Unit 1 - Hw 1

1) This dotplot represents the number of people applying for jobs at a company during March.

Date
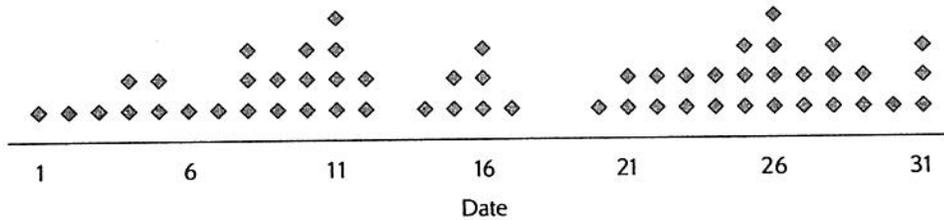
If the first is a Monday, what is the approximate relative frequency of people applying for a job on a weekend (Saturday and Sunday)?

A. 0.17
B. 0.19
C. 0.21
D. 0.23
E. 0.25

2) Which of the following is true about this back-to-back stemplot?

Team A		Team B
994	16	68
8776442110	17	47889
99888863	18	346679
94431	19	113367799
986554	20	01136688
97755	21	144566

I. The team with the highest score was the team with the lowest score.
II. The distribution for Team A is skewed right, and the distribution for Team B is skewed left.
III. Team A had a higher average score than Team B.

A. I only
B. I and II
C. I and III
D. II and III
E. I, II, and III

3) Which of the following statements is false?

A. A symmetric distribution can have outliers.
B. A skewed left distribution cannot have outliers on the right.
C. A skewed right distribution may have outliers on the right.
D. A symmetric distribution may have more outliers than a skewed distribution.
E. Stemplots are suitable for showing outliers.

4) The following double bar graph shows the choice of heating fuel for new homes completed during the indicated years. In each pair the top bar indicates electricity while the lower bar indicates gas.

1989: 34% / 58%
1990: 33% / 59%
1991: 32% / 60%
1992: 29% / 65%
1993: 29% / 66%
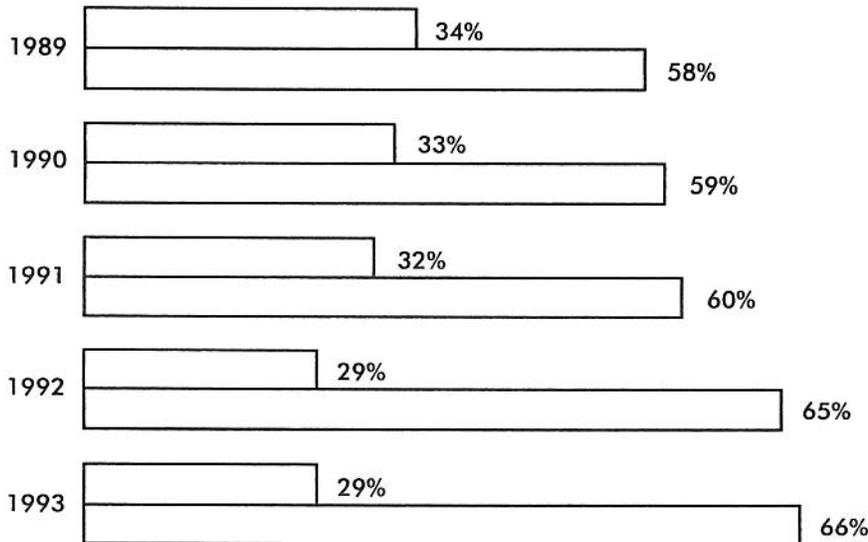
Which of the following are true statements?

I. The percentage of new homes using electricity has never risen from one year to another.
II. The percentage of new homes using gas has increased every year.
III. The percentage of new homes using fuels other than electricity and gas has never risen from one year to another.

(A) I and II
(B) II and III
(C) I and III
(D) I, II, and III
(E) None of the above gives the complete set of true responses.

