

1. [10 points] Below is a table giving some values of an **odd** function $f(x)$. The domain of $f(x)$ is $(-\infty, \infty)$ (all real numbers).

x	2	3	4	5
$f(x)$	-3	-1	-1	1

- a. [3 points] Find the following values of f , or write NEI if there is “not enough information” to find the value.

(i) $f(-2) =$ _____

(ii) $f(1) =$ _____

(iii) $f(0) =$ _____

- b. [2 points] Could f be an invertible function? Explain your answer.

The function f (*circle one*): COULD BE INVERTIBLE COULD NOT BE INVERTIBLE

Explanation:

- c. [4 points] Recall that $f(x)$ is an odd function. For each of the following functions, decide whether it is even, odd, neither, or if there is not enough information (NEI) to tell. *No explanation needed.*

(i) The function $g(x) = x^3 f(x)$ is (*circle all that apply*):

ODD EVEN NEITHER NEI

(ii) The function $h(x) = x^2 + f(x)$ is (*circle all that apply*):

ODD EVEN NEITHER NEI

- d. [1 point] Suppose it is also true that: $\lim_{x \rightarrow \infty} f(x) = 5$. Use this information to find $\lim_{x \rightarrow -\infty} f(x)$, or write NEI if there is not enough information to find the limit.

$$\lim_{x \rightarrow -\infty} f(x) = \underline{\hspace{2cm}}$$