8. [8 points] Some of the values of a continuous, concave down, increasing function $g(x)$ are given in the following table:

x	0	1	2	3	4	5	6
$g(x)$	-17	-4	4	9	12	14	15

a. [3 points] Find the MID(3) approximation to

$$\int_0^6 g(x)\ dx.$$

Write out all the terms in your sum. You do not need to simplify, but your final answer should not involve the letter g.

Answer: _____

b. [2 points] Is the MID(3) estimate to $\int_0^6 g(x)\,dx$ you found in part (a) an underestimate, an overestimate, or is there not enough information (NEI)? Circle your choice. No justification is required.

Circle one: UNDERESTIMATE   OVERESTIMATE   NEI

c. [3 points] Find the RIGHT(3) approximation to

$$\int_0^6 3xg\left(\frac{x}{2}\right)\ dx.$$

Write out all the terms in your sum. You do not need to simplify, but your final answer should not involve the letter g.

Answer: _____