

1. [9 points] Consider the table of known values for the functions $f(x)$ and $h(x)$, where $f(x)$ is invertible.

x	-4	-2	-1	0	1	2	4
$f(x)$	2	3	0	-2	-1	4	5
$h(x)$?	2	1	4	0	?	7

- a. [4 points] Find each of the following, or write N/A if a value does not exist or there is not enough information to find it.

(i) $f^{-1}(0)$ **Answer:** $f^{-1}(0) =$ _____

(ii) $f(h(0))$ **Answer:** $f(h(0)) =$ _____

(iii) $h(g(1))$, where $g(x) = \log(x)$ **Answer:** $h(g(1)) =$ _____

(iv) $k(1)$, where $k(x) = -4f(2(x+1)) - 6$ **Answer:** $k(1) =$ _____

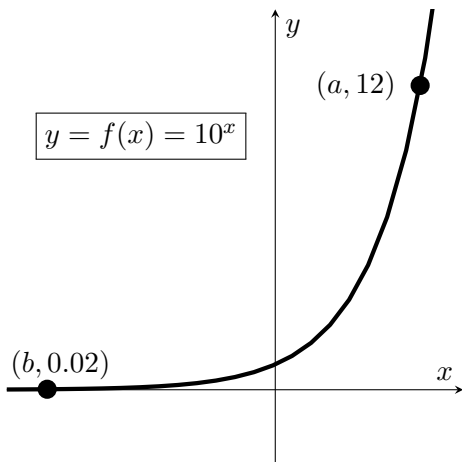
- b. [2 points] If $f(h(2)) = 0$, then what is $h(2)$? **Answer:** $h(2) =$ _____

- c. [3 points] Give a value for $h(-4)$ that would guarantee that $h(x)$ is *not* invertible and explain (in at most 1 sentence) why your value for $h(-4)$ forces the function to be non-invertible.

Answer: $h(-4) =$ _____

Explanation:

2. [4 points] Use the graph of $y = 10^x$ below to decide whether each of the following statements is true (T), false (F), or there is not enough information to tell (NEI).



(i) $a < 1$ T F NEI

(ii) $b < -1$ T F NEI

(iii) $\log(12) = a$ T F NEI

(iv) $\log(b) = 0.02$ T F NEI