

## ***Lesson 2 - Victim Domain and Range***

### **Bell Ringer**

- Springboard Course 3, pg.363 #3-4
  - Students check at their tables that their group mates have created mapping ovals in the proper format without repeats; #3 should have 1 only once in the domain oval but with three different pairings in the range oval.

### **Introduction**

- Ask the class: Where have you heard the word “domain”? Use their offerings (ex. master of my domain, domain name) to hone in on the idea of the home or starting place.
- Ask the class: Where have you heard the word “range”? Use their offerings (ex. gun range, out on the range, how much something varies) to hone in on the idea of being outside or shot out.
- Define mathematically as on p. 366 of Springboard Course 3.
- Refer to Example A, and note for the students the difference between parentheses and braces. Start students off on Try These A, and note that just as in oval mapping, all inputs are listed only once in the domain and all outputs are listed only once in the range. Students complete Try These A a and b.

### **Class Activity - Victim Lists**

- Class Instruction for the Victim Lists
  - “Each group will be receiving a different partial list of victims and information about them from this tragedy. I will tell your group what the input and output will be, and you will represent this information as a relation. I will ask your group to represent in one of two different ways: ordered pairs or the mapping ovals. If you did either ordered pairs or an input/output table in the last activity, do mapping ovals; if you did mapping ovals, now do ordered pairs. Then, underneath you will list the domain as a set in braces and the range as a set in braces.”
- Hand out one of each of the following pages for each group of 2-4 students with the given instruction for input, output:
  - Page 1- last name, age
  - Page 2- last name, cause of death
  - Page 3- last name, age
  - Page 4- age, cause of death
  - Page 5- first name, cause of death
  - Page 6- last name, cause of death
  - Page 7- first name, cause of death
  - Page 8- first name, cause of death
  - Page 9- last name, cause of death
  - Page 10- last name, first name

### **Class Activity - Victim Lists Gallery Walk**

- Class Instruction for the Gallery Walk
  - “Each group will clean up their area and clearly display the representation they just completed so other students can view it easily as we will be walking around.”
  - “Once you leave your table, you will be looking at other representations and respond to the following three prompts:
    - Explain whether or not you agree with your classmates’ representation along with their listed domain and range.
    - Describe who might be interested in this particular domain or range.
    - Justify an assertion as to whether this is or is not a function.”
- Choose a representative group by group to share aloud as time permits, highlighting common misconceptions such as repeats in the mapping ovals or the same ordered pair listed multiple times. Solutions for functionality are as follows:
  - Page 1- last name, age represented by input/output table
    - Solution: NOT a function because one of the Bernsteins has a different age.
  - Page 2-last name, cause of death represented by ordered pairs
    - Solution: NOT a function because Brodsky has multiple causes of death.
  - Page 3-last name, age represented by mapping ovals
    - Solution: NOT a function because Goldstein has multiple ages.
  - Page 4-age, cause of death represented by ordered pairs
    - Solution: NOT a function because 18 year olds have multiple cause of death.
  - Page 5-first name, cause of death represented by input/output table
    - Solution: A function because each first name is only listed once.
  - Page 6- last name, cause of death represented by ordered pairs
    - Solution: NOT a function because Miale has multiple causes of death.
  - Page 7-first name, cause of death represented by mapping ovals
    - Solution: NOT a function because Annie has multiple causes of death.
  - Page 8-first name, cause of death represented by mapping ovals

■ Solution: A function because even though Jennie is listed multiple times, one cause of death.

- Page 9-last name, cause of death represented by mapping ovals

■ Solution: A function because even though Saracino is listed multiple times, one cause of death.

- Page 10-last name, first name represented by input/output table

■ Solution: A function because each last name is only listed once.

### **Check For Understanding**

- Students complete Exercises #2 and #4.
  - Students check at their tables that their group mates have explained that #2 is not a function while #4 is, and they have not repeated 3 in the domain for #2.

### **Homework**

- Springboard Course 3, pg. 369 #16-21