Mathematics for Veterinary Technicians
Test #3 Form H
100 Points Total

Name: _____   Date: _____

Questions cover work from chapter 1 thru 11. Show your work! Mathematical answers must have unit of measurement and medicines labeled for credit.

Identify the correct concentration from the following medicine bottles and tablets. Write your answers to the right of the label or bottle.

HydrOXYxine HCl Tablets, USP 25 mg **1000 tablets**	1.

Phenobarbital Tablets, USP 64.8 mg (1 gr) **100 tablets**	2.

3. What is

a. 33.3% of 75.8 lb ☐   b. 16.7% of 52.3 kg ☐

4. Change to decimal

a. 1.0033% ☐   b. 0.0089% ☐

5. Change to a fraction (lowest terms please)

a. 0.055% ☐   b. 0.00125% ☐

6. Convert the following Packed Cell Numbers to the proper unit of measurement

a. 28 cat_2 ☐   b. 65 dog_1 ☐

7. Solve the following. Be sure to show units where applicable. Round to the nearest ¼ of a capsule.

a. $\dfrac{160mg}{1\ cap} = \dfrac{1050mg}{N\ cap}$ ☐

b. $\dfrac{225mg}{1\ cap} = \dfrac{1680mg}{N\ cap}$ ☐

8. Calculate the conversion and show the calculation in the box to the right of the answer

-22.9°C = ☐ °F ☐

-33.3°F = ☐ °C ☐

9. How much fluid is in the fluid bag if the fluid meniscus is between the 3 and 4 line? _____

How much fluid is in the fluid bag if the fluid meniscus is at the 6 line?   _____

10. Determine the infusion for a 12.8 lb cat that is 7% dehydrated.

Compute the replacement volume.

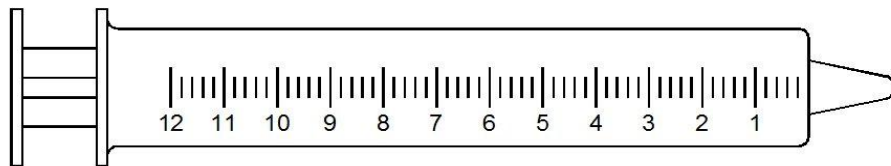Compute the maintenance volume.

Compute the total volume.

Compute the milliliters per minute infusion rate.

Compute the drips per minute infusion rate.

Compute the anesthesia / surgery rate.

11. Pentobarbital is given to a dog that weighs 25.8 pounds. The dosage rate is 1 cc per 5 lbs body weight. Calculate the dosage and draw a line on the syringe to show it.

Facts:	Calculation

12. We ordered 300 pounds of lab chemicals.
    a. What percentage would be left over if we used 24 lbs?

    b. If we found that 15% of the lab chemicals were contaminated, what amount is that?

13. A patient receives a total of 2100mg of medication. If the patient receives the total over a 7-day period and is given three doses a day, what is the strength of each dose?

14. Rascal, a 7.5-year-old MN Lab 77.5 lbs, needs to be de-wormed for whipworms with a medication called Panacur. The dosage is 50 mg/kg and is available in a concentration of 100mg/ml. This medication is prescribed as SID x 3D.
    a. What is the dose (mg) and volume (cc) administered for a single dose?

    b. What is the total volume that needs to be dispensed?

15. You have 1.5L of Chlorhexidine (80%) available. How many liters of 10% Chlorhexidine can we make?

16. Pajamas is a 4 year old FS 44.3 pound cocker spaniel has to be placed on Cephalexin for a skin infection. Our dose is 25 mg/kg PO q8h for 14 days with a concentration of 250 mg capsules.
    a. What is the capsule dosage for Pajamas?

    b. What is the total number of capsules that we need to dispense?

17. Determine the infusion for an 1150 lb cow that is 11% dehydrated.

Compute the replacement volume.

Compute the maintenance volume.

Compute the total volume.

Compute the milliliters per minute infusion rate.

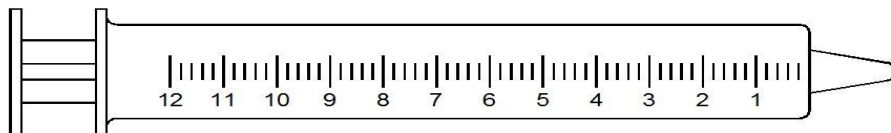Compute the drips per minute infusion rate.

Compute the anesthesia / surgery rate.

18. How many mL of a 60% dextrose stock solution do you need to add to make a 350mL of 5% dextrose solution? How much water will you use?

19. You have a 5 L bottle of 80% dextrose. You need to prepare 550 ml of a 10% dextrose solution. How much of the concentrated solution will you use? How much water will you use?

20. Chien, a 38.6-pound dog has ingested toxins orally this morning and we need to the toxicity with Activated Charcoal. The dose is 10ml/kg. How much Activated Charcoal should Chien receive? (This medication does not have a concentration available).

21. What is the Atropine dose as a premedication in mg and ml? The dosage rate is 0.01 mg per pound and has a concentration of 0.54 mg per ml. Our patient weight is 27.5 lbs.

22. What is the Acepromazine dose as a premedication in mg and ml? The dosage rate is 0.1 mg per pound and a maximum of 3 mg. A concentration of Acepromazine is 10 mg per ml. Our patient weight is 27.5 lbs.

23. What is the total volume in the syringe after proper collection of both medications in problems 21 and 22? Indicate this volume on the syringe with a single arrow.

24. Our surgical patient Percy, an 8 year DSH, weighs 22.5 pounds. We are going to induce with Acepromazine at 0.06 cc per 10 lbs, Ketamine at 0.8 cc per 10 pounds and Torbugesic at 0.13 cc per 10 pounds.
    a. What is the volume (cc) and dosage (mg) of Ketamine for Percy today? Ketamine is available at a concentration of 100mg/ml.

    b. What is the volume (cc) and dosage (mg) of Torbugesic for Percy today? Torbugesic is available at a concentration of 10mg/ml.

    c. What is the volume (cc) and dosage (mg) of Acepromazine for Percy today? Acepromazine is available at a concentration of 10mg/ml.

25. You have 125ml of Chlorhexidine (25%) available. How many ml of 10% Chlorhexidine can we make?

26. Determine the infusion for a 7.5 lb cat that is 12.5% dehydrated.

Compute the replacement volume.

Compute the maintenance volume.

Compute the total volume.

Compute the milliliters per minute infusion rate.

Compute the drips per minute infusion rate.

Compute the anesthesia / surgery rate.

27. Surital sodium used as an anesthetic is packaged in solution 1 cc per 5 pounds body weight. How many cc are needed for a 20.5 lb cat?