Work the following 20 problems and choose the best answer. Mark your answers on the scantron form. You may write on the test.

1. Your veterinarian has asked you to administer pain relief to Bentley, a 10-month old terrier mix who was neutered today. The pain relief the doctor prescribed is Butorphanol, which has a concentration of 10mg/ml. Bentley weighs 15 lbs. and the dosage is 0.2 mg/kg. How many ml of Butorphanol will you draw up for Bentley?

   A. 66 ml
   B. 33 ml
   C. 1.36 ml
   D. 0.14 ml

   Handwritten: $15 \div 2.2 = 6.82$ Kg

   6.82 Kg $\times .2$ mg/kg $= 1.36$ Mg or 1.4

2. The practice you work in has purchased a new dentistry unit for $15,350. You have been asked to set up a price to charge for each dental procedure performed. If you are expecting to average 2 procedures per day, Monday through Friday, in a 4-week month, calculate what the base price per procedure (without anesthesia) would be in order to pay off the price of the new unit in a 12-month period.

   A. $31.98
   B. $63.95
   C. $191.88
   D. $384.75

   Handwritten: $2 \times 5 \times 4 = 40$ per month $\times 12 = 480$ dental

   $\dfrac{\$15350}{480 \text{ mo}} = \$31.98$

3. Loki is a 12-yr. old neutered, mixed-breed male dog weighing 18.9 lbs. and he has come into your practice because his owner noticed red, raised areas on Loki's abdomen. The veterinarian diagnoses the areas as a bacterial infection of the skin and prescribes an antibiotic, Clavamox. If the dosage for Clavamox is 13.75 mg/kg PO BID for 10 days, how many 62.5 mg tablets would need to be dispensed?

   A. 10
   B. 20
   C. 30
   D. 40

   Handwritten: $18.9 \div 2.2 = 8.6$ kg 8.2 kg $\times 13.75 = 118.25$ mg

   $2 \text{ tablets/dose} \times 2 \text{ daily doses} \times 10 \text{ days} = 40 \text{ tablets}$ $\dfrac{118.25 \text{ mg}}{62.5 \text{ mg/tablet}} = 1.9$ or 2 tablets

4. Your practice offers an employee pet discount of 60% for employee owned animals. Your veterinary technician, Natalie, brings in her cat Evan for a dental cleaning. If the bill totals $374.62, how much will Natalie owe for Evan's dental cleaning once the discount is applied?

   A. $374.62
   B. $224.71
   C. $149.85
   D. $74.24

   Handwritten: $\$374.62 \times 40\% = 149.85$

5. You purchase a box of feline leukemia tests for $587.00. If there are 48 tests in a box, calculate the price per test with a 150% markup.
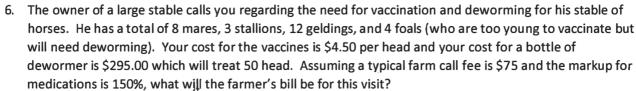
   A. $12.23
   B. $18.35
   C. $30.58
   D. $36.69

   Handwritten: $\dfrac{587}{48} = \$12.23$ $12.23 \times 150\% = 18.345$

   $+12.23$

   30.575

   or

   12.23
   12.23
   $+ 6.11$
   30.57

6. The owner of a large stable calls you regarding the need for vaccination and deworming for his stable of horses. He has a total of 8 mares, 3 stallions, 12 geldings, and 4 foals (who are too young to vaccinate but will need deworming). Your cost for the vaccines is $4.50 per head and your cost for a bottle of dewormer is $295.00 which will treat 50 head. Assuming a typical farm call fee is $75 and the markup for medications is 150%, what will the farmer's bill be for this visit?

A. $657.00
B. $718.00
C. $732.00
D. $777.00

Handwritten work:
$27 \times 5.90 = 159.30$

$23 \times 4.50 = 103.50$

$159.30 + 103.50$ over 262.80

$262.80 \times 150\% = 394.20$
262.80
$657 + 75 = 732$ 657^{00}

7. You are asked to administer 3.7 ml of Zylazine (100 mg/ml) IV to Boston, an 18-yr. old Appaloosa gelding, who weighs 500 kg. How many cc does this injection require?

A. 3.7 cc
B. 18.5 cc
C. 277 cc
D. 370 cc

Handwritten work: 3.7 ml is the same as 3.7 cc

8. You reconstitute 1 gram (G) of Cefazolin using 10 ml of sterile water to be administered at 20 mg/kg IV every 8 hours to your patient who is a 29 lb. dog. How many milligrams of Cefazolin will be in each dose?

A. 2.6 mg
B. 5.8 mg
C. 374 mg
D. 580 mg

Handwritten work:
$29 \div 2.2 = 13.2\ kg$

$20 \times 13.2 = 263.6\ mg$

$\dfrac{263.6}{100} = 2.6$

9. Your practice employees include:
- 4 receptionists earning $14/hr. with 40 hours per week schedules 2240^{00}
- 2 P/T kennel assistants earning $9/hr. with 20 hours per week schedules 360^{00}
- 2 F/T kennel assistants earning $11/hr. with 35 hours per week schedules 770^{00}
- 5 F/T veterinary technicians earning $21/hr. with 40 hours per week schedules 4200^{00}
- 4 veterinary assistants earning $15/hr. with 35 hours per week schedules 2100^{00}
- 4 F/T veterinarians earning $42/hr. with 35 hours per week schedules 5880^{00}
- 2 P/T veterinarians earning $35/hr. with 20 hours per week schedules 1400^{00}

What is the weekly employee payroll total? $16,950$

A. $11070.00
B. $14,710.00
C. $15,550.00
D. $16,950.00

10. One of your clients has a cat who is morbidly obese. The cat should weigh 7.5 lbs. and is currently 13 lbs. If the cat loses 5% of its current weight per month, how long will it take for the cat to reach its ideal body weight?

A. 8.5 months
B. 11.5 months
C. 14.7 months
D. 20 months

Handwritten work:
$13 - 7.5 =$

$13 \times .05 = .65\ \#/mo$

$\dfrac{5.5}{.65} = 8.5\ mo$

11. You are about to induce anesthesia on a 57 lb. Labrador Retriever for his neuter surgery. You have chosen to use Propofol as your induction agent. The concentration of Propofol is 10 mg/ml and has a dose rate of 4.4 mg/kg. How many ml of Propofol will you administer to this patient?
    A. **11.4 ml**
    B. 25.1 ml
    C. 114 ml
    D. 250.8 ml

    $57 \div 2.2 = 25.91 kg$

    $25.91 kg \times 4.4 = \dfrac{114 mg}{10 mg/ml} = 11.4 ml$

12. You have been tracking the weight loss of Ellie, an overweight Golden Retriever. At her last weigh-in 3 months ago, she was 87 lbs. Today her weight is 34.7 kg. How many lbs. did Ellie lose between her last visit and today's visit?
    A. 4.8 lbs.
    B. **10.66 lbs.**
    C. 31.98 lbs.
    D. 52.3 lbs.

    $87 - 76.34 = 10.66 lbs$ $34.7 kg \times 2.2 = 76.34$

13. You and the doctor have decided to hospitalize Edward, a 7-yr. old Boxer. Edward has presented with dehydration due to vomiting. Your plan is to initiate IV fluid therapy for him using Lactated Ringers Solution (LRS). Based on his weight and your assessment of his degree of dehydration, you determine his fluid infusion rate to be 82 ml/hour. How long will a 1 L bag of LRS last?
    A. 4.1 hours
    B. 6.1 hours
    C. 8.2 hours
    D. **12.2 hours**

    $\dfrac{1000 ml}{82 ml/hr} = 12.2 hrs$

14. Your patient weighs 44 lbs. and requires a 50 mg/kg dose of a medication that comes in 2-gram tablets. How many tablets will you administer to your patient?
    A. **0.5 tablet**
    B. 1 tablet
    C. 1.5 tablets
    D. 2 tablets

    $44 \div 2.2 = 20 kg$

    $20 kg \times 50 mg/kg = \dfrac{1000 mg}{2000 mg/tablet} = .5 tablets$

15. The surgery patient for today is an 8.2 lb. cat. You will premed this cat with Dexmedetomidine (500 mcg/ml) at 3 mcg/kg and Buprenorphine (0.3 mg/ml) at 0.01 mg/kg. How many micrograms of Dexmedetomidine will you administer?
    A. 3.73 mcg
    B. **11.2 mcg**
    C. 24.6 mcg
    D. 35.8 mcg

    $8.2 \div 2.2 = 3.73 kg$

    $3 mcg/kg \times 3.7 kg = 11.2 mcg$

16. A customer takes her six dogs to the vet for their annual visit. The cost for the visit is $156 per pet. There is an 18% discount for clients with four or more pets. What is the total discount the client would receive?
    A. $112.32
    B. **$168.48**
    C. $511.68
    D. $767.52

    $156 \times 6 = 936.00$

    $936 \times .18 = \$168.48$

17. You purchased 100 canine deworming packets for a total cost of $1,348. What is the cost to the client for
a single packet with a 125% markup?
   A. $13.48
   B. $26.96
   C. **$30.33**
   D. $40.44

$1348 \div 100 = 13.48$

$13.48 \times .25 = 3.37$

$13.48 \times 125\% = 16.85$
$+13.48$
30.33

18. A client brings in a cat for a routine exam. A rectal thermometer is used to take a temperature reading
which is 104.6°F. What is the cat's temperature in Celsius?
   A. **40.3°C**
   B. 58.1°C
   C. 72.6°C
   D. 130.7°C

$C = (F - 32) \times 5/9$

$C = (104.6 - 32) 5/9$

$C = (72.6) \times 5/9 = 40.33C$

19. To properly sterilize a kennel between pets, a solution of 8.25% sodium hypochlorite is mixed with water
at a 1:10 dilution ration. How many cups of sodium hypochlorite should be mixed with 2.5 gallons of
water to make the solution?
   A. **4**
   B. 8
   C. 12
   D. 20

$4 \text{ cup} = 1 \text{ qt}$ $4 \text{ qts} = 1 \text{ gal}$ $4 \times 4 = 16 \text{ cups/gal}$

$16/10 \text{ dilution} = 1.6 \text{ cups/gal}$ $16 \times 2.5 \text{ gal} = 4 \text{ cups}$

20. A Great Dane weighs 175 lbs. and requires a 50 mg/kg dose of a medication that comes in 2-gram tablets.
How many tablets will be administered to the patient?
   A. 2
   B. 3
   C. 4
   D. 5

$175 \div 2.2 = 65 kg$

$65 kg \times 50 mg/kg = \dfrac{3977.5 mg}{2000 mg} = 1.99 \text{ or } 2$