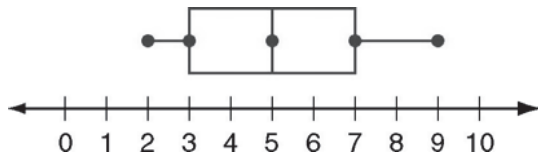


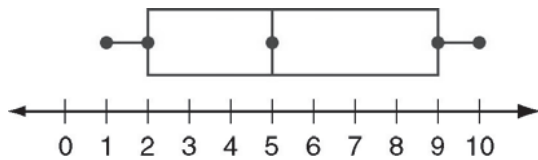
## 8-1 MEASURES OF CENTRAL TENDENCY AND VARIATION

### Practice A

- a. 5.25  
b. 5  
c. 2.5
- a. 9  
b. 9.5  
c. 11
- 6.07
- 2.05
- Interquartile range is 4.



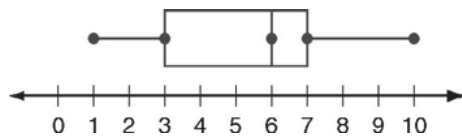
- Interquartile range is 7.



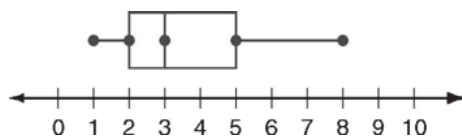
- 1.3; 3.6
- 4.7; 2.2

### Practice B

- a. 10.5  
b. 11.5  
c. None
- a. 8.6  
b. 9  
c. 9
- Interquartile range is 4.



- Interquartile range is 3.

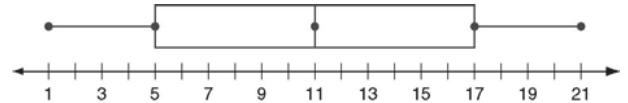


- 6.8; 2.6
- 2.78; 16.7
- 9.3; 3.0
- 8.4; 2.9
- 7.01

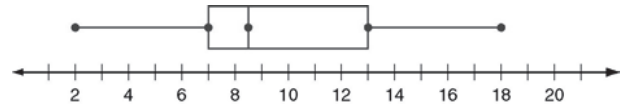
- a. 45.1  
b. 13.1  
c. 88  
d. The mean increases from  $\approx 41.2$  to  $\approx 45.1$ , and the standard deviation increases from  $\approx 21$  to  $\approx 13.1$ .

### Practice C

- Possible answer: {4, 4, 8, 9, 10}
- Possible answer: {3, 6, 12, 14, 15}
- Interquartile range is 12.



- Interquartile range is 6.



- 35.1; 5.9
- 176.2; 13.3
- 18.6; 4.3
- 37.6; 6.1

- 2.28

- a. 17.7  
b. 14.3  
c. 65  
d. The mean increases from  $\approx 13.4$  to  $\approx 17.7$ , and the standard deviation increases from  $\approx 1.2$  to  $\approx 14.3$ .

### Reteach

- 5
- Expected value =  $x_1p_1 + x_2p_2 + x_3p_3 + x_4p_4 + x_5p_5$
- $\approx 6.9$
- 3
- 1, -2, 2, 0, -2, 2, 0, 1
- 1, 4, 4, 0, 4, 4, 0, 1
- 2.25
- 1.5

### Challenge

- Greater than; the sum is the same for both, and in the first case you divide by 94 rather than 100.
- Impossible to determine; it may be the same or it may be greater depending on the distribution of the data.