2014 National Veterinary Science CDE Math Practicum

Question #1 (5 points)
Josey, a 17-pound, 8-ounce Boston Terrier, is brought into the veterinary hospital. What is Josey's weight in kilograms?

a. 17.5 kg
b. 7.9 kg
c. 38.5 kg
d. 3.95 kg
e. 79 kg

Read the drug label below for Questions 2, 3, and 4

Question # 2 (5 points)
How many grams of cefovecin are in this vial?

a. 80 g
b. 8 g
c. 0.8 g
d. 0.08 g

Question# 3 (5 points)
Per the drug label, by which route (s) can this drug be given?

a. IV
b. IM
c. Sub Q
d. IV and IM
e. Sub Q and IV.

Question# 4 (5 points)
The veterinarian prescribed Josey a dose of 8 mg/kg. How many uses are there in this bottle?

a. 12
b. 15
c. 20
d. 22

Question #5 (10 points)

The veterinarian prescribes IV fluids for a calico kitten with diarrhea. She prescribes 180 mL per 12 hours using 60 drop/mL IV administration set. What is the drip rate in drops per minute?

a. 18 drops
b. 12 drops
c. 6 drops
d. 15 drops
e. 60 drops

Question #6 (5 points)

A 66-pound Labrador Retriever Mix is prescribed metronidazole at 50 mg/kg PO SID for 5 days to treat for giardiosis. How many mg will the Lab need per day?

a. 250 mg
b. 500 mg
c. 750 mg
d. 1250 mg
e. 1500 mg

Question #7 (5 points)

In considering the Labrador Retriever Mix from the previous question, how many tablets will be needed for the duration of the prescription with 500 mg tablets on hand in the pharmacy?

a. 7.5 tablets
b. 15 tablets
c. 22.5 tablets
d. 30 tablets
e. 37.5 tablets

Question #8 (5 points)

What is the concentration (mg/mL) of the following solution (w/v): 5 g added to 400 mL of sterile water?

a. 405 mg/mL
b. 45 mg/mL
c. 12.5 mg/mL
d. 25 mg/mL
e. 50 mg/mL

Use the following scenario for Questions #9-11

Dr. Rodgers wants to put the following 12 pound Chihuahua on a medication that is dosed at 3-5 mg/lb daily. He is going to dispense enough to last 180 days. The 50 mg tablets cost $.04 each, the 100 mg tablets cost $.06 each, and 200 mg tablets cost $.10 each.

Question #9 (10 points)

Find the minimum and maximum (in mg) the Chihuahua can be dosed based upon the dose range. Since this is a range, there is ONE tablet size without going outside the range of 3-5 mg/lb.

A. 50 mg
B. 100 mg
C. 200 mg
D. One 50 mg+ One 100 mg

Question #10 (5 points)

Choose a tablet size that would be used that is the lowest cost. Do not use anything smaller than ½ tablet.

A. 50 mg
B. ½ 100 mg
C. 100 mg
D. ½ 200 mg
E. 200 mg

Question #11 (5 points)

Calculate the lowest cost for the duration of the prescription.

A. $18.00
B. $9.00
C. $10.80
D. $5.40
E. $7.20

Question #12 (5 points)

Dr. Jack prescribed Safe-guard® (fenbendazole) after diagnosing a herd of 85 pygmy goats with stomach worms. The owner purchased the over-the-counter product in the image below for the goats that weigh 60 pounds each. Dr. Jack instructed to give 5 mg/kg. How many mL does the owner give each goat? Round your answer to the nearest tenth.

A. 1.4 mL
B. 1.0 mL
C. 0.7 mL
D. 0.5 mL

Question #13 (5 points)

In the question above, did the owner purchase the correct volume of drug to administer to the entire herd?

A= yes

B=no

Question #14 (10 points)

A veterinarian offers a 5% discount to a client on all services for two or more pets. This discount does not apply to administered or dispensed medications or retail product purchases. Mr. Al brought in his four dogs for their annual physical examination and vaccinations. Before the discount, the total charges for services and dispensed medication are $418. Mr Al decided to take home 1 package of heartworm preventative today. The price of the dispensed package of 12 doses of a heartworm preventive drug is $11 per dose. What is the total bill after the discount is applied?

A. $418
B. $403.70
C. $407
D. $400.35

Question #15 (10 points)

A 68 pound dog is brought into the hospital and requires intravenous fluids.
Remember that 500 mL of fluid = 1 lb of fluid
The intravenous drip sets are calibrated so that 10 drops of fluid = 1 mL
The animal is 6% dehydrated. This means that 6% of the BODY WEIGHT has to be replaced as fluid.
We want to replace only 6% dehydration within 2 hours.
How fast (in drips/second) would the drip rate be on the IV line?
Calculate to the nearest WHOLE number

A. 1 drop/sec
B. 2 drops/sec
C. 3 drops/sec
D. 4 drops/sec