Name: _Key_   Date: _June 4, 2015_

1. List and describe the four steps of *problem solving.*
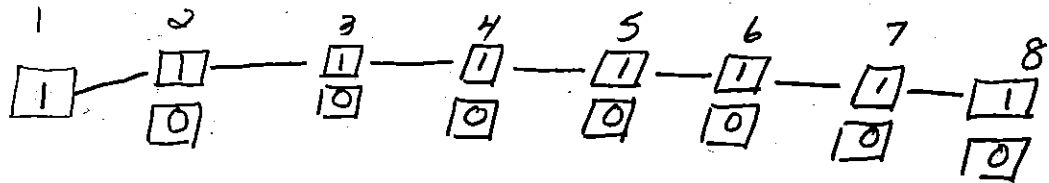
   - *Understand the Problem*
     - Re-read
     - Draw Picture
     - Guess a possible
   - *Devise a plan*
     - Determine what needs to be done.
   - *Carry out plan*
     - "Do the math"
   - *Check your result*
     - Is the result answering the question?

2. A frozen yogurt restaurant has chocolate and vanilla yogurt. For toppings it has nuts, sprinkles, or candy pieces. List *all* the possible combinations that use one flavor and one topping.

   Cn, Cs, C,c, Vn, Vs, Vc

3. A binary number consists of only two digits: 0 and 1. If a binary number consists of eight digits, which is called a **byte** in computer terminology, how many possible combinations of eight digit binary numbers are possible? **Show your work!**

one possible 8 digit number:

1 1 1 1 1 1 1 1

So, 2 possible digits: 0 or 1

and eight slots or $n = 8$

- $2^8 = 256$ possible eight digit Binary numbers.