Word Problems

Introduction

Word problems are a type of problem that requires you to translate the problem into a mathematical equation.

Example 1

Each day, Ben ate 20% of the jellybeans that were in her jar at the beginning of that day. At the end of the second day, 32 remained. How many jellybeans were in the jar originally?

$\textbf{(A)}\ 40 \qquad \textbf{(B)}\ 50 \qquad \textbf{(C)}\ 55 \qquad \textbf{(D)}\ 60 \qquad \textbf{(E)}\ 75$

How to Translate Word Problems into Equations

Each day, Ben ate 20% of the jellybeans that were in her jar at the beginning of that day. At the end of the second day, 32 remained. How many jellybeans were in the jar originally?

Step 1: Identify the variables with English&Math

Begin of day 1: x jellybeans
Begin of day 2: 80% of x jellybeans
End of day 2: 80% of 80% of x jellybeans, 32 jellybeans remaining

Step 2: Translate the Problem into an Equation

80% of 80% of x is equal to 32.

$$0.8 \times 0.8 \times x = 32$$

Solving the Equation

$0.8 \times 0.8 \times x = 32$

$0.64x = 32$

$x = \frac{32}{0.64} = 50$

Therefore, there were 50 jellybeans in the jar originally.

The answer is $\boxed{B}$.

Practice Problems

(AMC10-2020 P4) Chandra pays an on-line service provider a fixed monthly fee plus an hourly charge for connect time. Her December bill was $\$12.48$, but in January her bill was $\$17.54$ because she used twice as much connect time as in December. What is the fixed monthly fee?

$\textbf{(A)}\ \$2.53 \qquad \textbf{(B)}\ \$5.06 \qquad \textbf{(C)}\ \$6.24 \qquad \textbf{(D)}\ \$7.42 \qquad \textbf{(E)}\ \$8.77$

Instructions

Please **repeat** the steps above to solve the problem.

Practice Problems

(AMC10-2020 P22) One morning each member of Angela's family drank an 8-ounce mixture of coffee with milk. The amounts of coffee and milk varied from cup to cup, but were never zero. Angela drank a quarter of the total amount of milk and a sixth of the total amount of coffee. How many people are in the family?

$\textbf{(A)}\ 3 \qquad \textbf{(B)}\ 4 \qquad \textbf{(C)}\ 5 \qquad \textbf{(D)}\ 6 \qquad \textbf{(E)}\ 7$

Instructions

Please **repeat** the steps above to solve the problem.