STUDYDADDY

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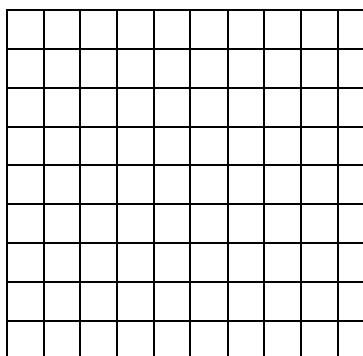|	
1. $f(x) = 0.5(2^x)$, $g(x) = 5x-12$, and $h(x) = \{(4, -1),\ (3, 2),\ (1, 4),\ (-1, 4)\}$. a. Determine $g(f(0))$. b. Determine $(f \circ g)(x)$. c. Determine $h^{-1}(x)$. d. Determine $g^{-1}(x)$. e. Determine $(f \circ h)(x)$. f. Graph $f(x)$. g. Explain why $f(x)$ is one-to-one. h. Determine $f^{-1}(x)$	a. b. c. d. e. g. h.

2. Evaluate the following in exact values: a. $(1/3)\log_{(1/5)}(125)$ b. $e^{\ln 2\pi}$ c. $\log 10^e$	a. b. c.
3. Solve for x in each: a. $9^{2x+3} = 81^{2x-1}$ b. $\log_{\sqrt 5} x = 6$	a. b.

c. $2 \log 2x = \log (7x-3)$	c.
d. $7 \cdot 3^{(x+2)} = 5^x$	d.
e. $\log_3 (x+1) + \log_3 (x+6) = 2.$	e.

4. Assume there is a radioactive isotope that decays according to $A(t)=A_0e^{kt}$ where A_0 is the initial amount and t is in years.
 	
  a. Determine k if five grams decays to two grams in 12 years.
 	
  b. If you started with fifteen grams, how much is still radioactive after 20 years?
 	
  c. In how many years will 20% be still radioactive?
 	
  d. What is the half-life of this isotope?
	a.
	
	b.
	
	c.
	
	d.

5. $600 is invested in an account that is compounded monthly $(A(t)=A_0(1+r/n)^{nt})$ at an interest rate of 4%.
 	
  a. How much is in the account after ten years?
 	
  b. How long will it take for the balance to grow to $1000?
 	
  c. How long for the balance to double?
	a.
	
	b.
	
	c.