Problem 5-17A

Part 1 – Compute the High/Low Difference

<table>
<thead>
<tr>
<th>Scans</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>High level of activity (July)</td>
<td>150</td>
</tr>
<tr>
<td>Low level of activity (January)</td>
<td>60</td>
</tr>
<tr>
<td>Change</td>
<td>90</td>
</tr>
</tbody>
</table>

Part 1 – Compute the Variable and Fixed Cost Elements

Variable Cost Element = \( \frac{\text{Change in Cost}}{\text{Change in Activity}} \)

\$1,800 ÷ 90 scans = $20 per scan

Fixed Cost Element = Cost at high activity level - variable cost

High level activity cost = $4,000

Variable cost ($20/scan x 150 scans) = $3,000

Total fixed cost = $1,000

Part 1 – Cost Formula

Form is \( Y = a + bX \)

\( a = \text{Total fixed cost} \) ($1,000)

\( b = \text{Variable cost per scan} \) ($20)

\( X = \text{Number of scans} \)

\( Y = $1,000 + $20X \)
Part 2 - Scattergraph

Total Cost 3,000
Fixed Cost 1,200
Variable Cost 1,800
\[ \div 100 \text{ scans} \]
\[ = \$18 \text{ per scan} \]
\[ Y = 1,200 + 18X \]