

Step 2: Write the ratio that you need to solve for.

$$\frac{400 \text{ mg}}{? \text{ mL}}$$

Step 3: Write the proportion.

$$\frac{300 \text{ mg}}{1 \text{ mL}} = \frac{400 \text{ mg}}{? \text{ mL}}$$

Step 4: Cross-multiply to discover what ? equals.

$$300 ? = 400$$

Step 5: Divide both sides by 300 to isolate ?.

$$\frac{300?}{300} = \frac{400}{300}$$

$$? = 1.25 \text{ mL}$$

Use the means and extremes method discussed in Chapter 6 as a shortcut to solve problems if you prefer. Figure 8-2 illustrates the following calculation using the means and extremes method.

Example: The medication order is for 100 mg. The medication label reads “200 mg/mL.”

Step 1: Write what is on the label.

$$200 \text{ mg} : 1 \text{ mL}$$

Step 2: Write what you need to solve.

$$100 \text{ mg} : ? \text{ mL}$$

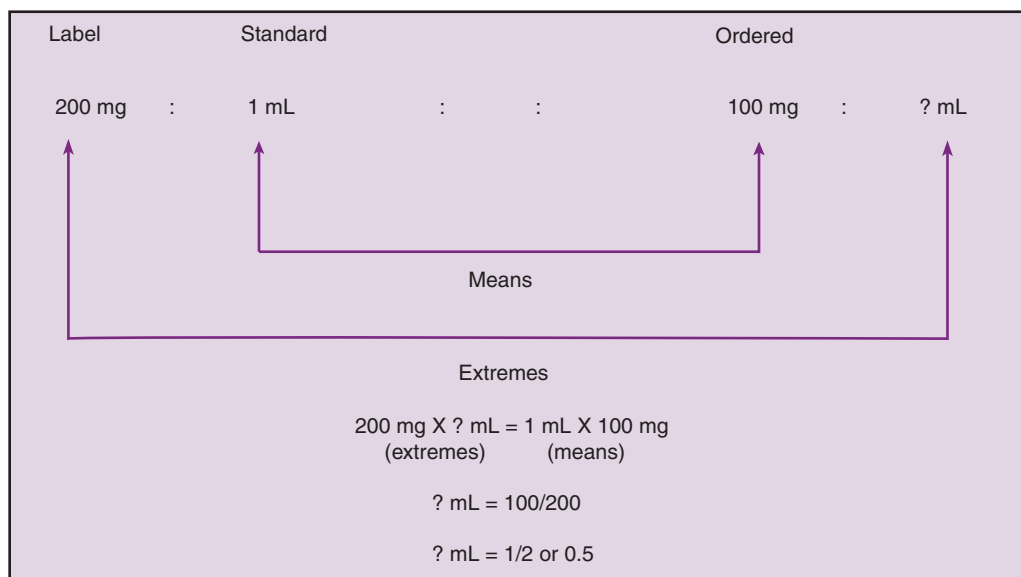
Step 3: Write the whole proportion statement. Both sides of the equation should have the same units (e.g., mg-mL or mg-tablets).

$$200 \text{ mg} : 1 \text{ mL} :: 100 \text{ mg} : ? \text{ mL}$$

Step 4: Using means and extremes, multiply the inner (means) numbers and outer (extremes) numbers.

$$1 \text{ mL} \times 100 = 200 \times ?$$

$$00 = 200 ?$$



**FIGURE 8-2:** Means and extremes. To calculate, multiply the means (inner units) and relate them to the extremes (outer units).