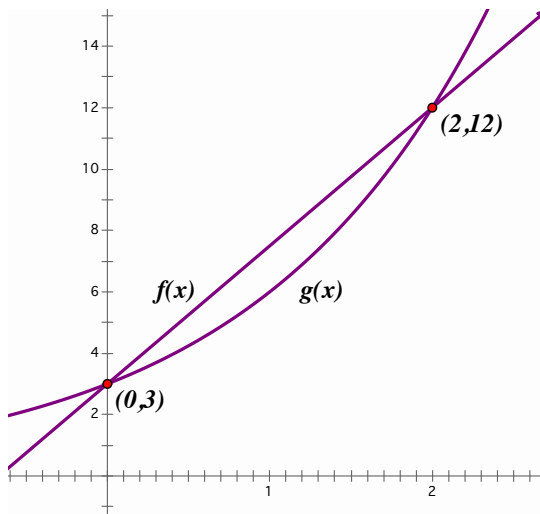


Name: _____

Period: _____

Writing Functions and Finding Average Rate of Change

1.



a. Write an equation for $f(x)$

b. Write an equation for $g(x)$

c. What is the average rate of change for $f(x)$ between $x = 0$ and $x = 2$?

d. What is the average rate of change for $g(x)$ between $x = 0$ and $x = 2$?

2.

x	1	2	3	4	5	6	7	8	9
$f(x)$			2						31,250
$g(x)$			2						31,250

a. Write an equation for $f(x)$

b. Write an equation for $g(x)$

c. What is the average rate of change for $f(x)$ between $x = 3$ and $x = 9$?

d. What is the average rate of change for $g(x)$ between $x = 1$ and $x = 6$?

3. (3,36) and (10, 4608)

a. Write an exponential equation that goes through these two points

b. Write a linear equation that goes through these two points.

4. I bought a 2005 Toyota Corolla in 2007 for \$12,000. Today, in 2013, the value of my car is \$8,000. Define x as the number of years after 2005, the year the car was made.
- Write an exponential function $f(x)$ to describe the value of the car.
 - What is the average rate of change of $f(x)$ from 2005 to 2007?
 - What is the average rate of change of $f(x)$ from 2007 to 2013?
 - What is the average rate of change of $f(x)$ from 2005 to 2013?
5. I bought a new blu-ray 6 months ago for \$35. I was bored with it and took it to a pawn shop who told me it was worth \$16. Define x as the number of months after the blu-ray was released.
- Write an exponential function $g(x)$ to describe the value of the blu-ray.
 - What is the average rate of change of $g(x)$ from release day to the day I sold it to the pawn shop?
 - What is the average rate of change of $g(x)$ from release day to 3 months after it was released?
 - What would the average rate of change of $g(x)$ be if I waited a year after the release date to sell it?