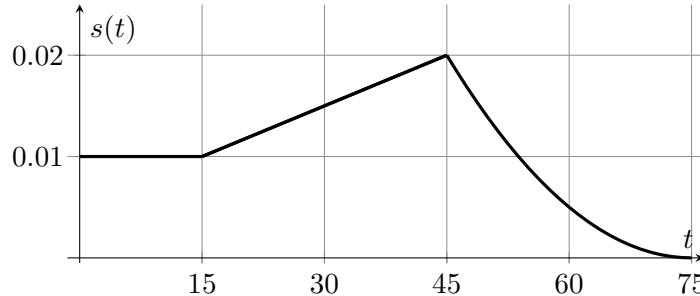


1. [9 points] Steph times their study sessions. Let t be the length in minutes, and let $s(t)$ be the probability density function for t . A portion of the graph of $s(t)$ is shown below. Also note that $s(t)$:

- is continuous;
- is constant for $0 \leq t \leq 15$;
- is linear for $15 \leq t \leq 45$;
- is concave up for $45 \leq t \leq 75$.



a. [3 points] Find the proportion of Steph's study sessions that last between 15 minutes and 45 minutes. You do not need to simplify your answer but you should show your work.

Answer: _____

b. [3 points] Which of the statements below is best supported by the expression $s(55) \approx 0.01$? Circle the **one** best statement. No justification is required.

- Approximately 0.01% of sessions last *exactly* 55 minutes.
- Approximately 1% of sessions last between 54 and 56 minutes.
- Approximately 2% of sessions last between 54 and 56 minutes.
- Approximately 10% of sessions last between 55 and 56 minutes.
- Approximately 55% of sessions last around 0.01 minutes.

c. [3 points] Do any sessions last longer than 75 minutes? Give a brief explanation of your answer.
Circle one: YES NO NOT ENOUGH INFORMATION

Explanation: