

Math 7H - Unit 2b

Day 12 - Writing Equations from Story Contexts

Lesson Objectives:

- I can write linear equations from story contexts.
- I can write grade-level story contexts using linear equations.
- I know how to show work when solving equations.

Leah has already read 20 pages of a book. She plans to read 5 pages each day from now on. Write an equation that represents the total number of pages she will have read in d days. After how many days will she have read 100 pages?

Define the variable: $d = \# \text{ of days}$

Equation: $20 + 5d = 100$
 $d = 16 \text{ days}$

A rectangle has side lengths $(2x - 5)$ meters and $(2x + 6)$ meters. Write an equation represent when the perimeter will be 40 meters.

Define the variable: $x = \text{a number}$

Linear equation:

$$2(2x - 5) + 2(2x + 6) = 40$$

$$x = 4.75, 4\frac{3}{4}, \frac{19}{4}$$

$$2[(2x - 5) + (2x + 6)] = 40$$

$$(2x - 5) + (2x - 5) + (2x + 6) + (2x + 6) = 40$$

To translate a verbal phrase into an equation, the first step is to define a variable. When you **define a variable**, you choose a variable to represent an unknown quantity.

Marisa wants to buy a DVD player that costs \$150. She already saved \$25 and plans to save an additional \$10 each week. Write an **expression** that represents the total amount of money Marisa has saved after any number of weeks.

Define the variable: $w = \# \text{ of weeks}$

Equation: $10w + 25 = 150$
 $w = 12.5 \text{ weeks}$

Jill has 20 boxes of macaroni. Each box weighs the same amount. She also has a container of cheese sauce that weighs 50 ounces. Everything together weighs 195 ounces. How much does one box of macaroni weigh?

Define the variable: $w = \text{weight of one box}$

Linear equation: $20w + 50 = 195$
 $w = 7.25 \text{ oz}$

Story Context

- | | |
|----|----|
| a. | g. |
| b. | h. |
| c. | i. |
| d. | j. |
| e. | |
| f. | |

Homework

Writing Equations from Stories WKS

* Individual Think Time *



What to do if you get stuck...

- Reread the problem. Did you write it down correctly?
- Reread your notes. Is there a problem similar that we did together in class?
- Find a problem similar in your book. Try this one to see if it helps.
- Skip the problem until the end of Individual Think Time. Then ask an "educated" question of a neighbor or Mrs. Call.

Today we're working by...

