

Comparing Linear and Exponential Functions Homework

Name: _____ Date: _____

Comparing Linear Functions

1. Compare the **rate of change** of each function.

Function A

Number of beverages sold (x)	Profit ($f(x)$)
0	0
25	29.25
50	58.50

Function B

For each hamburger sold, the restaurant makes \$0.40.

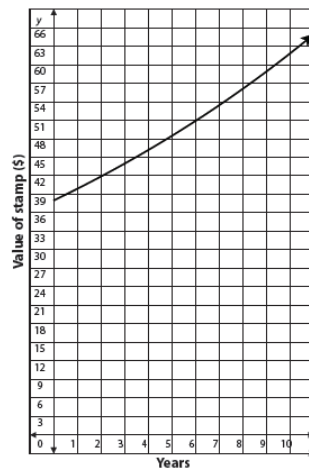
Comparing Exponential Functions

2. Compare the **rate of change** of each exponential function over the interval **[1, 3]**. Find the common ratio, r , for the two functions. Will Function B ever surpass the value of Function A?

Function A

x	$g(x)$
0	52
1	54.08
2	56.24
3	58.49
4	60.83

Function B



3. Jennifer has the choice of two bank accounts. She has \$2,000 to invest. Compare the **rate of change** for the two banks over the **first 10 years**. Which account is better than the other? What part of the equation would indicate that this bank is better than the other?

Bank A: $A(x) = 2,000(1.05)^x$

Bank B: $B(x) = 2,000(1.08)^x$