## Today's Learning Goal(s):

By the end of the class, I will be able to:

a) convert an English sentence to a mathematical expression or equation

NOTE: This "completed" handout is available in Google Drive.

For the first half of the lesson,
there is no need to copy anything down, just pay attention.



Date: Sept. 8, 2016

## Unit 1: Linear Systems (Chapter 1)

View p. 3 Chapter Problem

A **variable** is a letter or symbol used to represent a value that can change. For example, x is the variable in the expression 3x + 2.

An **expression** is a mathematical phrase made up of numbers and variables, connected only by operators. For example, 3x + 2 is an expression, whereas 3x + 2 = 8 is **not**. The latter is an **equation**.

Ex. 1: Translate each phrase into an algebraic expression.

- a) five more than twice a number
  - Let x represent the number.

the expression is:  $2x + 5 \Rightarrow$ 

b) half a number then increased by 6

the expression is:  $\frac{1}{2}x + 6$ 

c) a value decreased by the fraction one half

the expression is:  $x - \frac{1}{2}$ 

d) thirty percent of the volume

Recall: 430% = 0.30

the expression is: 0.30 V

e) six and one-half percent of a price

Recall:  $46\frac{1}{2}\%$ 

the expression is:  $0.065x \Rightarrow$ 

=6.5%

=0.065

- **Ex. 2:** Translate each sentence into an algebraic equation.
  - a) Three times a number subtracted from four, is five more than six times the number.

Let *x* represent the number.

$$4 - 3x = 6x + 5$$

b) When tickets to a soccer game cost \$4 each, the revenue at the gate yields \$320.

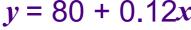
Let *x* represent the number of tickets sold.

$$4x = 320$$

c) Use two variables: Mario's daily earnings are \$80, plus 12% commission on his sales.

Let x represent Mario's sales, in dollars. Let y represent Mario's total earnings, in dollars.

$$y = 80 + 0.12x$$



TODAY'S ENTERTAINMENT: p. 17 #1-4, 6

This is only the 1st half of the lesson, and 1st half of the homework.