Pharmacology Review Quiz:

1. Order: Xylocaine 1 g IV in 500 mL D5W at 3 mg/min.  
   Set the infusion pump at _____ mL/hr

2. Order: Nipride 500 mg IV in 250 mL D5w at 2 mcg/kg/min for a patient weighing 125 lb.  
   Administer at _____ mL/hr

3. Order: Aminophylline 1 g IV 500 mL D5W to infuse at 20 mg/hr  
   Set the infusion pump at _____ mL/hr

4. Order Lidocaine 4 g IV in 1 L D5W at 3 mg/min  
   Set the infusion pump at _____ mL/hr

5. Order: Pronestyl 250 mg IV in 500 mL D5W at 4 mg/hr  
   What is the flow rate in mL/hr?

6. Order: Isuprel 4 mg IV per 500 mL D5W at 6 mcg per minute.  
   Set the infusion pump rate at _____ mL/hr

7. Order: Dopamine 500 mg IV in 0.5 L NS at 6 mcg/kg/min.  
   Patient weight is 150 lb  
   What is the flow rate in mL/hr?

8. Order: Dopamine 300 mg IV in 250 mL NS at 2 mcg/kg/min.  
   The patient weighs 85 kg.  
   Flow rate: _____ mL/hr

9. Order: 100 units regular insulin IV in 250 mL 0.9%NS to infuse at 12 u/hr  
   Flow rate: _____ mL/hr

10. Order: Add 10,000 units Heparin to 500 mL D5W and infuse at 100 u/hr IV.  
    Flow rate: _____ mL/hr

11. Order: Aminophylline 2 g IV in 1 L D5W to infuse at 0.4 mg/kg/hr  
    Patient weight 55 kg  
    Infuse at _____ mL/hr

12. Order: nitroglycerine 50 mg in 250 mL D5W to infuse at 3 mcg/kg/min  
    Patient weight 50 kg  
    Infuse at _____ mL/hr

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13. Order: Dobutamine 250 mg IV in 250 mL D5W to infuse at 5 mcg/kg/min
   Patient weight 85 kg
   Infuse at _____ mL/hr

14. Order: Heparin 25,000 units IV in 250 mL D5W to infuse at 6 mL per hour.
   How many units per hour is the patient receiving?

15. Order: Infuse regular insulin 200 u IV in 500 mL NS at 25 mL/hr.
   How many units per hour is the patient receiving?

16. Order: Nipride 50 mg IV in 250 mL D5W to infuse at 60 mL/hr
   How many mg/hr is the patient receiving?

17. Order: Aminophylline 2 g in 1000 mL D5W to infuse at 22 mL/hr IV
   The safe dose is 0.4 mg/kg/hr
   Patient weight is 55 kg
   Is the IV dose at the present flow rate safe?

18. Drug "a" 1 g in 250 mL D5 1/2 NS is infusing at 14 mL/hr intravenously.
   Safe dose is 12.5 mcg/kg/min
   Patient weight is 165 lb.
   Is the IV dosage safe?

19. Order: 50,000 units Heparin IV in 250 mL NS to infuse at 6 mL/hr
   Safe infusion rate is 1000 units per hour
   Is the ordered dosage safe?

20. Order: 200 units regular insulin in 250 mL NS to infuse at 7 units per hour IV
   When you come on duty the PLUM IV infuser is set at 14 mL/hr
   Is it set at the correct rate?
   What is the correct rate?

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Pharmacology Review Quiz Answer Key:

1. 90 mL per hour

\[
\text{mL/hr} = \frac{500\ mL}{1\ g} \times \frac{1\ g}{1000\ mg} \times \frac{3\ mg}{1\ min} \times \frac{60\ min}{1\ hr} = 90\ mL/hr
\]

2. 3 mL/hr

\[
125 \div 2.2 = 57\ kg
\]

\[
2\ mcg \times 57\ kg \times 60 = 6840\ mcg/hr
\]

\[
\text{mL/hr} = \frac{250\ mL}{500\ mg} \times \frac{1\ mg}{1000\ mcg} \times 6840\ mcg = 3.4\ or\ 3\ mL/hr
\]

3. 10 mL/hr

\[
\text{mL/hr} = \frac{500\ mL}{1\ g} \times \frac{1\ g}{1000\ mg} \times 20\ mg = 10\ mL/hr
\]

4. 45 mL/hr

\[
\text{mL/hr} = \frac{1000\ mL}{1\ L} \times \frac{1\ L}{4\ g} \times \frac{1\ g}{1000\ mg} \times \frac{3\ mg}{1\ min} \times \frac{60\ min}{1\ hr} = 45\ mL/hr
\]

5. 8 mL/hr

\[
\text{mL/hr} = \frac{500\ mL}{250\ mg} \times \frac{4\ mg}{1\ hr} = 8\ mL/hr
\]

6. 45 mL/hr

\[
\text{mL/hr} = \frac{500\ mL}{4\ mg} \times \frac{1\ mg}{1000\ mcg} \times \frac{6\ mcg}{1\ min} \times \frac{60\ min}{1\ hr} = 45\ mL/hr
\]

7. 24 mL/hr

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150 lb \( \times 2.2 = 68 \) kg
6 mcg*68 kg* 60 = 24480 mcg/hr

\[
\begin{array}{l}
\text{mL/ hr} = \frac{1000 \text{ mL} \times 0.5 \text{ L} \times 1 \text{ mg} \times 24480 \text{ mcg}}{1 \text{ L} \times 500 \text{ mg} \times 1000 \text{ mcg} \times 1 \text{ hr}} = 24.4 \text{ or } 24 \text{ mL/ hr}
\end{array}
\]

8. 9 mL/hr

2 mcg* 85 kg* 60 = 10200 mcg/hr

\[
\begin{array}{l}
\text{mL/ hr} = \frac{250 \text{ mL} \times 1 \text{ mg} \times 10200 \text{ mcg}}{300 \text{ mg} \times 1000 \text{ mcg} \times 1 \text{ hr}} = 8.5 \text{ or } 9 \text{ mL/ hr}
\end{array}
\]

9. 30 mL/hr

\[
\begin{array}{l}
\text{mL/ hr} = \frac{250 \text{ mL} \times 12 \text{ U}}{100 \text{ U} \times 1 \text{ hr}} = 30 \text{ mL/ hr}
\end{array}
\]

10. 5 mL/hr

\[
\begin{array}{l}
\text{mL/ hr} = \frac{500 \text{ mL} \times 100 \text{ U}}{10,000 \text{ U} \times 1 \text{ hr}} = 5 \text{ mL/ hr}
\end{array}
\]

11. 11 mL/hr

0.4 mg* 55 kg = 22 mg/hr

\[
\begin{array}{l}
\text{mL/ hr} = \frac{1000 \text{ mL} \times 1 \text{ L} \times 1 \text{ g} \times 22 \text{ mg}}{1 \text{ L} \times 2 \text{ g} \times 1000 \text{ mg} \times 1 \text{ hr}} = 11 \text{ mL/ hr}
\end{array}
\]

12. 45 mL/hr

3 mcg* 50 kg*60 = 9000 mcg/hr

\[
\begin{array}{l}
\text{mL/ hr} = \frac{250 \text{ mL} \times 1 \text{ mg} \times 9000 \text{ mcg}}{50 \text{ mg} \times 1000 \text{ mcg} \times 1 \text{ hr}} = 45 \text{ mL/ hr}
\end{array}
\]

13. 26 mL/hr

5 mcg* 85 kg* 60 = 25,500 mcg/hr

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14. 600 u per hour

\[
\text{U/ hr} = \frac{25000 \text{ U} \times 6 \text{ mL}}{250 \text{ mL} \times 1 \text{ hr}} = 600 \text{ U/ hr}
\]

15. 10 u/hr

\[
\text{U/ hr} = \frac{200 \text{ U} \times 25 \text{ mL}}{500 \text{ mL} \times 1 \text{ hr}} = 10 \text{ U/ hr}
\]

16. 12 mg/hr

\[
\text{mg/ hr} = \frac{50 \text{ mg} \times 60 \text{ mL}}{250 \text{ mL} \times 1 \text{ hr}} = 12 \text{ mg/ hr}
\]

17. No

Safe dose = 0.4 mg * 55 kg = 22 mg/hr; Client is receiving twice the safe dose.

\[
\text{mg/ hr} = \frac{1000 \text{ mg} \times 2 \text{ g} \times 22 \text{ mL}}{1 \text{ g} \times 1000 \text{ mL} \times 1 \text{ hr}} = 44 \text{ mg/ hr}
\]

18. Yes

Safe dose = 12.5 mcg * 75 kg * 60 = 56.25 mg/hr

\[
\text{mg/ hr} = \frac{1000 \text{ mg} \times 1 \text{ g} \times 14 \text{ mL}}{1 \text{ g} \times 250 \text{ mL} \times 1 \text{ hr}} = 56 \text{ mg per hr; same as safe dose}
\]

19. No

Safe rate = 1000 u/hr; Client's dose 1200 u/hr (significantly higher than safe dose).

\[
\text{U/ hr} = \frac{50,000 \text{ U} \times 6 \text{ mL}}{250 \text{ mL} \times 1 \text{ hr}} = 1200 \text{ U/ hr}
\]

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20. No

Order: 7 u/hr
Dose being delivered: 8.75 u/hr (significantly higher than the order)

Rate the IV should be set at: 8.7 or 9 mL/hr

<table>
<thead>
<tr>
<th>Units per hour being delivered</th>
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<tbody>
<tr>
<td>( \frac{U}{hr} = \frac{200 \text{ U}}{250 \text{ mL}} \times \frac{14 \text{ mL}}{1 \text{ hr}} ) = 8.75 U/hr being delivered</td>
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