

Statistics
1st Semester Exam Review: Normal Models

The amount of mustard dispensed from a machine at *The Hotdog Emporium* is normal distributed with a mean of 0.9 ounce and a standard deviation of 0.1 ounce.

- a. Draw and clearly label a normal model.
- b. What percent of the time will more than 1.02 ounces be dispensed?
- c. What percent of the time will less than 0.75 ounces be dispensed?
- d. If the machine is used 500 times, *approximately* how many times will it be expected to dispense 1 or more ounces of mustard.
- e. How much mustard is dispensed for the 95th percentile?
- f. Determine the IQR.

A shoe manufacturer collected data regarding men's shoe sizes and found that the distribution of sizes exactly fits the normal curve. The mean shoe size is 11 and the standard deviation is 1.5.

- a. Draw and clearly label a normal model.
- b. What percentage of men wear a shoe size of 13 or larger?
- c. What percentage of men wear a shoe size smaller than 8.5?
- d. One particular shoe company decides to sell shoes at a higher price for any sizes in the 90% percentile. What shoe size will cost more?