

## Section 1.3 Writing Expressions

**Objective: To be able to write algebraic expressions**

Operation	Key Words	Verbal Model	Expression
Add	sum, total, plus, increased by, more than	5 increased by x sum of x and 8	$5 + x$ $x + 8$
Subtract	difference, less than, minus, decreased by	the difference of x and 12	$x - 12$
Multiply	times, product, multiplied by	the product of x and 15	$15x$
Divide	quotient, divided by	the quotient of k & 8	$k/8$

Rate is a fraction comparing two quantities.

example 110 miles in 2 hours.

110 miles/2 hours

\*\*\*\*\*Be sure to label

Unit Rate is one where the denominator is 1

Example from above.

110 miles/2 hours = 55 miles/1 hour or 55 mph

## Section 1.4 Writing equations and Inequalities

Objective: To write an equation and inequality from a verbal model.

Inequality or Equality

= is equal to

> greater than

< less than

≤ less than or equal to

≥ greater than or equal to

Verbal Models

equal, is

more than

fewer than

at most, no more than

at least, no less than

Example

a) The product of 6 and  $n$  is at least 24.

b) The sum of  $y$  and 12 is no less than 5 and no more than 13.

## Example

The last time you went mountain biking with 3 of your friends, you had a coupon for \$10 off and paid \$17 for 4 tickets. What is the regular price for 4 tickets? If you pay regular price and share it 4 ways what is cost per person? Write an equation to represent the cost.

## Section 1.5 Using a Problem Solving Plan

Objective: To learn a plan to solve word problems

STEP 1: Read/REREAD the problem. Find important facts. Pictures?

STEP 2: Identify what is being asked to find. What are you solving for.

STEP 3: Write an equation or inequality.

STEP 4: Solve the equation or inequality.

STEP 5 Check your answer to make sure it is reasonable and logical.

## Key Formulas

a)  $C = \frac{9}{5}(F - 32)$

b)  $I = Prt$                       Interest = Principal\*rate\*time

c)  $D = rt$                         Distance = rate \* time (DIRT)

d)  $P = I - E$                     Profit = Income - Expenses

## Section 1.6 Representing Functions as Rules and Tables

Objective: To identify domain and range and to determine if it is a function.

Domain Input or first values or x

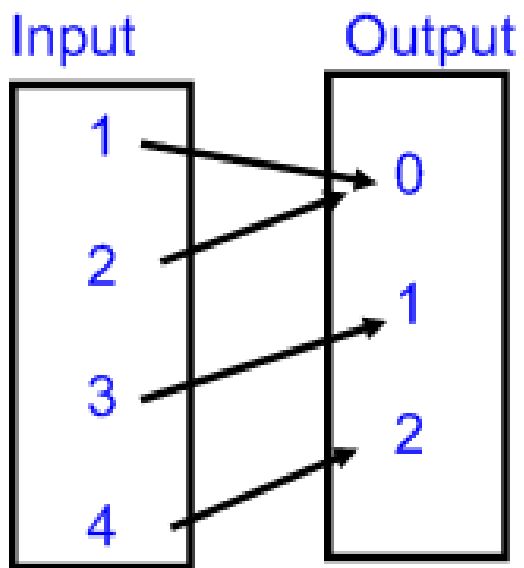
Range Output or 2nd values or the y values.

Input (gallons)	10	12	13	17
Output (cost)	19.99	23.99	25.99	33.98

- Identify the domain and range
- Write a rule for the table or function.

Input	0	1	2	4
Output	5	2	2	1

### Mapping Diagram



Independent Variable  
Dependent Variable

Write an equation. Make a table where the domain is 0,1,2,3,4,5  
Output is 3 more than the input

Write a rule for the function.

Input	0	1	4	6	10
Output	2	3	6	8	12

## Section 1.7 Represent Functions as Graphs

Example 1 Graph  $y = 1/2 x$  with domain of 0,2,4,6,8

Example 2 Graph and write a rule. Identify the domain and range.

x	1	2	3	4	5
y	2	3	4	5	6

**Pg 18-19 #4-36 evens**

**Pg 24-25 # 6-42 evens**