Bellwork Monday, March 10, 2014

1. Write the equation of the inverse. Is the inverse a function? State the domain and range of both f(x) and $f^{-1}(x)$.

$f(x) = 2\sqrt{x-8} + 5$

(8, 5)

Yes, inverse is a function

$f^{-1}(x) = \left(\frac{x-5}{2}\right)^2 + 8$

	$f(x)$	$f^{-1}(x)$
Domain	$x \geq 8$	$x \geq 5$
Range	$y \geq 5$	$y \geq 8$

2. The value of an investment was $74,500. The value increased 8.2%. Find the value of the investment now?

$100\% + 8.2\% = 108.2\%$

1.082

$(1.082)(74{,}500) = \$80{,}609$

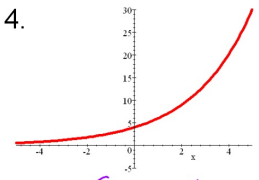
3. The value of a house in 2005 was $225,000. The value of the hosue decreased 14.5%. Find the new value of the house.

$100\% - 14.5\% = 85.5\%$

$225{,}000(.855) = \$192{,}375$

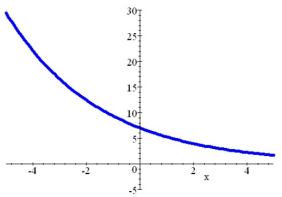
Does each graph and equation represent exponential growth or decay?

4.



Growth

5.



Decay

6. $y = 5000(0.0998)^x$ Decay

7. $y = 0.35(1.0021)^x$ Growth

8. $y = 2\left(\frac{23}{24}\right)^x$ Decay