Medication Calculation Practice

**ALL** RNs at MIHS are required to pass a math test with at least 80%. **ALL** RNs working within the main hospital will take this same drug calculation test.

If the first math test is failed, one additional math test will be given within one week of hire. Failing the second math test will result in termination from MIHS employment. **NO** exceptions.

**Formulas:**

Percentage % always means number of grams in 100 ml

Examples:
100% = 100 gm in 100 ml
15% = 15 gm in 100 ml
5% = 5 gm in 100 ml

Metric conversions
1 gm = 1000 mg
1 mg = 1000 mcg

**Math Formulas:**

**Desired Dose:** Dose on Hand x Volume = Desired Volume

Example:
Want to give 40 mEq KCL (desired dose) = 40
Dose on hand 20 mEq in 100 mls (volume) 20 x 100 = 200 mls (desired volume)

\[
\text{Ordered mcg x kg x 60} \quad \frac{mcg/ml}{ml/hr} = \text{ml/hr}
\]

\[
\frac{mcg/ml x ml/hr}{60 \text{ kg}} = \text{mcg/kg/min}
\]

\[
\frac{mcg/ml x rate}{60} = \text{mcg/min}
\]

Desired mcg/min x 60
\[
\frac{mcg/ml}{ml/hr} = \text{ml/hr}
\]
Practice Math Calculations

1. You need to administer a 3 mg dose of a medication, on hand is 4 mg/ml. How much do you need to draw up?

2. 375 mg of a liquid medication is ordered. You have available 125mg per 5ml, how much do you pour?

3. 25 mg of a medication is ordered IV; the vial is labeled 5 mg/2 ml. How many mls will you give?

4. An order reads for 0.1 mg of a medication to be given pre-op; available solution is 0.4 mg/2 ml. How much will you give?

5. The physician orders 1.25 mg of a medication daily for your patient. The only available tablet strength is 0.625 mg. What amount will you give?

6. Motrin 0.6g is ordered; available tablets contain 600 mg. How many tablets will you give?

7. 0.5 mg of a medication is ordered; available tablets contain 0.25 mg per tablet. How many tablets will you give?

8. Convert 7.5 grams to milligrams.

9. A patient is to receive 300 mg of a medication every 12 hours. The recommended dosage is 50-75 mg/kg/day. The patient weighs 18 pounds, 11 ounces. Convert the lbs to kgs. How many mg per day is the patient receiving based on the order?

10. Calculate the safe dosage range for this child?

11. Is this a safe dose for this patient?
% Math Calculations

1. Order reads: Drug A 12.5 grams IV Q 8 hours. You obtain from the Pyxis a 50 ml vial of 25% Drug A. How many mls will you administer? _______mls or _______vials

2. Order reads: 12.5 grams of D50 IV. The Pyxis carries 50% Dextrose in 50 ml vials. How many mls will you administer?___________________mls or ___________vials

3. Order reads: Drug B 20 gms to be given IV. You obtain from the Pyxis a 50 ml vial of 20% Drug B. How many mls will you administer?_________mls or ______vials

4. Give 40 gms of a medication IV. Pharmacy sends 50 ml of 25% Solution. How many mls do you need?
Answer Sheet:

1. 0.75 cc
2. 15 ml
3. 10 ml
4. 0.5 ml
5. 2 tabs
6. 1 tab
7. 2 tabs
8. 7500 mg
9. 600 mg
10. 423.5 mg – 635.25 mg
11. Yes

% Math Calculations

1. 50 ml or 1 vial
2. 25 ml or half of a vial
3. 100 ml = 2 vials
4. 160 ml