

3. [10 points] Annie Ant and Greta Grasshopper are having a debate about how to spend their time during October. Annie says that she will spend a total of 12 hours each day gathering food and building her anthill. Let B be the number of cm^3 of anthill that Annie builds in October, and let $D = g(B)$ be the number of grams of food that she gathers in October.

Annie knows that g is a linear function. She is also able to determine that if she builds 500 cm^3 of her anthill in October, then she will gather a total of 1500 grams of food but that if she builds only 150 cm^3 of her anthill, then she will gather a total of 2300 grams of food in October.

- a. [4 points] Find a formula for $g(B)$.

Answer: $g(B) =$ _____

- b. [6 points] Find and interpret the slope and horizontal intercept of the graph of $D = g(B)$ in the context of this problem. *For each interpretation, remember to use a complete sentence and include units.*

Answers

Slope = _____

Interpretation of slope:

Horizontal intercept = _____

Interpretation of horizontal intercept: