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:

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

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.

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:

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:

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. State whether each is likely to produce a representative sample and explain your reasoning in a sentence.
   1. Ask every voter on your block.
   2. Randomly picking one house from each block in the neighborhood and survey the homeowner.

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.