Math 7 - 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.

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~~ equation that represents the total amount of money Marisa has saved after any number of weeks.

Define the variable: w = the number of weeks

Equation: $150 = 10w + 25$

$-25 \quad -25$ Subtraction Prop(=)

$\frac{125}{10} = \frac{10w}{10}$ Division Prop(=)

$12.5 \text{ weeks} = w$

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 = # of days

Equation: $5d + 20 = 100$

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 = a number

Linear equation:

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

$4x-10+4x+12=40$

$8x+2=40$

$-2 \quad -2$

$\frac{8x}{8} = \frac{38}{8}$

$x = 19/4 = 4.75$

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

$2(4x+1)=40$

$8x+2=40$

$-2 \quad -2$

$\frac{8x}{8} = \frac{38}{8}$

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

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

$8x+2=40$

$-2 \quad -2$

$\frac{8x}{8} = \frac{38}{8}$

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

If 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:

Linear equation:

Story Context

a.

b.

c.

d.

e.

f.

g.

h.

i.

j.

Erase to find the problem(s) to use for creating story contexts.

Homework

Writing Equations from Stories WKS

* Individual Think Time *

What to do if you get stuck...

1. Reread the problem. Did you write it down correctly?
2. Reread your notes. Is there a problem similar that we did together in class?
3. Find a problem similar in your book. Try this one to see if it helps.
4. 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...

EXIT TICKET

3...2...1...

On a piece of paper write down

3 things you learned,

2 questions you still have, and

1 connection you'd like to share.