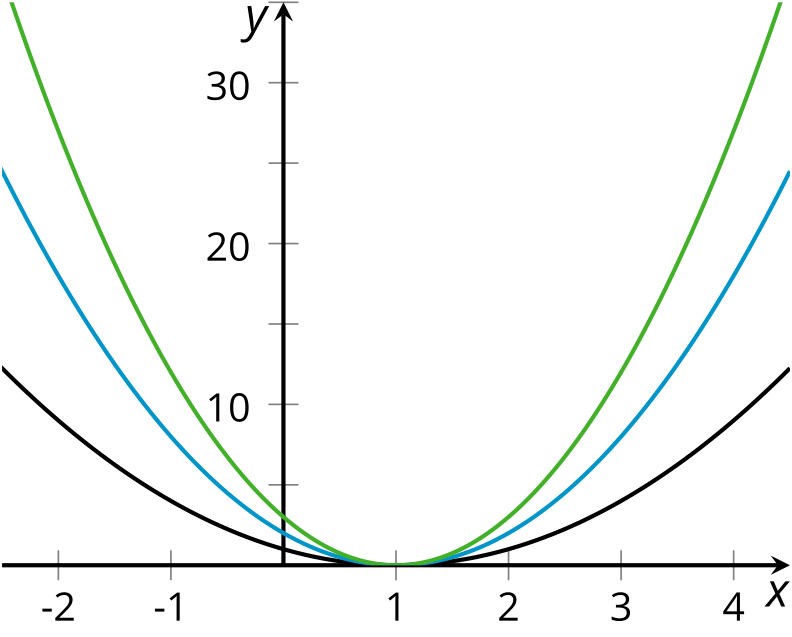
1. The function is linear. Can be an odd function? Explain how you know

* (From Unit 5, Lesson 5.)

1. *Technology required*. The function is given by . Kiran says that is odd because .
   1. Do you agree with Kiran? Explain your reasoning.
   2. Graph , and use the graph to decide whether or not is an odd function.

* (From Unit 5, Lesson 6.)

1. Here are graphs of three functions , , and given by , and .

* 
* Identify which function matches each graph. Explain how you know.
* (From Unit 5, Lesson 8.)

1. *Technology required*. Describe how to transform the graph of into the graph of . Check your response by graphing and .

* (From Unit 5, Lesson 9.)

1. Let be the price of a T-shirt, in dollars. A company expects to sell  T-shirts a day where . Write a function  giving the total revenue received in a day.

* (From Unit 5, Lesson 10.)

1. A population of 80 single-celled organisms is tripling every hour. The population as a function of hours since it is measured, , can be represented by .

* Which equation represents the population 10 minutes after it is measured?
* (From Unit 4, Lesson 3.)



© CC BY 2019 by Illustrative Mathematics®