

Additional Med Math Practice Problems: Key

1. Order: dexamethasone 1.5 mg PO BID

Supply: tablet 0.75 mg

Answer: 2 tablets

2. Order: digoxin 0.25 mg PO daily

Supply: scored tablets 0.5 mg

Answer: 1/2 tablet

3. Order: ampicillin 0.5 g PO q6 hours

Supply: capsules 250 mg

Answer: 2 capsules

4. Order: prednisone 10 mg PO TID

Supply: tablet 2.5 mg

Answer: 4 tablets

5. Order: nifedipine 20 mg PO BID

Supply: capsules 10 mg

Answer 2 tablets

6. Diphenhydramine 5 mg/kg/day to be given every 6 hours. Child weighs 44 lbs.
How many mg/dose?

- 44 lbs = 20 kg
- 5 mg(20 kg)= 100 mg/day
- $100/4 =$ **25 mg/dose**

7. Prednisone 2 mg/kg/day to be given every 12 hours. Child weighs 22 lbs. How many mg/dose?
- 22 lbs = 10 kg
 - 2mg (10 kg)= 20 mg/day
 - $20/2=$ **10 mg/dose**
8. Digoxin 0.010 mg/kg/day to be given every 12 hours. Child weighs 44 lbs. Available elixir is 0.05 mg/mL. How many mL/dose?
- 44 lbs= 20 kg
 - $0.010\text{mg}(20 \text{ kg})= 0.2 \text{ mg/day}$
 - $0.2/2= 0.1 \text{ mg/dose}$
 - $0.01/0.05 \times 1 =$ **2 mL/dose**
9. Child weighs 18 kg. Calculate hourly rate of IVF, round to the nearest whole number.
- 1000 mL + 50(8)
 - 1000 mL + 400 = 1400
 - $1400/24 = 58.33$ **~58 mL/hr**
10. Child is 21 kg and 116 cm tall. Calculate their body surface area.
- $21 (116) = 2436$
 - $2436/3600= 0.676$
 - Square Root of 0.676= **0.82 m²**
11. Child is 42 lbs. and 36 inches tall. Calculate their body surface area. Round to the nearest hundredth.
- $42/2.2= 19.09 \text{ kg}$
 - $36(2.54)= 91.44 \text{ cm}$
 - $19.09(91.44)= 1745.5896$
 - $1745.5896/3600= 0.484886$
 - Square Root of 0.484886= 0.6963 m²
 - Rounded= **0.70 m²**

12. Order: Amoxicillin 70 mg q8

Weight: 20 lbs

Supply: Amoxicillin 125 mg/5 mL

Literature: 20-40 mg/kg/day in divided doses every 8 hours

Determine if the order is safe and calculate the amount needed. Round to the nearest hundredth.

- a. 20 lbs = 9.09 kg
- b. $20(9.09) = 181.8$ mg/day (Low end)
- c. $40(9.09) = 363.6$ mg/day (High end)
- d. **Range: 181.8—363.6 mg/day**
- e. 70 mg (dose TID) X 3 = 210 mg/day → Safe Dose, within range
- f. $70 \text{ mg}/125 \text{ mg} = 0.56$
- g. $0.56(5) = 2.8$ mL/dose

13. Order: Ferrous sulfate 200 mg PO TID

Weight: 30 kg

Supply: bottle of 125 mg/5 mL

Literature: 600 mg/day divided TID

Determine if the order is safe and calculate the amount needed. Round to the nearest hundredth.

- a. Dose is safe: 200 mg is within range of 600 mg/day
- b. $200 \text{ mg}/125 \text{ mg} = 1.6$
- c. $1.6(5) = 8$ mL/dose

14. Order: Metoclopramide 5 mg PO q6

Weight: 30 kg

Supply: syrup 5 mg/5 mL

Literature: 0.1 – 0.2 mg/kg/dose up to QID

- a. $0.1(30) = 3$ mg/dose (Low end)
- b. $0.2(30) = 6$ mg/dose (High end)
- c. **Range: 3 mg-6 mg/dose → Safe dose, 5 mg within range**
- d. $5 \text{ mg}/5 \text{ mL} = 1$
- e. **1 (5) = 5 mL/dose**

15. Order: Phenytoin 60 mg PO BID

Weight: 12 lbs 8 oz

Supply: suspension 30 mg/5 mL

Literature: 4-8 mg/kg/day divided into 2 doses. Maximum dose is 300 mg/day

- a. 8 oz = 0.5 lb
- b. 12.5 lbs = 5.68 kg
- c. $5.68 (4 \text{ mg}) = 22.72$ (Low end)

- d. $5.68 (8 \text{ mg}) = 45.44$ (High end)
- e. **Range: 22.72 mg—45.44 mg/day**
- f. **Range PER DOSE: 11.36—22.72 mg/dose**
- g. **60 mg > 22.72 mg, dose is out of range, speak with the provider.**

16. Order: Digoxin 100 mcg PO BID

Weight: 32 lbs.

Supply: 0.05 mg/mL

How many mL does the nurse draw up?

- a. $100 \text{ mcg} = 0.1 \text{ mg}$
- b. $0.1/0.05 = 2$
- c. $2 (1 \text{ mL}) = 2 \text{ mL}$