BUS 735: Business Decision Making and Research **Name:** _____
In-class Exercise

Directions: Use the dataset `appliances.xls` to answer the questions that follow. The data is the total regional sales volume for a chain of appliance stores for 32 months for dishwashers, garbage disposals, refigerators, and washers; and the profits that are made for each unit, which were constant during the sample period.

Work in groups of up to four people and answer the following questions. All papers will be collected, but only one member's paper will be randomly selected and graded and all members of the group will receive the same grade.

By signing below, you agree that the following work represents the efforts of everyone in the group, and you are willing to accept as your own grade for the group project the grade earned from this representation of your group's work. Every member must agree to these terms to earn a non-zero grade for this assignment.

_____	_____	_____
Signature Group Member 1	Print Name	Date
_____	_____	_____
Signature Group Member 2	Print Name	Date
_____	_____	_____
Signature Group Member 3	Print Name	Date
_____	_____	_____
Signature Group Member 4	Print Name	Date

1. What was the mean, variance, and standard deviation for the volume of dishwasher sales?

2. Use your previous answer to compute the mean, variance, and standard deviation for the profits from dishwasher sales. Show your work.

3. What was the mean, variance, and standard deviation for the volume of garbage disposal sales?

4. Use your previous answer to compute the mean, variance, and standard deviation for the profits from garbage disposal sales. Show your work.

5. Assuming dishwasher sales are normally distributed, what is the probability next month's profits will exceed \$17,000?

6. Suppose you were recently promoted to the Regional Sales Director for Dishwashers and Refrigerators, and you recieve as a bonus every year 2% of the profits made from these two items combined.

   (a) What is the mean, variance, and standard deviation of the total profits from Dishwashers + Refrigerators?

   (b) What is the mean, variance, and standard deviation of your bonus?

   (c) Assuming sales volume is normally distributed, what is the probability that your bonus will be less than \$1,000?