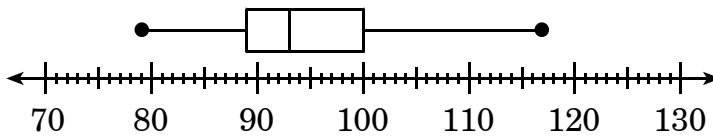1. A company kept track of how many toys it made each day.

Daily Toy Production
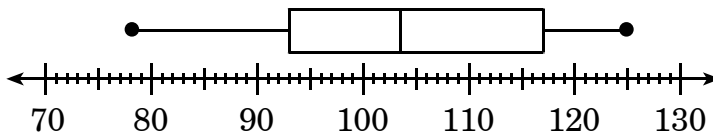
```
 7 | 9
 8 | 8 9
 9 | 1 3 3 5
10 | 0
11 | 3 7
```

Which box-and-whisker plot represents the data in this stem-and-leaf plot?
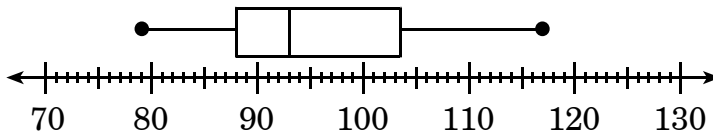
A   **Daily Toy Production**
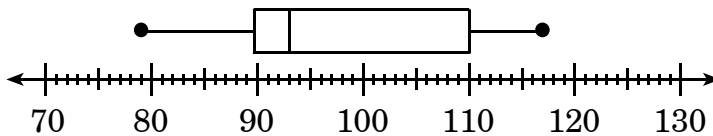
B   **Daily Toy Production**

C   **Daily Toy Production**

D   **Daily Toy Production**

2.   A team scored the following numbers of points in its last eight games:

$$15, 24, 17, 19, 21, 38, 25, 39$$

Which number is the lower quartile for this data set?

A   31

B   23

C   18

D   17

---

3.   John surveyed the students at his school to determine each student's favorite sport. He made a bar graph to show the results.

Favorite Sport
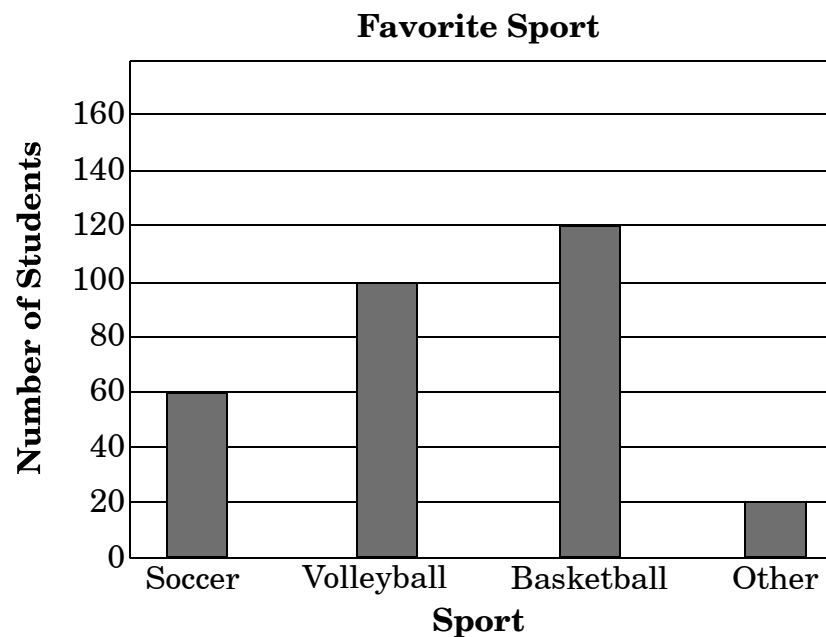
What percent of the students selected Soccer?

