

2018 National FFA Veterinary Science CDE Math Exam KEY

1. You have taken the body temperature of a breeding hog that reads 107 degrees Fahrenheit. The owner of the hog needs to know the temperature in Celsius. The owner asks you to please give him the temperature in Celsius. What is the converted body temperature?

Answer: 41.67 Degrees Centigrade

2. To prepare for disinfection of Dairy cattle stalls against Bovine Viral Diarrhea, mix a solution of an alkyl ammonium chloride in 10 gallons of water at the rate of $\frac{3}{4}$ cup of alkyl ammonium chloride per gallon of water. What is the volume of alkyl ammonium chloride mixed in 10 gallons of water? Supply your answer in ounces.

Answer: 60 ounces

3. Sampson a 23 pound Beagle, is brought into the veterinary hospital. What is Sampson's weight in kilograms?

Answer: 10.46 Kilograms

4. An 80-pound Mastiff is 8 % dehydrated. How much is the fluid deficit in mL?

$$80 / 2.2 = 36.4 \times .08 = 2.91 \times 100$$

Answer: 2,910 mL

5. Hannah brings her 20 kg tortoise into the clinic with an infection. The veterinarian instructs the technician to administer an injection of Baytril. Baytril's dosage is 10 mg/Kg of body weight per day. How much Baytril should the technician administer, if the concentration of the drug is 50 mg/mL?

$$\text{Answer: } 20\text{Kg} \times 10\text{mg/Kg} = 200 \text{ mg}$$

$$200\text{mg divided by } 50\text{mg/ml} = \mathbf{4 \text{ ml}}$$

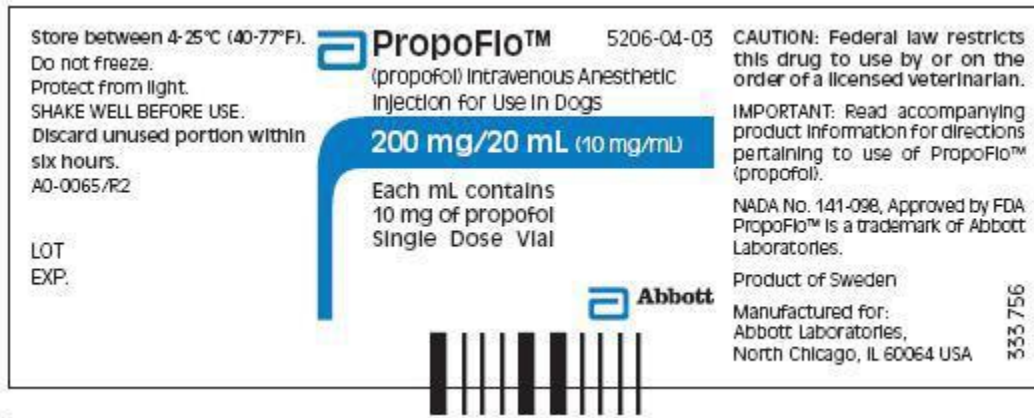
6. How much will this injection cost Hannah, if a bottle of 100 ml cost \$110.00?

$$\text{Answer: } \$110.00/100\text{mL} = \$1.10 \text{ per mL}$$

$$\$1.1. \times 4\text{mL} = \mathbf{\$4.40}$$

Use the below scenario and drug label for questions 7-10.

Chance, the pit-bull has been scheduled for a dental cleaning. The veterinarian has decided that Propofol is the safest anesthetic drug for him based on his age and blood chemistry values. Chance is 10 years old and weighs 75 pounds. The recommended dosage for Chance is 2.5mg/kg.



