3.10 Exercises

1.

(a) $\bar{x} = 2.53$
(b) $s = 1.1258$
(c) $median = 2.2$
(d) $range = 3.2$

3.(a)

$\bar{x} = 700; median = 675; s = 140.14; range = 550;$

3.(b)

Histogram

Figure 1: Histogram of the monthly rental prices (in dollars) of 15 unfurnished 2-bedroom apartments off-campus
Boxplot

Figure 2: Boxplot of the monthly rental prices (in dollars) of 15 unfurnished 2-bedroom apartments off-campus

The shape of the data distribution is right skewed.

3.(c)
You can expect to pay $700 for an unfurnished 2-bedroom apartment off-campus.

3.(d)
The median, since the distribution of the monthly rental prices (in dollars) is skewed. (Refer to the histogram and boxplot)

5.(a)

<table>
<thead>
<tr>
<th>The quartiles are</th>
</tr>
</thead>
<tbody>
<tr>
<td>0% 25% 50% 75% 100%</td>
</tr>
<tr>
<td>1.900 12.925 19.400 29.450 41.400</td>
</tr>
</tbody>
</table>

5.(b)
\[ \bar{x} = 20.52 \]

5.(c)
\[ s = 12.899 \]
7.(a) Given: average weight = 9.5 and standard deviation = 0.8; sell them at 30 cents per pound.

The bags of apples are sold to a grocery chain, at a price of 30 cents per pound. (The heavier bags will, of course, cost more than the lighter bags.) The price per bag should average $2.85 \text{ dollars}$ with standard deviation $0.24 \text{ dollars}$.

7.(b) Given: average weight = 9.5 and standard deviation = 0.8; sell them at 30 cents per pound.

Suppose that the grocery chain uses their own trucks to pick up the bagged apples from the grower. For the trucking fee, they charge the grower 25 cents per bag. Therefore, for each bag they pay a net price of (weight)($0.30) - $0.25. The net price per bag should average $2.60 \text{ dollars}$ with standard deviation $0.24 \text{ dollars}$. 