**HW 1 – SAMPLING NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

***I.   Identify whether the following situations are observational studies or experiments. EXPLAIN YOUR REASONING***

1.)   Some people who race greyhounds give the dogs large doses of vitamin C in the belief that the dogs will run faster. Investigators at the University of Florida tried three different diets in random order on each of five racing greyhounds. They were surprised to find that when the dogs ate high amounts of vitamin C, they ran more slowly.

2.) A researcher asks college students how many hours of sleep they get on an average night and examines whether the number of hours of sleep affects students’ grades.

***I.   For each situation, identify the sampling technique used. EXPLAIN your answer.***

4.)   Every fifth person boarding a plane is searched thoroughly.

5.)   At a local community College, five math classes are randomly selected out of 20 and all of the students from each class are interviewed.

6.)   A researcher randomly selects and interviews fifty male and fifty female teachers.

7.)   A researcher for an airline interviews all of the passengers on five randomly selected flights.

8.)   Based on 12,500 responses from 42,000 surveys sent to its alumni, a major university estimated that the annual salary of its alumni was $92,500.

9.)   A community college student interviews the first 100 students to enter the building to determine the percentage of students that own a car.

10.)   A market researcher randomly selects 200 drivers under 35 years of age and 100 drivers over 35 years of age.

11.)   To avoid working late, the quality control manager inspects the last 10 items produced that day.

12.)   The names of 70 contestants are written on 70 cards. The cards are placed in a bag, and three names are picked from the bag.

13.)   To ensure customer satisfaction, every 35th phone call received by customer service will be monitored.

***II.   For the following examples, determine whether the question is potentially biased.  Explain your answer.***

14.)   Question:   What is your favorite sport?  Sample is chosen from people attending a soccer game.

15.)   Question:   What is your favorite soft drink?   Sample is chosen by picking names out of a telephone book.

16.)   Don’t you agree that the voting age should be lowered to 16 because many 16-year olds are responsible and informed?

17.)   Do you think the city should risk an increase in pollution by allowing expansion of the Northern Industrial Park?

18.)   In a survey about Americans’ interest in basketball, the first 25 people admitted to a high school basketball game were asked, “How interested are you in the world’s most popular sport, basketball?”

19.)   Don’t you agree that the school needs a new baseball field more than a new science lab?