Exercise 6-6 (10 minutes)

1. The equation method yields the required unit sales, Q, as follows:

$$\begin{aligned}
\text{Profit} &= \text{Unit CM} \times Q - \text{Fixed expenses} \\
\$10{,}000 &= (\$120 - \$80) \times Q - \$50{,}000 \\
\$10{,}000 &= (\$40) \times Q - \$50{,}000 \\
\$40 \times Q &= \$10{,}000 + \$50{,}000 \\
Q &= \$60{,}000 \div \$40 \\
Q &= 1{,}500 \text{ units}
\end{aligned}$$

2. The formula approach yields the required unit sales as follows:

$$\begin{aligned}
\text{Units sold to attain the target profit} &= \frac{\text{Target profit + Fixed expenses}}{\text{Unit contribution margin}} \\
&= \frac{\$15{,}000 + \$50{,}000}{\$40} \\
&= \frac{\$65{,}000}{\$40} = 1{,}625 \text{ units}
\end{aligned}$$