

Table Number: _____

Group Name: _____

Group Members: _____

Biased Sampling

Each of the surveys mentioned below has bias. (a) Determine the type of bias and (b) suggest a remedy. Types of bias include *sampling bias (convenience sample, for eg.), voluntary response bias, non-response bias, and poorly worded question*. Some surveys may include more than one of these.

1. A retail store manager wants to conduct a study regarding the shopping habits of its customers. He selects the first 60 customers who enter his store on a Saturday morning.

a) Type:

b) Remedy:

2. A polling organization conducts a study to estimate the percentage of households that speaks a foreign language as the primary language. It mails a questionnaire to 1023 randomly selected households throughout the United States and asks the head of household if a foreign language is the primary language spoken in the home. Of the 1023 households selected, 12 responded.

a) Type:

b) Remedy:

3. A newspaper article reported, "The *Cosmopolitan* Magazine survey of more than 5000 Australian women aged 18-34 found about 42% considered themselves overweight or obese."

a) Type:

b) Remedy:

4. A researcher asks a random sample of students at the library on a Friday night, "How many hours a week do you study?" to collect data to estimate the average number of hours a week that all college students study.

a) Type:

b) Remedy:

5. Take 10 apples off the top of a truckload of apples and measure the amount of bruising on those apples to estimate how much bruising there is, on average, in the whole truckload.

a) Type:

b) Remedy:

6. One of the daily polls on *CNN.com* during June 2011 asked, "Does physical beauty matter to you?" Of 38,485 people responding, 79% said yes and 21% said no.

a) Type:

b) Remedy:

7. Send an email to a random sample of students at a university asking them to reply to the question: "Do you think this university should fund an ultimate Frisbee team?" A small number of students reply. Use the replies to estimate the proportion of all students at the university who support this use of funds.

a) Type:

b) Remedy:

8. A magazine is conducting a study on the effects of infidelity in a marriage. The editors randomly select 400 women whose husbands were unfaithful and ask, "Do you believe a marriage can survive when the husband destroys the trust that must exist between husband and wife?"

a) Type:

b) Remedy:

9. **PEARLS BEFORE SWINE**



a) Type:

b) Remedy: