

med math

Case study questions p291-293

Pharmacy
Base

pg 292

1) $x = \text{mcg/ml of phenylephrine (Neo-Symphephrine)}$
 $30 \text{ mg} / 500 \text{ mL}$

$$1 \text{ mcg} = 1,000 \text{ mg}$$

$$x \text{ mcg} = 30 \text{ mg}$$

$$3000 \text{ mcg} / 500 \text{ mL}$$

$$\text{60 mcg/mL}$$

2) $x = \text{rate of infusion pump } 100 \text{ mcg/min}$
 $= 100 \text{ mL/hr}$

3) $x = \text{mcg/mL of norepinephrine}$

$$4 \text{ mg} / 500 \text{ mL}$$

$$4000 \text{ mcg} / 500 \text{ mL} = \text{8 mcg/mL}$$

4) $x = \text{rate of infusion pump } 0.5 \text{ mcg/min}$

$$K_{10} = 0.133 \text{ mcg/min}$$

$$\frac{0.5}{0.133} = 3.759 \rightarrow \text{4 mL/hr}$$

5) $x = \text{dose of heparin}$

90 kg

$$12 \text{ u/kg/hr}$$

$$12 \text{ u/kg/hr} \rightarrow 1,080 \text{ u/hr}$$

6) $x = \text{rate of infusion pump of heparin when is not PTT due}$

$$\frac{x \text{ mL}}{\text{hr}} \times \frac{500 \text{ mL}}{2500 \text{ u}} \times \frac{12 \text{ u}}{\text{hr}} \times \frac{90 \text{ kg}}{1} \times \frac{54,000}{2500} = 21.6 \rightarrow \text{22 mL/hr due in 6 hours}$$

7) 100 mL

$$x = \text{mg mixed to} = 10 \text{ mg/mL}$$

$$1000 \text{ mg}$$

$$x = \frac{\text{mL}}{\text{hr}}$$

$$\frac{100 \text{ mL}}{1000 \text{ mg}}$$

$$\times \frac{5 \text{ mg}}{\text{kg/min}}$$

$$\frac{60 \text{ min}}{1 \text{ hr}}$$

$$\frac{1 \text{ mg}}{1,000,000 \text{ mg}}$$

$$\times \frac{90 \text{ kg}}{1} = \frac{2,700,000}{1,000,000}$$

$$= 2.7 \rightarrow \text{3 mL/hr}$$

$$x = \frac{\text{mL}}{\text{hr}}$$

$$\frac{100 \text{ mL}}{1000 \text{ mg}}$$

$$\frac{50 \text{ mg}}{\text{kg/min}}$$

$$\frac{60 \text{ min}}{1 \text{ hr}}$$

$$\frac{1 \text{ mg}}{1,000,000 \text{ mg}}$$

$$\frac{90 \text{ kg}}{1}$$

$$\frac{27,000,000}{1,000,000}$$

$$= 27 \text{ mL/hr}$$