A   20%

B   30%

C   40%

D   60%

4.   The graph below shows the results of a survey of 390 families.

**Number of Children
per Family**
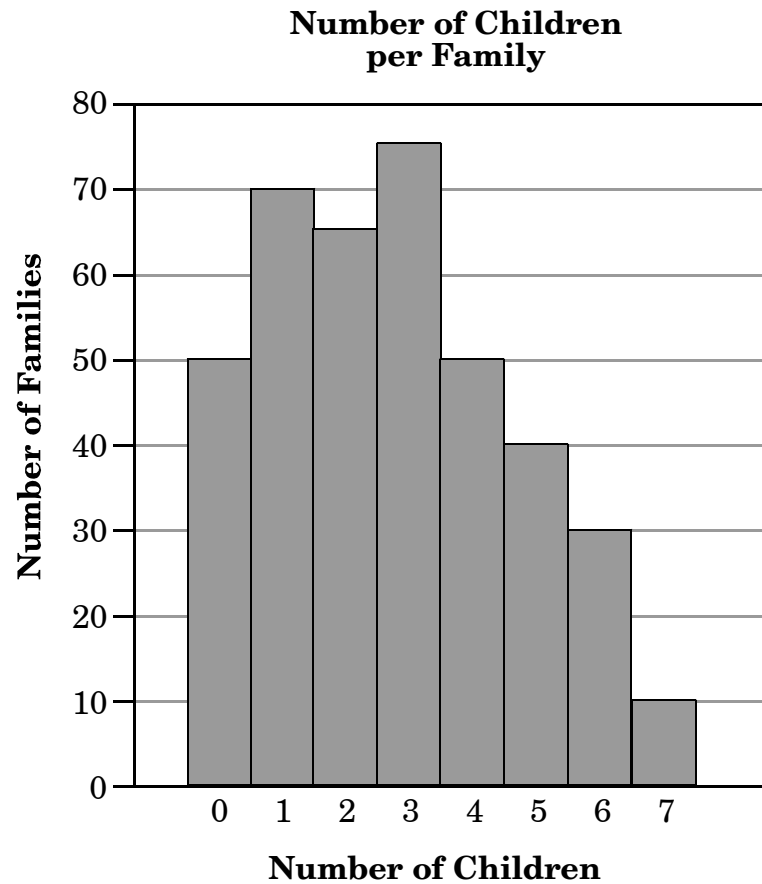
How many of the families in the survey have more than three children?

A   120

B   130

C   140

D   260

5.   What is the ***approximate*** mean for this set of temperatures?

92°F, 89°F, 90°F, 78°F, 83°F, 90°F, 88°F

A   86.7°F

B   87.1°F

C   87.4°F

D   88.7°F

---

6.   Shana and Mina are working together on a math project and will receive the same grade. Their individual grades before the project are listed below.

Shana's Math Grades	Mina's Math Grades
100	85
86	95
91	65
85	100
88	75

What grade could they receive that will keep Shana's average the same, but improve Mina's average by one point?

A   83

B   85

C   87

D   90

7.   Which statement is true about this set of data?

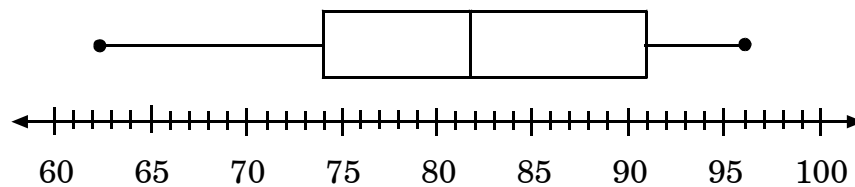   15, 21, 12, 8, 25, 20, 18, 15, 11, 15

    A   The range is 15.

    B   The mean is 160.

    C   The median is 25.

    D   The mode is 15.

---

8.   Mr. Johnson created a box-and-whisker plot from his students' test grades shown in the stem-and-leaf plot.

Students' Test Grades

6	2 8
7	0 1 4 4 9
8	1 1 1 3 6 8 8
9	0 2 3 3 6 6

Students' Test Grades


```
        60    65    70    75    80    85    90    95   100
```
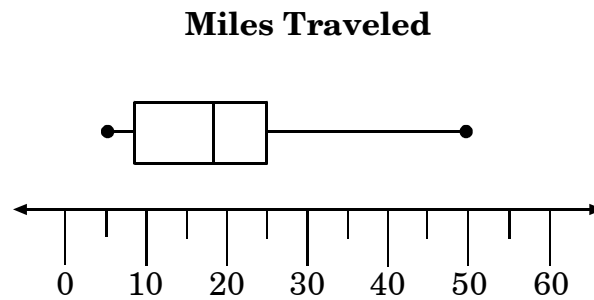
    Jessica was absent on the day the test was given. When she took the test, her grade was 51. How will Jessica's grade change the box-and-whisker plot for the test grades?

