

3-2 Word Problem Practice

Solving Linear Equations by Graphing

1. PET CARE You buy a 6.3-pound bag of dry cat food for your cat. The function $c = 6.3 - 0.25p$ represents the amount of cat food c remaining in the bag when the cat is fed the same amount each day for p days. Find the zero of this function. Describe what this value means in this context.

2. SAVINGS Jessica is saving for college using a direct deposit from her paycheck into a savings account. The function $m = 3045 - 52.50t$ represents the amount of money m still needed after t weeks. Find the zero of this function. What does this value mean in this context?

3. FINANCE Michael borrows \$100 from his dad. The function $v = 100 - 4.75p$ represents the outstanding balance v after p weekly payments. Find the zero of this function. Describe what this value means in this context.

4. BAKE SALE Ashley has \$15 in the Pep Club treasury to pay for supplies for a chocolate chip cookie bake sale. The function $d = 15 - 0.08c$ represents the dollars d left in the club treasury after making c cookies. Find the zero of this function. What does this value represent in this context?

5. DENTAL HYGIENE You are packing your suitcase to go away to a 14-day summer camp. The store carries three sizes of tubes of toothpaste.

Tube	Size (ounces)	Size (grams)
A	0.75	21.26
B	0.9	25.52
C	3.0	85.04

Source: National Academy of Sciences

a. The function $n = 21.26 - 0.8b$ represents the number of remaining brushings n using b grams per brushing using Tube A. Find the zero of this function. Describe what this value means in this context.

b. The function $n = 25.52 - 0.8b$ represents the number of remaining brushings n using b grams per brushing using Tube B. Find the zero of this function. Describe what this value means in this context.

c. Write a function to represent the number of remaining brushings n using b grams per brushing using Tube C. Find the zero of this function. Describe what this value means in this context.

d. If you will brush your teeth twice each day while at camp, which is the smallest tube of toothpaste you can choose? Explain your reasoning.