

Name: _____

Date: _____ Per: _____

Homework 6: Using Samples to Predict

**** This is a 2-page document! ****

Identify the population and the sample.

1.



2.



3.



Determine whether each sample is biased or unbiased. Explain.

4. A nation-wide company wants to know which product consumers prefer. They randomly select 1,000 people who have purchased their products over the last 10 years.

5. Jason wants to find out if students prefer football or basketball. He surveys the entire football team.

6. A dog food company is making a new line of treats. To find out which flavors are preferred, they ask 25 people who have purchased their brand of dog food.

7. A principal wants to know how his teachers feel about certain issues at school. He emails a survey to 10 randomly selected teachers from each grade level.

8. A pizza store manager wants to know which pizza topping most people prefer. He surveys everyone who places an order over the phone on one given night.

9. An apartment complex manager wants to survey residents about the apartment maintenance service. A survey is sent to 100 randomly selected apartment numbers.

10. Darren wants to find out whether 7th grade students prefer music, art or sports. He generates 150 random 7th grade names from the school enrollment list and surveys those students.

Use the given samples to make predictions about the population.

Flavor	Number
Chocolate Strawberry	70
Orange Cream	36
Peanut Butter Pop	46
Very Berry Mix	40
Green Machine	8

11. An ice cream shop surveyed 200 random customers to find out which new ice cream flavor they enjoy the most. Results are shown in the table to the left.

a) What percent of the customers prefer orange cream?

b) What percent of the customers prefer either peanut butter pop or green machine?

c) If there are 1,400 customers in a given week, how many would you expect to prefer chocolate strawberry or very berry mix?

Minutes	Number
0-45	4
46-90	19
91-135	25
136+	32

12. A fitness center asked 80 random patrons how long they exercise on average each day. Results are shown in the table to the left.

a) What percent of people surveyed exercise for at most 45 minutes?

b) What percent of people surveyed exercise for more than an hour and a half?

c) If 300 people come to the gym on a given day, approximately how many would you expect to exercise for more than 135 minutes?

Seafood	Percent
shrimp	24%
crab	30%
fish	36%
neither	10%

13. A seafood restaurant surveys their customers to find out whether they prefer shrimp, crab, or fish. Their results are shown in the table to the left.

a) If 140 people were surveyed, how many preferred crab?

b) If 140 people were surveyed, how many preferred none of the given options?

c) They are ordering 120 pounds of seafood for the week. How many should be fish?