

1. [14 points] The following table contains data for the functions A , B and C . Assume that A is invertible and B is periodic with period 5.

x	-3	-2	0	1	2	3
$A(x)$	4	-7	-1	2.3	0	-0.5
$B(x)$	6.1	5.4	-1	-7	6.1	5.4
$C(x)$	0	-1	4	3	0.5	0

For parts (a)-(c) you do not *need* to show any work, but you can receive partial credit for work shown if your final answer is incorrect.

- a. [2 points] Circle **all** functions that **could** be *decreasing* on the interval $[1,3]$:

$A(x)$ $B(x)$ $C(x)$ NONE OF THEM

- b. [5 points] Evaluate the following expressions. If there is not enough information to evaluate an expression, write ‘NEI’:

i. [1 point] $A^{-1}(0) = \underline{\hspace{2cm} 2 \hspace{2cm}}$

ii. [2 points] $B(-2) + B(7) = \underline{\hspace{2cm} 11.5 \hspace{2cm}}$

iii. [2 points] $B(C(2) + 0.5) = \underline{\hspace{2cm} -7 \hspace{2cm}}$

- c. [3 points] Let $D(x) = \frac{A(x)}{C(x)}$. Circle **all** values of x from the table that are **not** in the domain of D .

-3 -2 0 1 2 3

- d. [4 points] Find **all** the x values from the table that satisfy the following equation. **Show all your work.** If there is no solution, write “NO SOLUTION”.

$$B(A(x) - 1) = 5.4$$

Solution:

	$A(x) - 1 = -2$	or	$A(x) - 1 = 3$
	$A(x) = -1$		$A(x) = 4$
	$x = 0$		$x = -3$
			$x = \underline{\hspace{2cm} 0, -3 \hspace{2cm}}$