

5. [9 points] Jinho is playing a game involving a deck of cards, when he notices that the backs of the cards are painted in an unusual way. Jinho finds that the total mass of paint on the back of a card, in grams, can be expressed as

$$\int_3^6 (10 - g(12 - 2x)) \, dx$$

where the function $g(x)$ is decreasing and concave up. Some of the values of $g(x)$ are given in the following table:

x	0	1	2	3	4	5	6
$g(x)$	6	4	2.5	1.5	1.0	0.75	0.7

- a. [3 points] Using RIGHT(2), find an approximation for the total mass of paint, measured in grams, on the back of the card. Write out all the terms in your sum. You do not need to simplify.
- b. [3 points] Using MID(3), find an approximation for the total mass of paint, measured in grams, on the back of the card. Write out all the terms in your sum. You do not need to simplify.
- c. [3 points] Is the MID(3) estimate to the total mass of paint you found in part (b) an underestimate, an overestimate, or is there not enough information? Circle your choice and briefly explain your answer.

Circle one: UNDERESTIMATE OVERESTIMATE NOT ENOUGH INFORMATION

Explanation: