



Math Study Strategies

Math for Nursing Infusion Completion Time

An **IV** of 950 mL NS is started at 2:10am at a rate of 25 gtt/min using a 15 gtt/mL set.

Calculate:

- a) the infusion time
- b) completion time

a) If 25 gtt/min is the rate of infusion we start with the ratio $\frac{1 \text{ min}}{25 \text{ gtt}}$ to find out how many drops in a minute will be infused

We write then the ratio representing the set calibration $\frac{15 \text{ gtt}}{\text{mL}}$

Using dimensional analysis (da) we write:

$$\frac{1 \text{ min}}{25 \text{ gtt}} \times \frac{15 \text{ gtt}}{\text{mL}} \times \frac{950 \text{ mL}}{\text{patient}} = \frac{14,250}{25} = 570 \text{ min}$$

$570 \div 60 = 9.5$ hr because in an hour are 60 minutes

To change 0.5 hr in minutes, multiply 0.5 by 60 = 30 minutes

Therefore the infusion time will be **9 hours and 30 minutes**

b) To find out the completion time:

Add the infusion times to the starting time of the infusion

$$\begin{array}{r} 2:10 \\ + 9:30 \\ \hline 11:40 \end{array}$$

Therefore the completion time will be at:

11:40pm