2. [11 points] Gretchen's experiments have quickly depleted Chuck's egg supply, and he has to buy more eggs from the wholesaler. Chuck has $1050 to spend, and the wholesaler informs him that the price of mealworm eggs and cricket eggs are now $6.50 and $8 per pound, respectively.

a. [4 points] Let $f$ be the function that gives the amount $M$ of mealworm eggs in pounds that Chuck can afford if he buys $C$ pounds of cricket eggs (in other words, we have $M = f(C)$). Write a formula for the function $f$.

$$f(C) = \text{_________________}$$

After some bargaining, the wholesaler gives Chuck a special offer. If he buys $400 worth of cricket eggs at $8 per pound, then he will be charged only $7.50 for each subsequent pound of cricket eggs beyond the first $400.

b. [2 points] If Chuck spends $400 on cricket eggs, what amount of mealworm eggs can he buy? Circle your final answer.

c. [5 points] Let $g$ be the new function that gives the amount $M$ of mealworm eggs in pounds that Chuck can afford if he buys $C$ pounds of cricket eggs with the special offer. Write a piecewise-defined formula for the function $g$.

$$g(C) = \begin{cases} \text{_________________} & \text{for \quad \text{_________________}} \\ \text{_________________} & \text{for \quad \text{_________________}} \end{cases}$$