Mathematics for Veterinary Technicians
Test #3 Review 1
100 Points Total

Name: _____ Date: _____

Questions cover work from chapter 1 thru 11. Show your work!!!!!

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

1.

**Cephalexin
Capsules, USP
250 mg**

500 capsules

2.

**Phenobarbital
Tablets, USP
32.4 mg (1/2 gr)**

100 tablets

3. What is
a. 55.5% of 102.5 kg

b. 68.97% of 190 mg

4. Change to decimal
a. 575%

b. 0.0575%

5. Change to a fraction (lowest terms please)
a. 27.5%

b. 0.0005%

6. We ordered 575 pounds of lab chemicals.
   a. What percentage would be left over if we used 98 lbs?

   b. If we found that 10% of the lab chemicals were contaminated, what amount is that?

7. Convert the following Packed Cell Numbers to the proper unit of measurement
a. 58 cat_1

b. 68 dog_2

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

a. $\dfrac{280mg}{1\ cap} = \dfrac{1250mg}{N\ cap}$

b. $\dfrac{360mg}{1\ cap} = \dfrac{2500mg}{N\ cap}$

9. Determine the infusion for a 16.5 lb cat that is 9% 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.

10. How many mL of an 80% dextrose stock solution do you need to add to make a 175mL of 10% dextrose solution? How much water will you use?

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

-16.5°C = [   ] °F [   ]

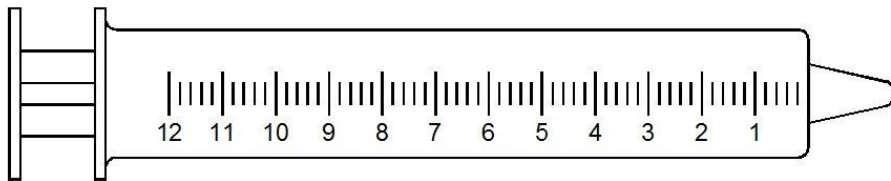-32°F = [   ] °C [   ]

12. A patient receives a total of 50g of medication. If the patient received the total over a 5-day period and was given three doses a day, what was the strength of each dose?

13. Snoopy, an 8 yr old MN Lab 81.2 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 and volume administered for a single dose?

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

14. A patient weighs 82.5 lbs, what is the volume of Ketamine and Valium used for induction. (These two medications are used in 1:1 combinations) The dosage rate is 1 cc per 20 pounds. You have a 12 cc syringe. Please draw the amount of these medications on the syringe.

15. You have 2L of Chlorhexidine (75%) available. How many liters of 25% Chlorhexidine can we make?

16. How much fluid is in the fluid bag if the fluid meniscus is between the 8 and 9 line? _____

17. How much fluid is in the fluid bag if the fluid meniscus is at the 3 line?   _____

18. You have a 2 L bottle of 50% dextrose. You need to prepare 250 ml of a 5% dextrose solution. How much of the concentrated solution will you use? How much water will you use?

19. Determine the infusion for a 650 lb horse that is 8% 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.
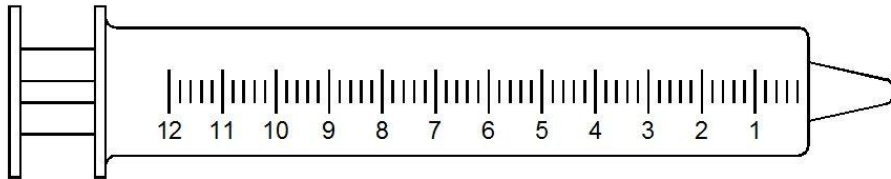
20. What is the Atropine dose as a premedication in mg and ml? The dosage rate is 0.01 mg per pound and has a concentration of 0.54 mg per ml. Our patient weight is 32.6 lbs.
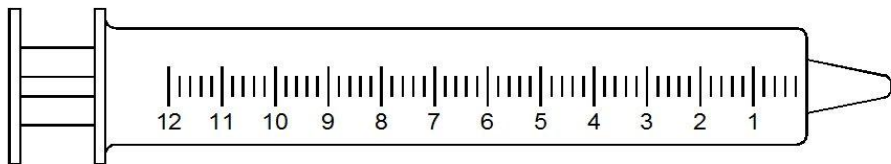
21. What is the Acepromazine dose as a premedication in mg and ml? The dosage rate is 0.1 mg per pound and a maximum of 3 mg. A concentration of Acepromazine is 10 mg per ml. Our patient weight is 32.6 lbs.

22. What is the total volume in the syringe after proper collection of both medications in problems 20 and 21? Indicate this volume on the syringe with a single arrow.

23. How much ketamine is needed for a cat weighing 5.75 pounds if the dosage is 15 mg per pound of body weight? The ketamine is dissolved in liquid at 100 mg per cc.

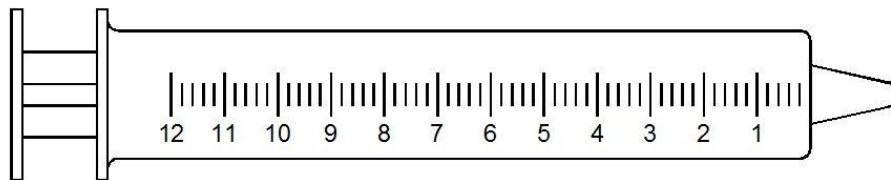| Facts:	Calculation

24. Our surgical patient Roxy, a 8 yr DSH, weighs 15 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 and dosage of Ketamine for Roxy today? Ketamine is available at a concentration of 100mg/ml.

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

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

    d. What is the total volume in the syringe after proper collection of both medications in problems 24 a, b and c? Indicate this volume on the syringe with a single arrow.

25. You have 25ml of Chlorhexidine (20%) available. How many ml of 5% Chlorhexidine can we make?

26. Determine the infusion for an 8.2 lb cat that is 14% 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. Sparky has ingested toxins orally this morning and we need to the toxicity with Activated Charcoal. The dose is 10ml/kg. We just weighed Sparky at 46.2 lbs. How much Activated Charcoal should Sparky receive? (This medication does not have a concentration available).

28. Determine the infusion for a 155 lb dog that is 8% 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.

29. Spots is a 5 yr FS 33.8 lb cocker spaniel has to be placed on Cephalexin for a skin infection. Our dose is 17 mg/kg PO q8h for 21 days with a concentration of 250 mg capsules.
    a. What is the volume and capsule dosage for Spots?

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