

## Med/Math Practice Problem Answers

1. Answer: Yes

$$\frac{350 \text{ mg}}{25 \text{ mL}} = 14 \text{ mg/mL}$$

25 mL

The Dilution Is Appropriate

The Recommended Concentration Is 10 mg/mL - 40 mg/mL

2. Answer:

$$18 \text{ mg divided by } 10 \text{ ml} = 1.8 \text{ mg/mL}$$

3. Answer:

B. 1,200 mg every 4 hours

$$200 \text{ mg}$$

$$300 \text{ mg}$$

$$\times 30 \text{ kg}$$

$$\times 30 \text{ kg}$$

$$6,000 \text{ mg}$$

$$9,000 \text{ mg in 24 hours}$$

A 30 kg child can receive 6,000-9,000mg of piperacillin sodium in 24 hours

$$1,200 \times 6 \text{ (4 doses in 24 hours)} = 7,200 \text{ mg in 24 hours}$$

4. Answer: Yes

Recommended range = 1,000mg - 1,500mg

5. Answer: Yes, the medication is within the recommended range.

$$50 \text{ mg/24 hr} \times 20 \text{ kg} = 1,000 \text{ mg/24 hours}$$

$$75 \text{ mg/24 hr} \times 20 \text{ kg} = 1,500 \text{ mg/24 hours}$$

$$1000 \text{ mg/24 hr divided by 2 doses} = 500 \text{ mg/12 hours}$$

$$1500 \text{ mg/24 hr divided by 2 doses} = 750 \text{ mg/12 hours}$$

700 mg falls within the range

6. Answer:

B. 400 mg every 8 hours

$$30 \text{ kg} \times 40 \text{ mg} = 1,200 \text{ mg in 24 hours}$$

Then divide the 24 hour dose by each interval listed in A,B,C & D

7. Answer: 50 mL/hr

$$\frac{25 \text{ mL} \times 60 \text{ gtt/mL}}{30 \text{ inutes}} = \frac{1,500}{30} = 50 \text{ mL/hr}$$

$$30 \text{ inutes}$$

$$30$$

8. Concentration of Suspension:  $250\text{mg}/5\text{ml} = 50 \text{ mg/ml}$

The recommended range is 260mg to 292.5mg every 12 hours.

The nurse will administer 5.5ml of amoxicillin every 12 hours.

$$\underline{\text{Desired}} = 275/50 = 5.5 \text{ ml}$$

Have

9. Answer: C. contact the primary care provider regarding a dose exceeding the recommended range

DO NOT EXCEED 2 GMS IN 24 HRS

$$1.1 \text{ grams} \times 2 = 2.2 \text{ grams}$$

**Note:** Contact the primary care provider when ordered dose exceeds or is below recommended range. Contact the pharmacist when the concentration or dilution is not within recommended range.

10. Answer: A. administer the medication at 50 mL/hr

$$\text{Dilution/concentration} = 25.6\text{mg/ml}$$

$$\text{Recommended dose} = 40\text{mg/kg every 8 hours (16} \times 40 = 640\text{mg)}$$

$$15 \text{ min} = 100\text{ml/hr}$$

$$30 \text{ min} = 50 \text{ ml/hr}$$

$$\underline{25\text{ml} \times 60} = 100\text{ml/hr}$$

$$15$$

$$\underline{25\text{ml} \times 60} = 50\text{ml/hr}$$

$$30$$

11. Answer: C. 100 (50 is too low, 75 is too low, 160 is too high)

$$\frac{50 \times 60}{20} = \frac{3000}{20} = 150 \text{ mL/hr}$$

$$\frac{50 \times 60}{30} = \frac{3000}{30} = 100 \text{ mL/hr}$$