Unit: Expressions
Student Handout 7

Name _____

Date _____ Pd _____

TRANSLATING REAL-WORLD EXPRESSIONS P35

TRANSLATING EXPRESSIONS

- Expressions are frequently used in real life to describe situations involving comparisons.
- When translating verbal descriptions to algebraic expressions, ask yourself:
  1. What is being compared?
  2. What will the variable represent?

Write an expression to represent the comparisons below.

1. Simon has four more cookies than Lucy.

Simon's c vs. Lucy's c

a. Lucy is represented by: l

b. How can you explain the number of cookies Simon has compared to Lucy?

Simon = 4 + l

2. Gary weighs twelve pounds less than Jeff.

gary's weight vs Jeff's w.

a. Jeff is represented by: j

b. How can you explain the number of pounds Gary weighs compared to Jeff?

gary = j − 12

* Variables should represent the part of the situation in which you are given the least amount of information.

Practice defining a variable and translating the verbal expression to an algebraic expression.

#3 The width of a box is twice as long as its length.

width vs length

DEFINE A VARIABLE	w = width of box
REPRESENT THE LENGTH	l
REPRESENT THE WIDTH	2l

#4 The 80 brownies sold at the bake sale were half the number of rice crispy treats sold.

#b vs # r.c.

DEFINE A VARIABLE	r = rice crispy
REPRESENT THE # OF BROWNIES	$\frac{1}{2}r$
REPRESENT THE # OF RICE CRISPY TREATS	r

7.3b

Complete the table below for each of the real-life situations.

#5 Allison sold 12 more boxes of cookies for the fundraiser than Evangeline.

A's C vs E's cookies

DEFINE A VARIABLE	E = Evan. Cookies sold
REPRESENT ALLISON	12+E
REPRESENT EVANGELINE	E

#6 Xavier's 85 on his math test was 37 points less than twice the grade on his English test.

Math test vs. Eng. test

DEFINE A VARIABLE	E = Eng. test grade
REPRESENT THE MATH TEST	2E - 37
REPRESENT THE ENGLISH TEST	E

#7 It costs $100 to rent a skating rink, plus $8 per person.

DEFINE A VARIABLE	
COST OF N NUMBER OF PEOPLE	
COST OF 36 PEOPLE	

#8 Ender has $365 in his savings account and spends $32 per week.

$ in Savings account vs. Weekly spending

DEFINE A VARIABLE	W = # of weeks
AMOUNT IN SAVINGS AFTER W WEEKS	$365 - $32W
AMOUNT IN SAVINGS AFTER 9 WEEKS	365 - 32(9) 365 - 288 $77

Substitute for W

#9 The cost of an item with a $12 shipping fee

DEFINE A VARIABLE	
COST OF AN ITEM WITH SHIPPING	
COST OF AN $85 ITEM	

#10 Anthony has half as many video games as Guero.

DEFINE A VARIABLE	
REPRESENT ANTHONY	
REPRESENT GUERO	

Summarize today's lesson:

Unit: Expressions
Homework 7

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TRANSLATING REAL-WORLD EXPRESSIONS

The variables represent information about people who visit the public library. Use the information to answer the questions below.

PUBLIC LIBRARY VISITORS

m = number of men	r = number of people with red hair
w = number of women	b = number of people with brown hair
c = number of children under 12	t = total books checked out

1. Write a verbal description to describe the algebraic expression.

   a. $w + m$ _____

   b. $\frac{(m+w)}{c}$ _____

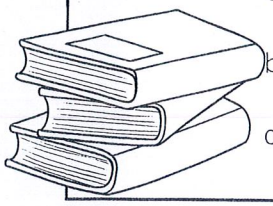
   c. $(w + m + c)$ _____

2. Write an algebraic expression for each verbal description.

   a. total number of people under 12 _____

   b. the number of people who do not have brown hair _____

   c. the average number of books checked out per person _____



Complete the tables below for each of the real-life situations.

#3 There were three times as many beavers as elephants.

DEFINE A VARIABLE	
REPRESENT THE NUMBER OF BEAVERS	
REPRESENT THE NUMBER OF ELEPHANTS	

#4 A children's ticket was $6 less than an adult ticket.

DEFINE A VARIABLE	
COST OF AN ADULT TICKET	
COST OF A CHILD TICKET	