

Calculations – Infusion Calculations

Chapter 6 Worksheet H - Answered

Milliliters per Hour

$$F = \frac{mL}{hr}$$

Milliliters per Minute

$$f = \frac{F \times C}{60}$$
 where: $C = Calibration Factor$ (gtts/mL)

Infusion Time $\Gamma = \frac{\text{Volume(mL)}}{\text{F(mL/hr)}}$

- 1) Calculate flow rate (mL/hr) for 3L of D5W being delivered over 24 hours.
 - a. 100 mL/hr
 - b. 125 mL/hr
 - c. 150 mL/hr
 - d. 200 mL/hr
- 2) Calculate flow rate (mL/hr) for 4.8L of D10W being delivered over 2 days.
 - a. 100 mL/hr
 - b. 125 mL/hr
 - c. 150 mL/hr
 - d. 200 mL/hr
- 3) Calculate flow rate (gtts/min) for 3L of D5W being delivered over 24 hours. (The calibration factor of the tubing is 20 gtts/mL)
 - a. 20.52 gtts/min
 - b. 41.67 gtts/min
 - c. 50.25 gtts/min
 - d. 60.67 gtts/min
- 4) Calculate flow rate (gtts/min) for 250mL of KCl being delivered over 2 hours. (The calibration factor of the tubing is 30 gtts/mL)
 - a. 43.8 gtts/min
 - b. 52.5 gtts/min
 - c. 62.5 gtts/min
 - d. 74.8 gtts/min

- 5) Calculate flow rate (mL/hr) for 1.5 L of Ringer's lactate being delivered over 48 hours.
 - a. 31.25 mL/hr
 - b. 62.5 mL/hr
 - c. 125 mL/hr
 - d. 250 mL/hr

$$\frac{1 \text{ day}}{24 \text{ hrs}} = \frac{1.5 \text{ days}}{X \text{ hrs}}$$

$$x=36 \text{hrs}$$

- 6) Calculate flow rate (mL/hr) for 500 mL of Normal Saline being delivered over 1.5 days.
 - a. 5.28 mL/hr
 - b. 11.46 mL/hr
 - c. 13.89 mL/hr
 - d. 17.57 mL/hr
- 7) Calculate flow rate (gtts/min) for 1.5 L of Ringer's lactate being delivered over 8 hours. (The calibration factor of the tubing is 15 gtts/mL)
 - a. 24.587 gtts/min
 - b. 44.785 gtts/min
 - c. 44.825 gtts/min
 - d. 46.875 gtts/min
- 8) Calculate flow rate (gtts/min) for 1 pt of Normal Saline being delivered over 12 hours. (The calibration factor of the tubing is 40 gtts/mL)
 - a. 26.28 gtts/min
 - b. 32.54 gtts/min
 - c. 49.99 gtts/min
 - d. 62.75 gtts/min



- 9) Calculate flow rate (gtts/min) for 750mL of 0.225% NS being delivered over 24 hours. (The calibration factor of the tubing is 60 gtts/mL)
 - a. 31.25 gtts/min
 - b. 62.5 gtts/min
 - c. 125 gtts/min

d. 137.25 gtts/min

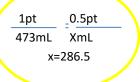
1hr	X hr	
60mins	45 mins	
x=0.75hr		

- 10) Calculate flow rate (gtts/min) for 30mL of 0.45% NS being delivered over 45 minutes. The calibration factor of the tubing is 30 gtts/mL)
 - a. 80 gtts/min
 - b. 60 gtts/min
 - c. 40 gtts/min
 - d. 20 gtts/min
- **11)** Calculate flow rate (gtts/min) for 0.3 L of KCl being delivered over 10 hours. The calibration factor of the tubing is 30 gtts/mL)
 - a. 60 gtts/min
 - b. 45 gtts/min
 - c. 30 gtts/min
 - d. 15 gtts/min

1hr	X hr	
60mins	30mins	
X=	x=0.5hr	

- 12) Calculate flow rate (gtts/min) for 120 mL of 0.45% NS being delivered over 30 minutes. The calibration factor of the tubing is 10 gtts/mL)
 - a. 40 gtts/min
 - b. 30 gtts/min
 - c. 20 gtts/min
 - d. 10 gtts/min
- **13)** How many hours would it take to infuse 450 mL of NS at a rate of 25 mL/hr?
 - a. 18 hrs
 - b. 27 hrs
 - c. 36 hrs
 - d. 45 hrs

- **14)** How many mL would be needed to infuse at 25 mL/hr for 10.5 hrs?
 - a. 2.43 mL/hr
 - b. 262.5 mL/hr
 - c. 2.86 mL/hr
 - d. 274.3 mL/hr



- **15)** Calculate flow rate (gtts/min) for 0.5 pt of ¼ NS being delivered over 12 hours. The calibration factor of the tubing is 15 gtts/mL)
 - a. 4.927 gtts/min
 - b. 5.215 gtts/min
 - c. 6.378 gtts/min
 - d. 7.645 gtts/min
- **16)** Calculate flow rate (gtts/min) for 5 L of D10W being delivered over 3 days. The calibration factor of the tubing is 25 gtts/mL)
 - a. 25.36 gtts/min
 - b. 26.47 gtts/min
 - c. 27.58 gtts/min
 - d. 28.94 gtts/min

1hr	X hr	
60mins	90 mins	
X=	x=1.5hr	

- 17) Calculate flow rate (gtts/min) for 250 mL of APAP being delivered over 90 mins. The calibration factor of the tubing is 10 gtts/mL)
 - a. 25.42 gtts/min
 - b. 26.57 gtts/min
 - c. 27.78 gtts/min
 - d. 29.99 gtts/min
- **18)** If an infusion of 1 L at 125 mL/hr began at 7pm on Wednesday, when would it be completed?
 - a. 3 am on Thursday
 - b. 6 am on Thursday
 - c. 12 am on Thursday
 - d. None of the above