

## Math 7 - Unit 2a

### Day 6 - Linear Expressions Application

#### Lesson Objectives:

- I can write linear expressions from story contexts.
- I can write grade-level story contexts using linear expressions.

To translate a verbal phrase into an algebraic expression, 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:  $y = \text{the number weeks}$   
 Linear expression:  $10y + 25$

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

Define the variable:  $d = \text{\# of days Leah reads}$   
 Linear expression:  $5d + 20$

$d$	0	1	2	3	4
Pages	20	25	30	35	40
	$5(0) + 20$	$5(1) + 20$	$5(2) + 20$	$5(3) + 20$	$5(4) + 20$

A rectangle has side lengths  $(2x - 5)$  meters and  $(2x + 6)$  meters. Write a linear expression in simplest form to represent the perimeter.

Define the variable:  $x = \text{a number}$   
 Linear expression:  $(2x - 5) + (2x + 6) + (2x - 5) + (2x + 6)$

$$\begin{aligned}
 &2(2x-5) + 2(2x+6) \\
 &4x - 10 + 4x + 12 \\
 &8x + 2
 \end{aligned}$$

$$\begin{aligned}
 &2(2x-5 + 2x+6) \\
 &2(4x+1) \\
 &8x+2
 \end{aligned}$$

$$\begin{aligned}
 &2l + 2w = 2l + 2w \\
 &= 2(l+w)
 \end{aligned}$$

The number of customers in a store on the first day is represented by  $(6x - 3)$ . The number of customers on the second day is represented by  $(x - 1)$ . Write an expression to find how many more customers visited the store on the first day.

Define the variable:  $x = \text{a number}$   
 Linear expression:  $(6x + 3) - (x + 1)$   
 $5x - 2 \text{ customers}$

### Story Context

- $x + 5$
- 
- $4 + 6x$
- 
- $7(x + 9)$
-

## Homework

### Linear Expressions Application 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...

