1. A medication order stated that 50 mL of asparaginase (Elspar) are to be added to 200 mL of D5W (Total 250 mL). Calculate the flow rate in gtts/min so that the patient who weighs 131.8 lbs receives 1 mL/kg/hr of this antineoplastic drug using a microdrip solution set.

2. Your patient is to receive 6 tsp of medication X. How many mL (whole number) will you give?

3. Order: Phenobarbital 90 mg p.o. q 12 h. Available: Phenobarbital 30 mg per scored tablet. How many tablet(s) or portion thereof will you give?

4. Lorazepam 0.3mg IV for a child weighing 33 lbs. The Harriet Lane reference book reads: 0.02-0.05mg/kg/dose IV q 6 h. prn. What is the safe dose range for this child in mg/dose expressed to the 100ths place?

Will you give this medication as it is ordered?

5. Vibramycin 200 mg in 50 mL of LR solution is infusing at 15 gtts/min. The patient weighs 74 kg and the drop factor is 10 gtts/mL. How many mcg/kg/min (to the nearest hundred) is the patient receiving?

6. Ordered: Magnesium Sulfate 3gm bolus give over 20 minutes. You have mixed 20 gms of Magnesium Sulfate into 1 liter of D5W. How fast should you set the rate of the IV pump (mL/hr) to the nearest whole number?
7. The patient is to receive a blood transfusion of 2 units of packed Red Blood Cells. Each unit contains 350mL. You begin the first unit at 0900, and by 1300 the second unit should be completely infused. The administration set is 10gtts/mL. What is the drop rate?

8. The patient is on an IV fluid restriction of 75mL/hr. The patient has a Lidocaine drip infusing at 2mg/min. The drip is mixed as 1gm/250mL. At how many mL/hr should the maintenance fluid be running for a total IV fluid intake of 75mL/hr?

9. The patient has an infusion of Nipride mixed as 50mg in 250mL of D5W. The patient’s weight is 110kg. The patient is ordered to receive 0.24 mcg/kg/min. How many mL/hr (whole number) should the patient be receiving?

10. Order: Phenobarbital 15 mg po BID.
Available: Phenobarbital 20mg/5mL oral suspension.
Child’s weight 4.5 kg
Recommended dose: 5-7 mg/kg/day.
What is the safe daily range (mg/day) expressed to the tenths place for this patient?

Is the dose within the safe daily range (SDR)?

Answers:

1. \[ \frac{60 \text{ gtt} \text{s}}{\text{min}} = \frac{60 \text{ gtt} \text{s}}{\text{mL}} \times \frac{1 \text{ mL}}{\text{kg/hr}} \times \frac{\text{kg}}{2.2 \text{ lbs}} \times \frac{131.8 \text{ lbs}}{1} \times \frac{\text{hr}}{60 \text{ min}} \]

2. \[ \frac{30 \text{ mL}}{\text{dose}} = \frac{5 \text{ mL}}{\text{tsp}} \times \frac{6 \text{ tsp}}{\text{dose}} \]

3. \[ \frac{3 \text{ tabs}}{\text{dose}} = \frac{\text{tab}}{30 \text{mg}} \times \frac{90 \text{mg}}{\text{dose}} \]

4. a. \[ \frac{0.3 \text{ mg}}{\text{dose}} = \frac{0.02 \text{ mg}}{\text{kg/dose}} \times \frac{\text{kg}}{2.2 \text{ lbs}} \times \frac{33 \text{ lbs}}{1} \]

0.75 \[ \frac{\text{mg}}{\text{dose}} = \frac{0.05 \text{ mg}}{\text{kg/dose}} \times \frac{\text{kg}}{2.2 \text{ lbs}} \times \frac{33 \text{ lbs}}{1} \]
b. YES

5. \[
\frac{mcg}{kg/\text{min}} = \frac{1000mcg}{mg} \times \frac{200mg}{50mL} \times \frac{1mL}{10\text{gtts}} \times \frac{15\text{gtts}}{\text{min}} \times \frac{1}{74kg}
\]

6. \[
\frac{ml}{hr} = \frac{1000mL}{20gms} \times \frac{3gm}{20\text{min}} \times \frac{60\text{min}}{hr}
\]

7. \[
\frac{gtts}{min} = \frac{10\text{gtts}}{mL} \times \frac{700mL}{4hr} \times \frac{hr}{60\text{min}}
\]

8. \[
45 \frac{mL}{hr}
\]

9. \[
\frac{mL}{hr} = \frac{250mL}{50mg} \times \frac{1mg}{1000mg} \times \frac{0.24mcg}{60\text{min}} \times \frac{60\text{min}}{110kg}
\]

10a. \[
\frac{mg}{\text{day}} = \frac{5mg}{kg/\text{day}} \times \frac{4.5kg}{1} \quad \text{to} \quad \frac{mg}{\text{day}} = \frac{7mg}{kg/\text{day}} \times \frac{4.5kg}{1}
\]

b. Yes