Calculating IV Drips Accurately – Calculations Worksheet

Lesson 1 – Overview
No practice questions.

Lesson **2** - **RN Scope of Practice and Administration of Intravenous Medications**
No practice questions.

Lesson 3 - Definitions
No practice questions.

Lesson 4 - Indications for Intravenous Therapy
No practice questions.

Lesson 5 - Infusion Pumps
No practice questions.

Lesson 6 - General Principles of IV Administration
No practice questions.

Lesson 7 - Mathematics – Keep it Simple

Dealing with Decimals

4.245 + 235.89

Answer: _____

4.245 X 235.89

Answer: _____

Dealing with Fractions

In the fraction 23/89 the numerator is_____ the denominator is _____.

In the fraction 7/10 the denominator is _____ the numerator is_____.

Reduce these fractions to the lowest common denominator:

27/45, 9/18, 45/63

Answers: _____

Reduce these numbers:

50/100, 60/4,500, 3,800/245,000

Answers: _____

Multiply the fractions:

$$\frac{3}{5} \times \frac{1}{3}$$

Answer: _____

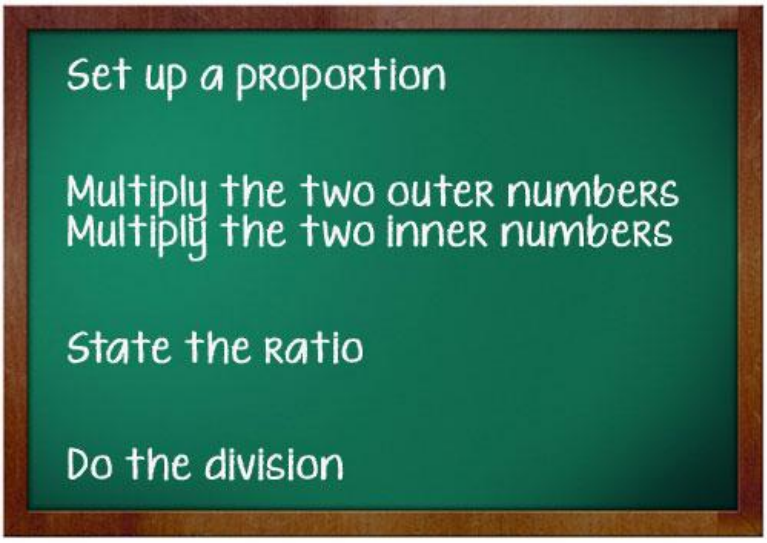
Lesson 8 - Calculating IV Drug Dosage Administration
No practice questions.

Lesson 9 - Checking/Rechecking Answers
No practice questions.

Lesson 10 - What to Do if You Don't Know the Amount of Fluid Needed?

The order reads: Give Heparin 5,000 units over 60 minutes. The IV solution contains 5,000 units of Heparin in 100 ml D5W.

First, decide how many ml's of fluid are needed to provide the ordered 5,000 units by setting up a proportion. If there are 5,000 units in 100 ml's of fluid how many ml's will be needed to administer 5,000 units.



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The amount of fluid needed to provide 5,000 units of Heparin is: _____

You can then proceed to calculate the IV drip rate for 100 ml/hour based on the equipment to be used.

With a **60 drop micro drip set** - $\frac{100\text{ ml}}{60\text{ minutes}}$ X 60 gtts/ml = 100 gtts/minute

