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Make a Map

Pre-Activity

Here is a set of apples: {     }

There are four apples in this set, and we can represent this set by a black circle:




Here is another set of apples: {   }

This set is made up of two apples, and we can represent it by a grey circle:

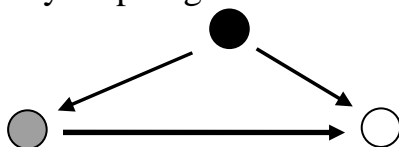


And here is one more apple set: {  }

We can represent it by a white circle: 


If I then make a map of the sets of apples and let the arrow say

“I am pointing from the set that has more apples to the set that has fewer apples” my map might look like this.



Can you think of another way to draw this map?

1. Now let's take sets of numbers and give each one a different symbol so that you can tell them apart:

{5 6 7 8} 

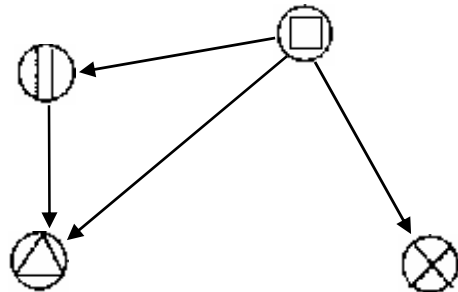
{5 6 8} 

{6 8} 

{5 7} 

The arrows say "I am pointing from the set that has more numbers in it to the set that has fewer numbers in it."

Look at the drawing below, which shows the relationships between the four number sets. Unfortunately the arrows haven't been drawn correctly. How would you correct this map?



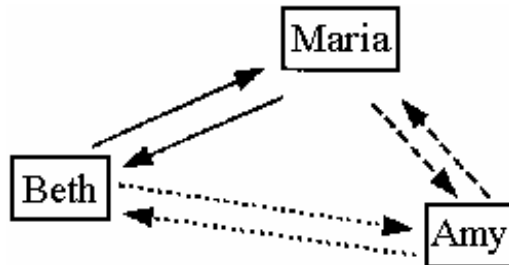
2. Kevin has visited Andrew, and Michael has also visited Andrew, but Kevin and Michael haven't visited each other.

Kevin is older than Andrew and Michael, who are the same age.

The relationships between these friends are shown in the maps below. The solid arrow says "I have visited him." The dotted arrow says "I am older than him." In these drawings, which triangle stands for Kevin, which for Andrew and which for Michael?



3. Beth and Maria live in the same house. Maria and Amy go to the same school. Amy and Beth go to the same camp.



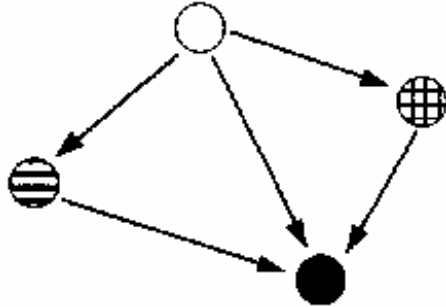
Look at the map and tell which arrows say "she and I live in the same house."

What do the dotted arrows at the bottom of the map say?

How about the third set of arrows?

4. A portable sewing machine weighs 12 pounds, a radio and a vacuum cleaner each weigh 9 pounds, an iron weighs 3 pounds, and a hair dryer weighs 2 pounds.

In the drawing below, each circle represents a weight, and each arrow points from a lighter object to a heavier object.



- a. Which circle could stand for the iron?
- b. What do the other circles stand for?
- c. Can you be sure what each circle stands for? Why or why not?

- 5.** Now think of a relationship among three people or things, and give each one a symbol.
- a.** Draw a map of the relationship, using the symbols you chose and arrows which point in the correct way. (Be sure to tell what your arrows mean.)

- b.** Tell in words the story of the relationship you have mapped.