**2012 National FFA Veterinary Science CDE**

**Math Practicum**

**Question #1**

Your place of employment offers dog-boarding services and has the ability to accommodate the specific needs of each pet and family.

*The daily rates for 8- to 24-hour boarding are:*

Under 20 lbs – $20.00

20 - 50 lbs – $25.00

Over 50 lbs – $30.00

Dogs can be walked for an additional fee of $7.00 per dog for each walk around the property. Medications are administered or applied at a rate of $0.50 per dose. Two or more dogs in the same kennel receive a 10% discount on all boarding services.

A client has two dogs that are to be housed together. One is a 5.5-pound poodle named Timmy, and the other is a 45-pound Golden Retriever named Koda. The owner instructs you that Koda needs to be given a medication twice a day each day and that each dog is to be walked once a day. The owner boarded the dogs from Monday morning until Sunday evening. Taxes are included in all prices quoted. You are responsible for billing the client. What is the total charge for all boarding services?

1. $415.00
2. $417.75
3. $420.00
4. $423.67

**Question #2**

A veterinary assistant’s gross income per year is $30,265.00. After a raise, her gross yearly salary increases to $32,785.78. What is the percentage increase in her raise?

1. 3%
2. 5%
3. 8%
4. 25%

**Question #3**

To prepare for disinfection of hard non-porous surfaces against canine parvovirus, mix a solution of Clorox® Regular-Bleach in 3 gallons of water at the rate of 1 cup of bleach per 1 gallon of water. What is the volume of bleach added to the 3 gallons of water?

1. 30 fl. oz
2. 24 fl. oz
3. 1 ½ cups
4. 1 ½ cups and 2 tbsp

**Question #4**

You have taken the body temperature of a market hog that reads 40 degrees Celsius. The owner of the hog does not understand Celsius and ask you to convert it to Fahrenheit. What is the converted body temperature?

1. 100.4° F
2. 104° F
3. 102.5° F
4. 98.8° F

**Question #5**

You are directed to take a weight on a client’s dog. The Boston Terrier named Rocco weighs 6.8 kg. How much does Sophia weigh in pounds?

1. 14.96 lbs
2. 19.46 lbs
3. 29.46 lbs
4. 17.96 lbs

**Question #6**

What volume of drug is drawn into this syringe?

1. 0.23 cc
2. 2.3 cc
3. 23 mm
4. 23 ml

**Question #7**

The doctor diagnosed pinkeye in a 800-pound heifer and prescribed Nuflor® for the treatment. The dosage on the label is 20 mg/kg or 20 milligrams of drug per kilogram of body weight. The concentration of Nuflor® is 300 mg/ml. What dose of Nuflor® will be administered?

1. 24.24 ml
2. 242.4 ml
3. 2.4 ml
4. 2,424 ml

**Question #8**

The veterinarian informs you that the patient has a bite wound and will require antibiotics. A common antibiotic, cefazolin®, is administered to help fight infection. Cefazolin® is administered at a dosage of 22 mg/kg. The patient weighs 85 pounds. What is the dose of cefazolin® for this animal?

1. 0.85 mg
2. 8.5 ml
3. 850 mg
4. 968 mg

**Question #9**

Selamectin is recommended for use in dogs 6 weeks of age and older. The directions state: “Apply to the skin once of month at the recommended minimum dosage of 6 mg/kg or 6 milligrams of selamectin per kilogram of body weight.” The product comes prepackaged in six tubes. Each dispensing tube contains 240 mg of selamectin. If the client’s dog weighs 88 pounds, how many months of treatment are in one package of selamectin?

1. 2 months
2. 3.25 months
3. 5.5 months
4. 6 months

**Question #10**

How many milliliters (ml) are in 3.5 ounces (oz) of liquid?

1. 150 ml
2. 105 ml
3. 35 ml
4. 350 ml

**Question #11**

The doctor’s order reads: “Amoxicillin 400 mg p.o., q12 hrs.” The bottle from pharmacy is labeled: “250 mg = 5 ml.” How many milliliters would you give per dose?

1. 0.8 ml
2. 8 ml
3. 80 ml
4. 850 ml

**Question #12**

Indicate the number of tablets prescribed for the following order:

Rx: Metronidazole tablets 50 mg

Sig: 4 tablets, P.O., BID x 20 days

1. 20 tablets
2. 80 tablets
3. 160 tablets
4. 200 tablets
5. D. $392.40
6. B. 3%
7. B. 15 fl. oz
8. A. 100.4° F
9. D. 188.9 lbs
10. D. 23 ml
11. A. 13.7 ml
12. C. 440 mg
13. D. 6 months
14. B. 270 ml
15. C. 1.5 ml
16. B. 4.5 ml
17. D. 40 tablets

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**Common Conversions**

2 tbsp = 1 fl. oz. = 30 ml

1/4 cup =2 fl. oz. = 60 ml

1/2 cup = 4 fl. oz. = 125 ml

1 cup = 8 fl. oz. =250 ml

1 1/2 cups =12 fl. oz. = 375 ml

2 cups or 1 pint = 16 fl. oz. =500 ml =1 pound

4 cups or 1 quart = 32 fl. oz. = 1000 ml or 1 liter

1 gallon =128 fl. oz.= 4 liters

2 pints =1 quart

4 quarts = 1 gallon

60 grains (gr) = 1 dram (dr)

3 teaspoons = 1 tablespoon = 1/2 ounce = 14.3 grams

2 tablespoons =1/8 cup =1 ounce = 28.3 grams

4 tablespoons =1/4 cup =2 ounces =56.7 grams

5 1/3 tablespoons =1/3 cup =2.6 ounces= 75.6 grams

8 tablespoons = 1/2 cup = 4 ounces =113.4 grams

12 tablespoons = 3/4 cup =6 ounces = .375 pound

32 tablespoons =2 cups = 16 ounces = 1 pound

1 teaspoons (t)= 5 milliliters

1 kilogram (kg) = 2.2 pounds

1 pound = 453.59 grams

Fahrenheit = Celsius \* 9 / 5 + 32

1 millimeter (mm) = 0.001 of a meter