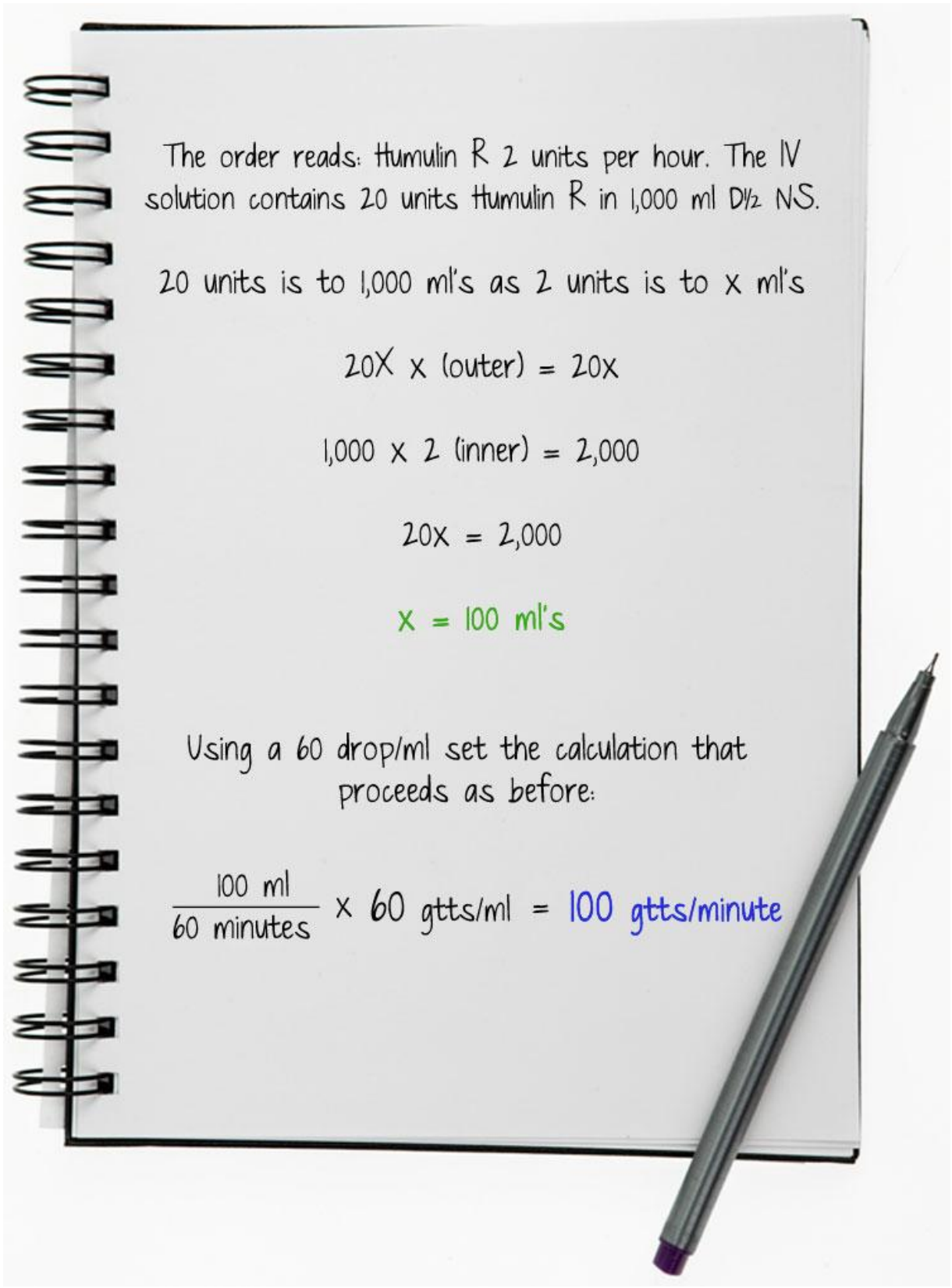
With a **15 drop set** - $\frac{100\text{ ml}}{60\text{ minutes}}$ X 15 gtts/ml = 25 gtts/minute

Answers:

60 drop set: _____ 15 drop set: _____

Try to work through this problem on your own. A complete visual walk through is provided on the next page.

The order reads: Humulin R 2 units per hour. The IV solution contains 20 units Humulin R in 1,000 ml D½ NS.



Lesson 11 - Test Yourself

Try the following problems.

1. Give 1 liter of NS IV in 5 hours. The IV set is a regular 15 drop set.

2. Give 1 unit (250 ml's) of packed red cells IV within 4 hours. The blood set delivers 10 gtts/ml.

3. Give 1,000 ml D5W to keep vein open over the next 24 hours. The set to be used delivers 60 drops/ml.

4. Give 150 ml of Normal Saline over 4 hours. The micro drip set delivers 60 gtts/ml.

5. Give 4,000 ml of D5W over 24 hours. The IV set package reads 20 gtts/ml.

6. Give 3,000 ml of D½ NS over 16 hours. The macro drip set delivers 15 gtts/ml.

7. Give 3,000 ml of D5W over 24 hours. The IV set delivers 15 gtts/ml.

8. Give 100 ml of Ringer's Lactate in 1 hour. The micro drip set delivers 60 gtts/ml.

Lesson 12 - More Complicated Problems

Try the following problems. They are a little more complicated. You have to first calculate the amount of fluid needed to administer the correct dose of the medication. Check the answers and the math on the next page (online).

1. Give Heparin 500 units IV per hour. The IV solution contains 20,000 units per 1,000 ml D5W. A micro drip set is to be used (60 gtts/ml).

2. Give 1,000,000 units of Ampicillin IV in 2 hours. The drug comes from the pharmacy with 5,000,000 units in 1,000 ml D5W. A 15 drop IV set is to be used.

3. Give 40 mEq of potassium chloride IV over 8 hours. The solution available contains 80 mEq in 1,000 ml of D5W. The IV set delivers 10 gtts/ml.