**1**. [10 points] The function $A(x)$ has domain $(-\infty, \infty)$, is **odd**, and is periodic with period 8. Some values of $A(x)$ are given in the table below as well as a formula for the function $B(x)$.

| $x$ | $-4$ | $-2$ | $1$ | $3$ |
|---|---|---|---|---|
| $A(x)$ | $0$ | $3$ | $1$ | $-2$ |

$$B(x) = 7\log(x^2) - 4$$

**a**. [6 points] Find each of the following values. *Give your answers in exact form or rounded to 3 decimal places. Or, if there is not enough information to find a value, write* NEI*, or if the value does not exist, write* DNE*.*

i. $A(0) =$ _____

ii. $A(2) =$ _____

iii. $A(6) =$ _____

iv. $A(25) =$ _____

v. $B(A(3)) =$ _____

vi. $A(B(1)) =$ _____

Suppose that $C(x)$ is a different periodic function with amplitude 7 and a maximum of 11. The period of $C(x)$ is also 8.

**b**. [2 points] Find each of the following, or if there is not enough information, write NEI.

i. the midline of $C(x)$: $y =$ _____

ii. the minimum of $C(x)$: _____

**c**. [2 points] Must the function $A(x) + C(x)$ also be periodic? Circle your answer, and then briefly explain.

YES NO

**Explanation:**