2.10 Inverses of Exponential Functions

AP Precalculus Name: _____ **CA #2**

Directions: Describe the function, f(x) (exponential, logarithmic, or neither), how you know why it is that function and then find points for its inverse, g(x).

1)

X	f(x)
1/27	-3
1/9	-2
1/3	-1
1	0

X	G(x)

2)

X	f(x)
-3	1/64
-2	1/16
-1	1/4
0	1

X	G(x)

Directions: Determine if f(x) and g(x) are inverses.

3. $f(x) = 10 \cdot \log_3 x$

$g(x) = 3^{\frac{1}{10}x}$

4. $f(x) = 7^{5x}$

$g(x) = 0.2 \cdot log_7 x$

Directions: Find the inverse of the given function.

5. $h(x) = 2^{\frac{1}{8}x}$

6. $m(x) = 4 \cdot \log x$

Answers to 1.1 CA #1

1. Logarithmic because the x-values are changing multiplicatively.

X	f(x)
-3	1/27
-2	1/9
-1	1/3
0	1

2. Exponential because the y-values are changing multiplicatively.

X	f(x)
1/64	-3
1/16	-2
1/4	-1
1	0

3. Inverses

4. Inverses

5. $h^{-1}(x) = 8 \cdot log_2 x$

6. $m^{-1}(x) = 10^{\frac{x}{4}} = 10^{\frac{1}{4}x}$