How many Solutions?

1. The following equations have different numbers of solutions. Some have 1 solution, others have 2 or more solutions, and some have an infinite number of solutions. What do we mean by solutions? Solutions are values for the variables in the equations that make the equations true. If there is only one variable, then solutions are just a number or set of numbers. If there are two or more variables, then the solutions will be ordered collections (in the case of two variables they are called *ordered pairs*) of numbers.

**For each of these equations, find all of the solutions. If there are no solutions, explain why not. If there are infinite solutions, explain that as well. You will turn in your answers at the start of class.**

1. 4x – 6 = 26
2. .12*x* + .11(7000 – *x*) = 790
3. , where b and c are numbers, solve for *x*
4. *x + y = x*
5. Are the given values solutions for these equations? Show how you know.

* 1. (2,10);
  3. 4 and -4;