5. [12 points] Percy is analyzing the cost of feeding the animals on his uncle's farm.

- Suppose $W(p)$ is the total amount of pig food, in pounds, consumed by p pigs each day.
- Suppose $C(x)$ is the cost, in dollars, of x pounds of pig food.
- Suppose there are N pigs on the farm on May 1.
- Suppose the cost of the food consumed by the **goats** on May 1 was K dollars.

a. [6 points] Write a practical interpretation of the following expressions.

$C(W(37))$ is the cost, in dollars, of the food consumed by 37 pigs in one day.

$W^{-1}(111)$ is the number of pigs that consume 111 pounds of food in one day.

b. [6 points] For each description below, write an expression using function notation and possibly the numbers K and N from above that gives the quantity described. Circle your answers.

The average amount of food, in pounds, consumed per pig on the farm on May 1.

Solution: $\boxed{W(N)/N}$

The cost of z ounces of pig food. *(Hint: There are 16 ounces in one pound.)*

Solution: $\boxed{C(z/16)}$

The total cost, in dollars, of the goat food and the pig food consumed by the animals on May 1.

Solution: $\boxed{C(W(N)) + K}$