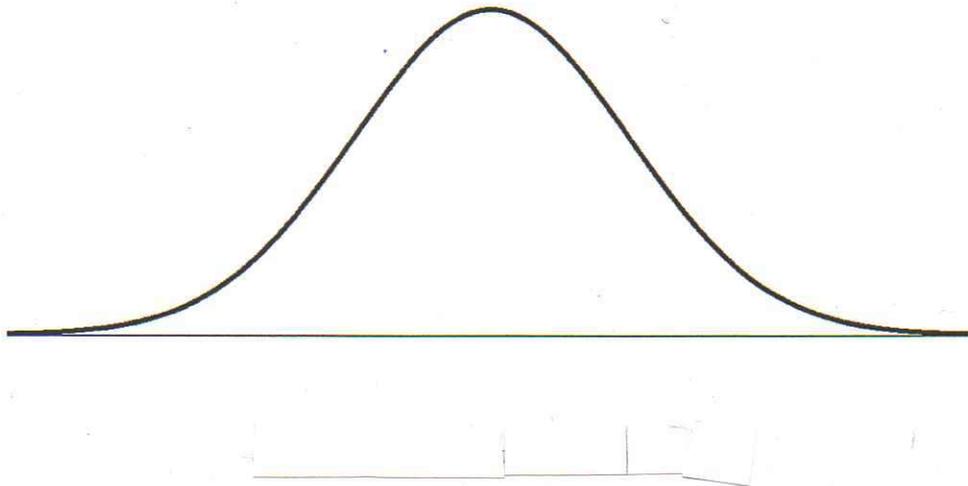


1. Students taking an intro stats class reported the number of credit hours that they were taking that quarter. Summary statistics are shown in the table.
- a. Suppose that the college charges \$73 per credit hour plus a flat student fee of \$35 per quarter. For example, a student taking 12 credit hours would pay  $\$35 + \$73(12) = \$911$  for that quarter.

$\bar{x}$	16.65
$s$	2.96
min	5
Q1	15
median	16
Q3	19
max	28

- i. What is the mean fee paid?
- ii. What is the standard deviation for the fees paid?
- iii. What is the median fee paid?
- iv. What is the IQR for the fees paid?
- b. Twenty-eight credit hours seems like a lot. Would you consider 28 credit hours to be unusually high? Explain.

2. The Wechsler Adult Intelligence Scale – Revised (WAIS-R) follow a Normal model with mean 100 and standard deviation 15. Draw and clearly label this model.



3. Adult female Dalmatians weigh an average of 50 pounds with a standard deviation of 3.3 pounds. Adult female Boxers weigh an average of 57.5 pounds with a standard deviation of 1.7 pounds. One statistics teacher owns an underweight Dalmatian and an underweight Boxer. The Dalmatian weighs 45 pounds, and the Boxer weighs 52 pounds. Which dog is more underweight? Explain.
4. Human body temperatures taken through the ear are typically  $0.5^{\circ}$  F higher than body temperatures taken orally. Making this adjustment and using the 1992 *Journal of the American Medical Association* article that reports average oral body temperature as  $98.2^{\circ}$  F, we will assume that a Normal model with an average of  $98.7^{\circ}$  F and a standard deviation of  $0.7^{\circ}$  F is appropriate for body temperatures taken through the ear.
- An ear temperature of  $97^{\circ}$  F may indicate hypothermia (low body temperature). What percent of people have ear temperatures that may indicate hypothermia?
  - Find the interquartile range for ear temperatures.
  - A new thermometer for the ear reports that it is more accurate than the ear thermometers currently on the market. If the average ear temperature reading remains the same and the company reports an IQR of  $0.5^{\circ}$  F, find the standard deviation for this new ear thermometer.
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