Calculations – Infusion Calculations

Chapter 6 Worksheet H

Milliliters per Hour	***Milliliters per Minute***	***Infusion Time***	***Infusion Volume***
$F = \frac{mL}{hr}$	$f = \frac{F \times C}{60}$ *where:* *C= Calibration Factor* (gtts/mL)	$T_{(hrs)} = \frac{Volume(mL)}{F(mL/hr)}$	V = T x F

1) Calculate flow rate (mL/hr) for 3 L 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 4.8 L 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 3 L 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 250 mL 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

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 750 mL 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

10) Calculate flow rate (gtts/min) for 30 mL 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

12) Calculate flow rate (gtts/min) for 120mL 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

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