Unit 01 Practice Problems

1.1
A historian is studying bronze church bells that were manufactured at Hammerhead Foundry in Pennsylvania during the 1840's. These bells have a reputation for being very loud and he is interested in exactly how loud they are. He has accumulated a list of all such bells that are still in use, and will randomly select 15 of them to visit in person.

Identify the population, sample, and variable of interest.

1.2
A baseball statistician is interested in the population mean height among all left-handed pitchers. He randomly selects 100 left-handed pitchers and measures their heights.

Identify the population, sample, and variable of interest.

1.3
Identify each variable as discrete or continuous. If the variable is discrete, list its possible values.

A = # of students who pass the Final Exam in a 7-student class
B = # of ounces of sugar in a can of cola
C = # of seconds required to walk across the Portage Lake Lift Bridge
D = # of goals scored by a soccer team in their next game
E = # of parking tickets written by MTU Public Safety next week
F = # of ounces of ice cream in one scoop
G = # of calories in one ounce of ice cream

1.4
Identify each variable as discrete or continuous. If the variable is discrete, list its possible values.

A = weight of a randomly selected bowling ball at the bowling alley
B = # of seconds required for a computer to download a song
C = # of coin flips required to observe heads for the 10th time
D = # of tornados to hit Oklahoma City in the next decade
E = # of days until the next snow storm
F = # of red balls observed if 3 balls are drawn out at random <u>with</u> replacement from a basket with { 2 red, 3 green, 4 yellow }
G = # of red balls observed if 3 balls are drawn out at random <u>without</u> replacement from a basket with { 2 red, 3 green, 4 yellow }