



How Much Should You Feed Your Puppy?



Calories in food provide essential energy, for you as well as your pet. But how much should you be feeding your pet and how does the size and weight of your pet influence the amount of food they need?

1. The adult weight of your dog is determined by the number of calories you feed your puppy. The function $w = \left(\frac{k}{130}\right)^{\frac{4}{3}}$ relates the number of kilocalories per day, k , to the adult weight of the dog (in kilograms), w .

a. If you feed your puppy 800 kcal a day, will be their predicted adult weight?

- b. Complete the table to predict the adult weight of your pet with each of the different diet plans. Round to the nearest tenth.

k (kcal a day)	600	800	1000
w (weight in kg)			

- c. If you want your dog to weigh 15.2 kg, how many calories should you feed him a day?

2. The ideal adult weight for a golden retriever is about 30 kg. How many calories a day should you feed a golden retriever to achieve this ideal weight? Show how you got your answer.
3. The ideal adult weight for a Schnauzer is about 9 kg. How many calories a day should you feed a Schnauzer to achieve this ideal weight? Show how you got your answer.
4. Write an equation that outputs the number of calories you should feed a dog whose ideal weight is w kg.
5. Explain how you could verify that your equation in question 4 gives you the correct number of calories.

Lesson 5.2 – Intro to Inverse Functions

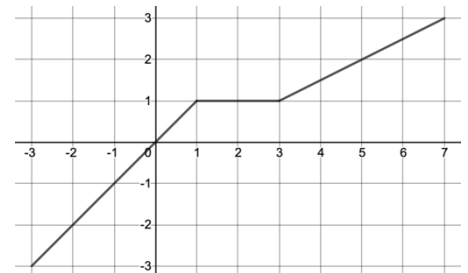
QuickNotes

Check Your Understanding

1. Based on the table below, what is $g^{-1}(12)$?

x	4	8	12	16
$g(x)$	9	-2	7	12

2. The graph of h is shown to the right. Find $h^{-1}(2)$.



3. To convert from degrees Fahrenheit to degrees Celsius, we can use the equation $C = \frac{5}{9}(F - 32)$. Write the inverse of this function and what it represents.
4. Let $f(x)$ represent the distance in miles that an ambulance can travel within x minutes of receiving an emergency phone call. Interpret the meaning of $f^{-1}(26) = 20$ in context.
5. Let $g(x) = \frac{1}{x+2}$.
- Find g^{-1} .
 - Use compositions to verify that g and g^{-1} are in fact inverses.