

## P Discovery Project

### Data

This data set can be found at [stat.hawkeslearning.com](http://stat.hawkeslearning.com) by navigating to **Discovering Business Statistics, Second Edition > Data Sets > Tire Manufacturer Warranty**.

### How are tire mileage warranties calculated?

At the beginning of this chapter, we discussed the methodology of how automobile tire manufacturers determined the warranties associated with a particular tire that they made. The data set named Tire Manufacturer Warranty contains a sample of 30 tire mileages from each of 12 tire manufacturers. Using these data, please answer the following questions:

1. Determine the mean and standard deviation of the mileages for each of the tire manufacturers.
2. Do the mileages for each of the tire manufacturers follow a normal distribution? Justify your answer using graphical techniques.
3. In the event that the mileages for a tire manufacturer do not follow a normal distribution, will that prevent us from calculating probabilities associated with the average mileages? Justify your answer.
4. What is the distribution for each of the sample means of the mileages for each of the tire manufacturers.
5. Determine the warranty mileage for each manufacturer if they want no more than 1% of the tires to need replacement.
6. Answer question 5. if they want no more than 10% of the tires to need replacement.