    A   The median will increase.

    B   The range will decrease.

    C   The upper quartile will increase.

    D   The lower quartile will decrease.

9.   Mike created a box-and-whisker plot showing the miles he traveled on ten trips.

Miles Traveled

Jake also created a box-and-whisker plot of the miles he traveled on ten trips. His data set has the same median, but its interquartile range is 8. Which statement must be true?

A   Mike's plot must have a larger box.

B   Jake's plot must have a larger box.

C   Mike's plot must have a greater range.

D   Jake's plot must have a greater range.

---

10.   Denise collected canned goods at her school for 12 weeks to help a local charity. This table shows the number of cans she collected each week.

Denise's Food Drive

Week	1	2	3	4	5	6	7	8	9	10	11	12
Number of Cans Collected	25	19	21	2	18	23	26	22	25	19	58	23

Which weeks represent outliers for this set of data?

A   Week 1 and Week 12

B   Week 2 and Week 10

C   Week 6 and Week 12

D   Week 4 and Week 11

11.   What number is the outlier for the given data?

178, 216, 206, 380, 182, 164, 188, 196

A   380

B   216

C   178

D   164

12.   There were two teams for a math challenge game. The Green Team had these scores: 21, 21, 24, 24, and 25. The Purple Team had these scores: 25, 18, 19, 19, and 24. The winning team was the team with the greatest average. Which team won and what was the average of the scores of the winning team?

A   Green Team: 23

B   Green Team: 24

C   Purple Team: 25

D   Purple Team: 21

13.   Charlie and Daniel are playing darts. The winner will be the one with the highest average score after 6 games. Charlie has completed 6 games and has an average score of 190. So far, Daniel has played 5 games and has an average score of 183. What score does Daniel need in his final game to have the same average score as Charlie?

A   190 points

B   197 points

C   225 points

D   270 points

End of Goal 4 Sample Items

1   **Objective:**   **4.01**
Collect, organize, analyze, and display data (including box plots and histograms) to solve problems.
Thinking Skill: Applying   **Correct Answer:**   A

2   **Objective:**   **4.01**
Collect, organize, analyze, and display data (including box plots and histograms) to solve problems.
Thinking Skill: Integrating   **Correct Answer:**   C

3   **Objective:**   **4.01**
Collect, organize, analyze, and display data (including box plots and histograms) to solve problems.
Thinking Skill: Integrating   **Correct Answer:**   A

4   **Objective:**   **4.01**
Collect, organize, analyze, and display data (including box plots and histograms) to solve problems.
Thinking Skill: Analyzing   **Correct Answer:**   B

5   **Objective:**   **4.02**
Calculate, use, and interpret the mean, median, mode, range, frequency distribution, and inter-quartile range for a set of data.
Thinking Skill: Applying   **Correct Answer:**   B

6   **Objective:**   **4.02**
Calculate, use, and interpret the mean, median, mode, range, frequency distribution, and inter-quartile range for a set of data.
Thinking Skill: Integrating   **Correct Answer:**   D

7   **Objective:**   **4.02**
Calculate, use, and interpret the mean, median, mode, range, frequency distribution, and inter-quartile range for a set of data.
Thinking Skill: Integrating   **Correct Answer:**   D

8   **Objective:**   **4.03**
Describe how the mean, median, mode, range, frequency distribution, and inter-quartile range of a set of data affect its graph.
Thinking Skill: Evaluating   **Correct Answer:**   D

9   **Objective: 4.03**
Describe how the mean, median, mode, range, frequency distribution, and inter-quartile range of a set of data affect its graph.
Thinking Skill: Applying   **Correct Answer:**   A

10   **Objective: 4.04**
Identify outliers and determine their effect on the mean, median, mode, and range of a set of data.
Thinking Skill: Applying   **Correct Answer:**   D

11   **Objective: 4.04**
Identify outliers and determine their effect on the mean, median, mode, and range of a set of data.
Thinking Skill: Applying   **Correct Answer:**   A

12   **Objective: 4.05**
Solve problems involving two or more sets of data using appropriate statistical measures.
Thinking Skill: Integrating   **Correct Answer:**   A

13   **Objective: 4.05**
Solve problems involving two or more sets of data using appropriate statistical measures.
Thinking Skill: Integrating   **Correct Answer:**   C