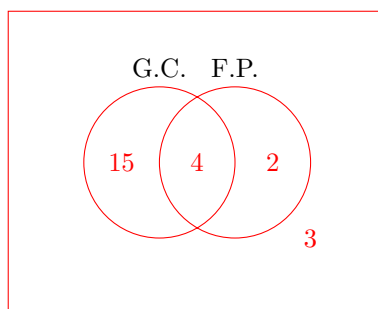NAME:

Quiz 2
January 18, 2013

Instructions: Do all the problems on **both sides** of this paper. Show all your work.

1. [**6 points**] At the 2004 UFO Convention, there were a total of 24 presentations. A "government conspiracy" was discussed in 19 of the presentations and "fraudulent photographs" were discussed in 6 of the presentations. Of the 6 talks in which "fraudulent photographs" was a topic, only 2 of them did not also discuss a government conspiracy". How many presentations covered neither "fraudulent photographs" or "government conspiracy"?

We are given that 19 presentations talked about "government conpiracies", so the total of the two numbers in the "G.C." circle must be 19. We are also told that "fraudulent photographs" were discussed in 6 presentations, so the sum of the two numbers in the "F.P." circle is 6. The last statement is that 2 presentations that covered fraudulent photographs did not cover government conspiracies. So the region in the venn diagram representing presentations that covered fraudulent photographs but did not cover government conpiracies should have a 2 in it. The reasoning for the 4 and the 15, then follow from the preceding discussion. There were a total of 24 presentations, so the sum of all the numbers in our venn diagram should be 24. We only have 21 so far, so there must have been 3 presentations that did not discuss government conspiracies or fraudulent photographs.

2. [**4 points each**] Determine if each of the following is an inductive or deductive argument. **Circle** the premise(s) and **underline** the conclusion of each argument.

   (a) All mammals give live birth. Platypuses are mammals. Platypuses do not lay eggs.
   All mammals give live birth. Platypuses are mammals. Platypuses do not lay eggs.

   (b) Jesse Ventura, Arnold Schwarzenegger, Al Franken and Ronald Reagan are all politicians. These individuals all started out in the entertainment industry. Therefore, all politicians were once entertainers.
   Jesse Ventura, Arnold Schwarzenegger, Al Franken and Ronald Reagan are all politicians. These individuals all started out in the entertainment industry. Therefore, all politicians were once entertainers.

3. [**3 points each**] Determine the relationship between the following sets (disjoint, intersecting, or one is a subset of the other):

(a) Poinsonous animals and snakes.

Poisonous animals and snakes are intersecting sets because some snakes are not poisonous, and there are poisonous animals that are not snakes.

(b) People with a high school diploma or GED, and students at the University of Utah.

Students at the University of Utah are a subset of people with high school diplomas or GEDs. This is because a diploma or GED is required for acceptance to the University of Utah.