5) Following are the SAT math scores for an AP Statistics class of 20 students: 664, 658, 610, 670, 640, 643, 675, 650, 676, 575, 660, 661, 520, 667, 668, 635, 671, 673, 645, and 650. The distribution of scores is

(A) symmetric.
(B) skewed to the left.
(C) skewed to the right.
(D) uniform.
(E) bell-shaped.

6) Which of the following distributions are more likely to be skewed to the right than skewed to the left?

    I. Household incomes
    II. Home prices
    III. Ages of teenage drivers

    (A) II only
    (B) I and II
    (C) I and III
    (D) II and III
    (E) I, II, and III

7) Which of the following statements are true?

    I. Stemplots are useful both for quantitative and categorical data sets.
    II. Stemplots are equally useful for small and very large data sets.
    III. Stemplots can show symmetry, gaps, clusters, and outliers.

    (A) I only
    (B) II only
    (C) III only
    (D) I and II
    (E) I and III

Free Response

1) Compare and contrast these two distributions using a back-to-back stemplot.

Distribution A:

105	65	27	33	94	79	48	45
53	85	66	108	59	70	22	71
54	47	23	39	93	89	73	56
101	77	73	66	96	22	82	34
99	76	77	34	86	68	54	108
109	88	64	47	98	67	96	84
35	88	59	68	97	28		

Distribution B:

43	59	102	86	48	27	74	66
31	99	112	95	61	20	57	50
22	63	21	31	79	57	26	56
33	66	32	45	104	89	43	82
63	77	44	57	83	47	21	34
37	96	33	36	96	76	83	65
106	37	104	84	48	79		

2) Census data was used to compare the marital status versus age of residents of a small town in rural upstate New York. Resulting histograms are given below.

Marital Status Versus Age
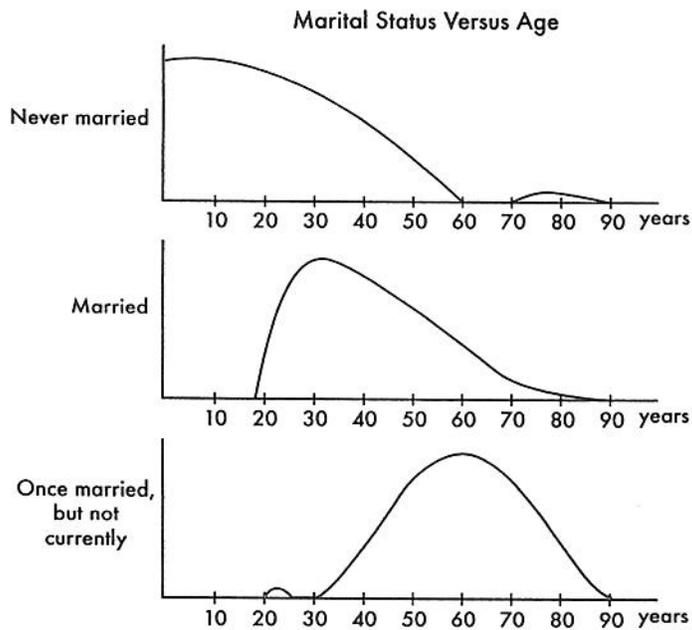
Write a few sentences comparing the distributions of ages of people in this town who have never been married, who are currently married, and who are no longer married.

3) During one season, 20 top NBA rebounding leaders averaged the following numbers of rebounds per game: 9.4, 9.6, 9.7, 10.3, 10.4, 10.6, 10.6, 10.6, 10.8, 10.8, 10.9, 10.9, 10.9, 11.0, 11.1, 11.4, 12.6, 13.4, 14.1, and 16.8, while 20 top assist leaders averaged the following number of assists per game: 6.1, 6.2, 6.4, 6.9, 7.1, 7.2, 7.4, 7.5, 7.6, 7.7, 7.7, 7.9, 8.2, 8.3, 8.7, 8.8, 9.3, 9.4, 10.2, and 12.3. Is it easier for the best NBA players to get a rebound or an assist? Answer the question and compare these data using back-to-back stemplots.