7. How much does Chance weigh in kilograms?

Answer: 34kg

8. How many milligrams of propofol will Chance need to undergo anesthesia?

Answer: 85 mg

9. How many milliliters of propofol will Chance need to undergo anesthesia?

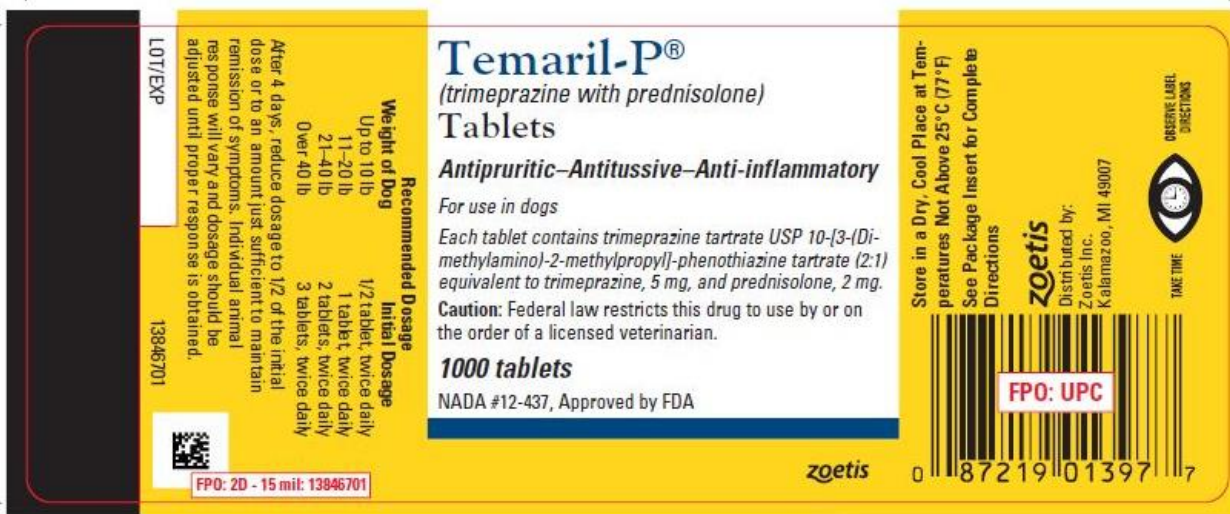
Answer: 8.5 ml

10. How many mgs are in each bottle of propofol?

Answer: 200mg

Use the below scenario and drug label for questions 11-14.

Daisy, an 11-year-old Jack Russell has been diagnosed with Bordetella. She has been prescribed Temaril-P to help control the coughing. Daisy weighs 5.5 kilograms. The cost of each tablet is \$1.48. The veterinarian wants to treat her for 4 days.



11. How many tablets will Daisy get per day?

Answer: 2 tablets

12. How much will the treatment cost per day?

Answer: \$2.96

13. How many tablets will Daisy get for the whole treatment?

Answer: 8 tablets

14. How much does Daisy weigh in pounds?

Answer: 12.1#

DESCRIPTION: IMPROVEST

DOSAGE AND ADMINISTRATION: IMPROVEST should be administered via subcutaneous injection into the post auricular region of the neck. Each intact male pig should receive two 2-mL doses of IMPROVEST. The first dose should be administered no earlier than 9 weeks of age. The second dose should be administered at least 4 weeks after the first dose. Pigs should be slaughtered no earlier than 3 weeks and no later than 10 weeks after the second dose. In case of misdosing, the animal should be re-dosed immediately.

Use the information on Improvest above to answer questions 15 and 16.

15. A swine company contacted their local veterinarian and requested a prescription of Improvest.

The company has 500 boar piglets that are 9 weeks old and prefer not to castrate them. How much drug material does the company need according to Improvest's label for the treatment?

Answer: 500 x 4 mL=2000mL

16. How much will the entire treatment cost if the cost per pig is \$5.00?

Answer: $500 \times \$5.00 = \$2,500.00$

17. Indicate the number of tablets prescribed for the following order:

Rx: Clavamox tablets 375 mg

Sig: 2 tablets , P.O., BID x 10 days

Answer: $4 \times 10 = 40$ tablets

18. In preparation for surgery, the veterinarian requests that you prepare a syringe of Ketamine for a 60 pound boa constrictor. The dose is 25 milligrams per kilogram with a bottle concentration of 250 milligrams per milliliter. How many milliliters are required?

Answer: $60 / 2.2 = 27.27$ Kg

$27.27 \text{ Kg} \times 25 \text{ mg/Kg} = 681.75 \text{ mg}$

$681.75 / 250 \text{ mg per mL} = 2.7 \text{ mL}$

19. A 900-pound horse is given Banamine for colic pain. If the dosage is 1.1 milligram per pound IV and the solution is 50 milligrams per milliliter, how much should the horse receive?

Answer: $900 \times 1.1 \text{ mg/lb} = 990 \text{ mg}$

$990 \text{ mg} / 50 \text{ mg per mL} = 19.8 \text{ mL}$

20. Dr. Hatch needs to operate on a Koi fish to repair a fin. She administers Tricane Methanesulfonate (MS-222) to sedate the fish at a rate of 100 mg/L. If the fish is placed in a 15-gallon tank, how many milligrams MS-222 should the technician put in the tank.

Answer: $15 \text{ Gallons} \times 3.79 \text{ Liters/Gallon} = 56.85 \text{ Liters}$

$56.85 \text{ Liters} \times 100 \text{ mg per Liter} = 5685 \text{ milligrams}$