Group Members: _____

1. Let X = the number of large bags of popcorn sold by a local movie theater in a day. Suppose that X is normally distributed with a mean of 230 bags and a standard deviation of 29 bags. Describe the distribution of $\overline{X}$, the **average** number of large bags of popcorn sold in a random sample of 7 days, by identifying the following.

   (a) **Mean** of the Distribution of $\overline{X}$ (Use the symbol and value on page 117 of the Lecture Guide.)

   (b) **Standard Deviation** of the Distribution of $\overline{X}$ (Use the symbol and formula on page 117.)

   (c) **Shape** of the Distribution of $\overline{X}$ (Use the flowchart on page 118 to determine whether $\overline{X}$ is normally distributed and how you know.)

2. Suppose that Y describes the number of tickets sold by the movie theater in a day, with a mean of 1040 tickets and a standard deviation of 212 tickets. Describe the distribution of $\overline{Y}$, the **average** number of tickets sold per day in a random sample of 55 days.

   (a) **Mean** of the Distribution of $\overline{Y}$

   (b) **Standard Deviation** of the Distribution of $\overline{Y}$

   (c) **Shape** of the Distribution of $\overline{Y}$ (i.e. whether it's normally distributed and how you know!)