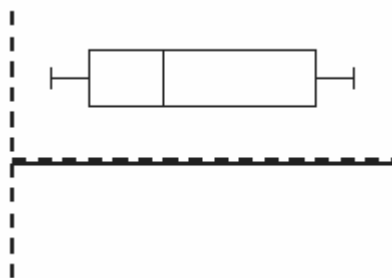


Section 16-6: Quartiles, Percentiles, and Cumulative Frequency

Constructing a Box-and-Whisker Plot

1. 060220a

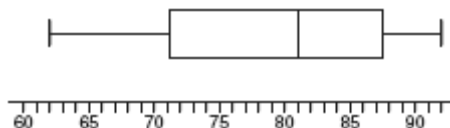
The accompanying diagram is an example of which type of graph?



- [A] box-and-whisker plot [B] bar graph
[C] stem-and-leaf plot [D] histogram

2. 010301a, P.I. A.S.9

The accompanying diagram shows a box-and-whisker plot of student test scores on last year's Mathematics A midterm examination.

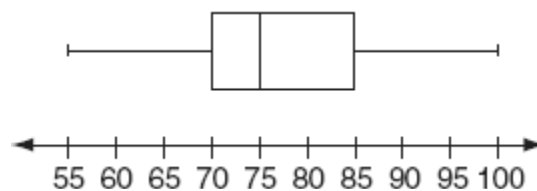


What is the median score?

- [A] 71 [B] 92 [C] 62 [D] 81

3. 060610a, P.I. A.S.9

The accompanying box-and-whisker plot represents the scores earned on a science test.

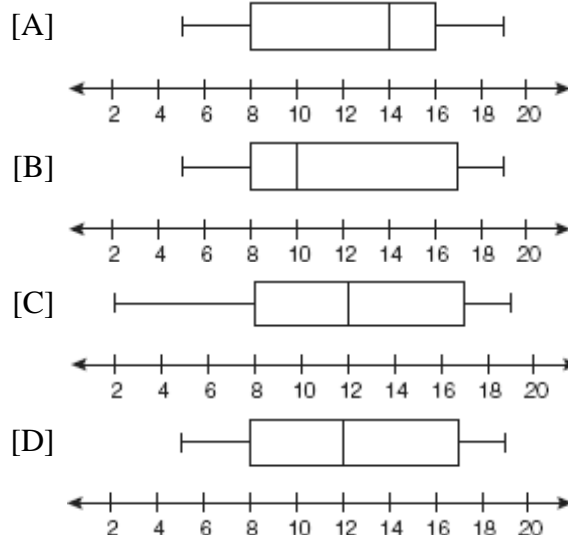


What is the median score?

- [A] 85 [B] 75 [C] 77 [D] 70

4. fall0709ia, P.I. A.S.5

The data set 5, 6, 7, 8, 9, 9, 9, 10, 12, 14, 17, 17, 18, 19, 19 represents the number of hours spent on the Internet in a week by students in a mathematics class. Which box-and-whisker plot represents the data?

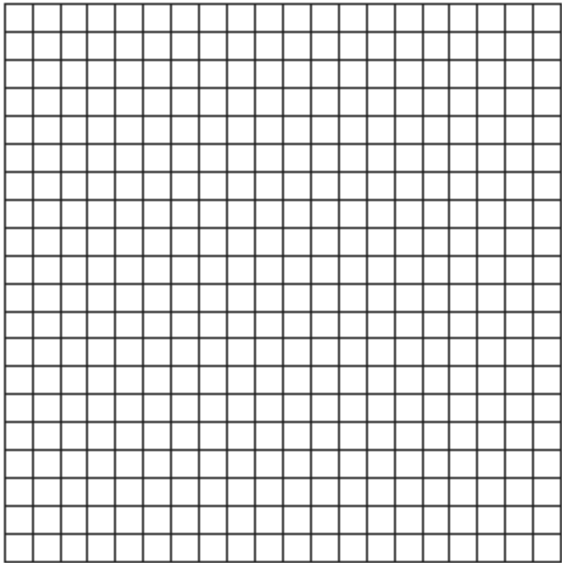


Constructing a Cumulative Frequency Histogram

5. 080134a, P.I. A.S.5
- The following data consists of the weights, in pounds, of 30 adults:
195, 206, 100, 98, 150, 210, 195, 106, 195, 168, 180, 212, 104, 195, 100, 216, 195, 209, 112, 99, 206, 116, 195, 100, 142, 100, 135, 98, 160, 155

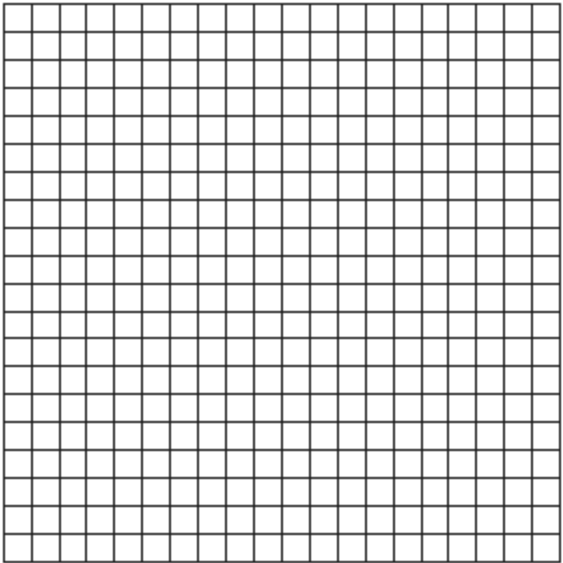
Using the data, complete the accompanying cumulative frequency table and construct a cumulative frequency histogram on the grid below.

Interval	Frequency	Cumulative Frequency
51–100		
101–150		
151–200		
201–250		



6. 010739a, P.I. A.S.5
- The accompanying table shows the weights, in pounds, for the students in an algebra class. Using the data, complete the cumulative frequency table and construct a cumulative frequency histogram on the grid below.

Interval	Frequency	Cumulative Frequency
91–100	6	
101–110	3	
111–120	0	
121–130	3	
131–140	0	
141–150	2	
151–160	2	



[1] A

[2] D

[3] B

[4] B

[4] Correct cumulative frequencies of 7, 14, 24, and 30 and a fully labeled correct histogram are shown.

[3] Incorrect cumulative frequencies are shown, but the histogram is appropriate for the data.

or [3] Correct cumulative frequencies are shown, but a partially incorrect histogram is shown, such as the axes not being labeled, having nonequal intervals, or the x-axis starting at 50.

[2] Only a frequency histogram is completed correctly.

or [2] Only a correct cumulative frequency table and a correct bar graph are shown.

[1] An appropriate bar graph is shown, but it is based on frequencies, not the cumulative frequency.

or [1] Only a correct cumulative frequency table is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[5] incorrect procedure.

[4] The table is completed correctly, and an appropriate cumulative frequency histogram is drawn and labeled.

[3] The table is completed correctly, but one error is made in drawing the cumulative frequency histogram or one or more labeling errors are made.

or [3] The table is not completed correctly, but an appropriate cumulative frequency histogram is drawn, based on the table.

[2] One error is made in completing the table, and one graphing error is made in drawing the cumulative frequency histogram.

or [2] The table is completed correctly, but one conceptual error is made, such as drawing a frequency histogram or a cumulative frequency bar graph.

[1] The table is completed correctly, but no histogram is drawn.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[6] incorrect procedure.