1. \* (B) There are 13 eighteens and 8 fourteens, so the total over the speed limit is 346. Divide this by the 21 people to get 16.5.

2. (B) Since the data values are integers, the range is 2, and the mean is 50, the possible data values are 49, 50, and 51. I. The set could consist of equal numbers of 49s and 51s and have a mean of 50 without 50 even being a data value. So I need not be true. II. Since the mean is 50, there must be equal numbers of 49s and 51s, so 50 is also the median. II must be true. III. Explanations in I and II imply that III need not be true.

3. (B) There are 49 data values altogether, so the median is the 25th largest. Adding the frequencies up to 25 puts the 25th number at 3.

4. (E) None are true. The range of any data set must be larger than its standard deviation because the range measures total spread while the standard deviation measures average spread. So Choice I is false. Either the mean or standard deviation of a data set can be larger. For example, the mean of the data {1, 5, 10} is 5.3, while its standard deviation is 4.51. The mean of the data set {1, 5, 20} is 8.7, while its standard deviation is 10.0. So Choice II is false. Either the median or mode of a data set can be larger. For example, the median of the data set {1, 2, 3, 4, 4} is 3, while its mode is 4. The median of the data set {1, 1, 2, 3, 4} is 2 while its mode is 1. So Choice III is false.

5. \* (D) The z-scores for the five schools are 2.8 for A, 2.5 for B, 2.1 for C, 3 for D, and 2.1 for E.

6. \* (C) Enter the data in two lists (study times in L1 and test scores in L2). Enter STAT/CALC/8, and enter VARS/YVARS/Function/ Y1, followed by ENTER. This produces estimates of the slope (b) and y-intercept (a) of the regression line a + bx. Enter this expression into Y1. Enter Y1(2) to get the score of 72.

7. \* (C) The scatter plot has the shape of a parabola with a maximum. Therefore, the quadratic model would be the best predictor.