Chapter 1 Problem 16

\[ f = 150 \quad s = 50 \quad v = 15 \]
\[ \text{BEP} = \frac{f}{s + v} = \frac{150}{50 + 15} = 4.29 \text{ units} \]

Chapter 1 Problem 19

\[ f = 2400 \quad s = 40 \quad v = 25 \]
\[ \text{BEP} = \frac{f}{s - v} + \frac{2400}{40 - 25} = 160 \text{ per week} \]
Total revenue = 40(160) = $6400

Chapter 2 Problem 26

The probability of Dick hitting the bull’s-eye:
\[ P(D) = 0.90 \]

The probability of Sally hitting the bull’s-eye:
\[ P(S) = 0.95 \]

a. The probability of either Dick or Sally hitting the bull’s-eye:
\[
\begin{align*}
P(D \text{ or } S) &= P(D) + P(S) - P(D)P(S) \\
&= 0.90 + 0.95 - (0.90)(0.95) \\
&= 0.995
\end{align*}
\]

b. The probability of both Dick and Sally hitting the bull’s-eye:
\[
\begin{align*}
P(D \text{ and } S) &= P(D)P(S) \\
&= (0.9)(0.95) \\
&= 0.855
\end{align*}
\]

c. It was assumed that the events are independent. This assumption seems to be justified. Dick’s performance shouldn't influence Sally’s performance.
Chapter 2 Problem 30

<table>
<thead>
<tr>
<th>$X$</th>
<th>$P(X)$</th>
<th>$X \cdot P(X)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.05</td>
<td>0.00</td>
</tr>
<tr>
<td>1</td>
<td>0.15</td>
<td>0.15</td>
</tr>
<tr>
<td>2</td>
<td>0.2</td>
<td>0.40</td>
</tr>
<tr>
<td>3</td>
<td>0.25</td>
<td>0.75</td>
</tr>
<tr>
<td>4</td>
<td>0.20</td>
<td>0.80</td>
</tr>
<tr>
<td>5</td>
<td>0.15</td>
<td>0.75</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>2.85</strong></td>
</tr>
</tbody>
</table>

Hence, 2.85 loaves will be sold on average.