Math 7  
Worksheet 9-9   
Representative Samples

From what population is each of these samples taken? Write down the actual population for each of these sample techniques.

Method of Sampling: Call every hundredth name in the phone book  
Description of Actual Population: People with phones who also have their numbers listed

Method of Sampling: Survey people who come to the “Vote Now” booth at the high school football game.  
Description of Actual Population: Athletic Supporters who are interested enough to stop by.

Method of Sampling: Ask every tenth student entering a high school football game  
Description of Actual Population: Students at football game

1. Create a survey question that will help you better know the students in your school. Tell when and where you would ask the question so that you asked a representative sample of the students in the school.

(ANSWER KEY SHOWS NO ANSWER)

For #3-4, which sample is better for making a prediction?

1. Predict the number of students in a school whose favorite class is PE.

Sample A: A random sample of 8 students in the lunch line

Sample B: A random sample of 80 students in the lunch line

ANSWER: B

1. Predict the number of defective pencils produced per day.

Sample A: A random sample of 500 pencils from 20 machines

Sample B: A random sample of 500 pencils from 1 machine

ANSWER: A

1. Suppose you were conducting a survey to try to determine what portion of voters in your small town support a particular candidate for mayor. Consider each of the following methods for sampling the voting population of your town.
   1. Ask every voter on your block.

not representative because neighborhoods have different characteristics (income, diversity, proximity to services, traffic).

* 1. Randomly picking one house from each block in the neighborhood and survey the homeowner.

Fairly representative, but includes non-voters. (better only survey voters)

For #5, determine whether the sample is representative or not, explain your reasoning in a sentence.

1. You want to estimate the number of students in your school who play a musical instrument. You survey the first 15 students who arrive at a band class.

Not representative (students in band class are more likely to play an instrument than someone in technology.)