CHAPTER 4  GROUPING THE BAR

Solutions to Problems Involving Grouping the Bar

Question 1:

<table>
<thead>
<tr>
<th>box</th>
<th>48 durians</th>
</tr>
</thead>
<tbody>
<tr>
<td>box</td>
<td>36 durians</td>
</tr>
</tbody>
</table>

\[ 18 \]
\[ 48 - 36 \] durians
\[ = 12 \] durians

12 durians \( \rightarrow \) 18
1 durian \( \rightarrow \) 18 \( \div \) 12 = 1.5
48 durians \( \rightarrow \) 48 \( \times \) 1.5 = 72

Ans: The total mass of all the durians is 72kg.

Question 2:

\[ 9 \text{ person} \]
\[ 1u \]
\[ \$35 \times 8 = \$280 \]

\[ 38 \text{ person} \rightarrow 2 \text{ person} \]
\[ \text{36 person} \]
\[ \text{36 \div 9 = 4u} \]
\[ \$280 \times 4 = \$1120 \]
\[ \$35 \times 2 = \$70 \]

\[ 1120 + 70 \]
\[ \downarrow \]
\[ 1190 \]

Ans: (a) The total charge for 38 person is $1190.
3885 ÷ 280 = 13 R 245

Ans: (b) There are 124 person in the group.

Question 3:

\[
\begin{array}{c|c|c}
0.5 & 3u & 24 \times 2u = 48u \\
0.5 & 3u & 36u \\
\hline
\end{array}
\]

\[
\frac{3u + 30u}{33u} = \frac{3.2 - 0.5}{2.7}
\]

33 units → 2.7
1 unit → 2.7 ÷ 33 = \frac{9}{110}
3 units → \frac{9}{110} \times 3 = \frac{27}{110}

Ans: The mass of the box is \frac{27}{110} kg.
Question 4:

\[
\begin{array}{c|c}
2 \text{ pens} & 1 \text{ pen free} \\
\hline
1u & \text{Profit } \rightarrow 3 \times 3 = 9 \\
\hline
\$5 \text{ (profit)} & \text{Selling price } \rightarrow 7 \times 2 = 14 \\
& \text{Profit } \rightarrow 14 - 9 = 5 \\
\end{array}
\]

45 units \(\rightarrow\) 45 x 5 = 225
297 – 225 = 72 (Profit from customers whom bought 1 pen)

Profit per pen \(\rightarrow\) 7 – 3 = 4
72 ÷ 4 = 18

Ans: 18 customers bought 1 pen.

Question 5:

\[
\begin{array}{c|c}
5 \text{ bags} & 1 \text{ bag free} \\
\hline
1u & \text{Selling price } \rightarrow \$15 \times 5 = \$75 \\
\hline
\$27 \text{ (profit)} & \text{Cost price } \rightarrow \$8 \times 6 = \$48 \\
& \text{Profit } \rightarrow \$75 - \$48 = \$27 \\
\end{array}
\]

80 units \(\rightarrow\) 80 x 27 = 2160
3000 – 2160 = 840 (Profit from customers whom bought 1 bag)

Profit per bag \(\rightarrow\) 15 – 8 = 7
840 ÷ 7 = 120

Ans: 120 customers bought 1 bag.