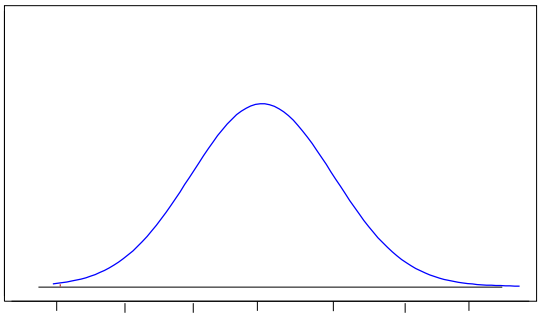
Practice Quiz 3

Statistics 90-707 Fall 2021 Dr. Nancy Pfenning

1. (7 pts.) Adult male hip sizes are normally distributed with mean 37.8 inches and standard deviation 2.6 inches.

   (a) Use the 68-95-99.7 Rule to fill in numbers for the seven indicated points of the horizontal axis on this curve showing the distribution of hip sizes.



Male Hip Sizes

   (b) Almost all hip sizes (99.7%) are between _____and _____.

   (c) The smallest 16% are less than how many inches? _____What percentage are more than 43 inches? _____Find the z score for a hip size of 40 inches. _____A hip size of 40 inches could be considered
   (i) extremely small (ii) somewhat small (iii) somewhat large (iv) extremely large

2. (3 pts.) A used-car buyer compared prices of 3-year-old Mercedes Benz and BMW automobiles. In this back-to-back stemplot, leaves represent thousands of dollars.

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Mercedes        BMW
     86  |2|  777889
     22  |3|  2234
     98  |3|  556677
         |4|
         |4|
      1  |5|  134
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(a) There are two variables of interest. Tell what they are, what roles they play (explanatory/response), and whether they are quantitative or categorical.

(b) As far as centers are concerned, which type of cars tend to be more expensive? (i) Mercedes (ii) BMW (iii) both about the same. Which type of cars has more uniform prices (least amount of spread)? (i) Mercedes (ii) BMW (iii) both about the same. The shapes are (i) both symmetric (ii) Mercedes symmetric and BMW skewed (iii) Mercedes skewed and BMW symmetric (iv) both skewed

(c) What is the most noticeable difference between the two distributions?
(i) centers (ii) spreads (iii) shapes (iv) sample sizes