

**2013 NC State 4-H Horse Bowl Contest  
Round 1**

**One-On-One**

1. C1     Q. What is the name for the famous Thoroughbred horse that was referred to as the original “Big Red”?  
  
          A. Man-O-War  
  
          S. Evans p. 22                    200/2
2. C2     Q. What slang term refers to a racing stable employee who walks a hot horse after a race or workout?  
  
          A. Hot walker  
  
          S. DET p. 144                    1070/3
3. C3     Q. What term refers to the right side of the horse?  
  
          A. Off side or far side  
  
          S. DET p. 194                    400/2
4. C4     Q. Which gait is commonly referred to as the “plantation gait”?  
  
          A. Running walk  
  
          S. Evans p. 178                    640/2

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5. C1 Q. Healthy horses usually have what body condition score?  
A. 4 to 6 (accept anything within that range)  
S. HIH 780-1                      800/2
6. C2 Q. What type of equipment is described as a cross between a cavesson and a figure eight noseband?  
A. Flash noseband  
S. DET p. 109                      1000/3
7. C3 Q. What is the result of breeding a donkey and a stallion?  
A. Hinny  
S. Griffiths p. 22                      500/2
8. C4 Q. What current breed was formerly known as the “Palouse horse”?  
A. Appaloosa  
S. HIH 152B-1                      200/2

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9. C1 Q. In general what does the prefix “hepato” indicate?  
A. Condition related to the liver  
S. DET p. 138 430/3
10. C2 Q. What is the common term for the behavior referred to as dominance hierarchy?  
A. Pecking order  
S. Evans p. 677 910/2
11. C3 Q. A grain that has been processed by rolling the kernels between corrugated rollers would be described as what type of processing?  
A. Crimped or crimping  
S. Lewis p. 386 790/2
12. C4 Q. What type of knot forms the eye of the lariat that the rope passes through to form a loop?  
A. Honda  
S. DET p. 141 1000/3

**End One-On-One**

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**Begin Open Questions**

13. Q. What type of Western saddle is being described? It **usually** has **no** horn; its most notable feature is the high “thigh rolls” located near the front of the saddle and it is often used for trail riding.

A. Australian saddle

S. YLM BEG 108-2L                      1000/2

14. Q. The withers, back, coupling and croup are collectively referred to by what conformation term?

A. Top line

S. YLM ADV 323-2L                      600/2

**Toss Up – Bonus Attached**

15. Q. Identify **two** types of teeth that would be present at birth or erupt within the first 2 weeks of life.

A. Deciduous **central** incisors and premolars (must specify central incisors but do not need to include deciduous in answer)

S. YLM ADV 304-1L                      435/3

**Bonus Question**

16. Q. Identify **two** general physiological processes in the horse that are affected by the length of daylight.

A. Hair coat; female reproduction (estrous cycles); male reproduction (testosterone production, sperm production)

S. YLM ADV 304-2L; YLM ADV 327-2L; HIH 910-8                      400/3

## 2013 NC State 4-H Horse Bowl Contest Round 1

### Resume Open Questions

17. Q. What term refers to the feces of a foal and is described as a yellow pasty material indicating that the meconium has been passed?
- A. Milk feces
- S. HIH 950-2                      500/3
- 
18. Q. What breed of horse is described as a combination of any breeds that are not 100% hot-blood or 100% cold-blood?
- A. Warmblood
- S. HIH 151B-1                      200/3
- 
19. Q. You are an equine construction specialist and are preparing a site for a new barn. In regards to topography, what would be your recommendation for grading the soil to facilitate proper drainage and prevent erosion?
- A. Slope of 2 to 6 percent
- S. HIH 320-2                      920/2

### Toss Up – Bonus Attached

20. Q. The ingestion of which **two** plants would result in the condition nigropallidal encephalomalacia?
- A. Yellow Star Thistle (*Centaurea solstitialis*) and Russian Knapweed (*Centaurea repens*)
- S. Lewis p. 318                      770/3

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**Bonus Question**

21. Q. A spavin is a disease of the hock joint. What are the **four** different types of spavins?
- A. Blind spavin (occult spavin)      Bone spavin (true spavin or jack spavin)  
    Blood spavin                              Bog spavin
- S. Lewis p. 404                              810/3

**Resume Open Questions**

22. Q. What is the name of the person who looks after the horses on a trail ride?
- A. Wrangler
- S. DET p. 295                              1070/2
23. Q. Which current breed of horse was previously known as a Golden Isabella?
- A. Palomino
- S. Evans p. 50                              200/3
24. Q. Which internal parasite larvae cause the skin lesions known as “summer sores”?
- A. Stomach worms (Habronema)
- S. Griffiths p. 190                              835/2

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25. Q. Describe a four-in-hand hitch.
- A. Two pairs with one pair in front of the other
- S. DET p. 114                      1050/2

**Toss Up – Bonus Attached**

26. Q. What are the **three** basic types of forward seat saddles?
- A. All purpose, close contact (also accept jumping) and dressage
- S. HIH 1100-1                      1100/3

**Bonus Question**

27. Q. Identify **four** general reasons why a horse may refuse a feed.
- |                            |                                  |
|----------------------------|----------------------------------|
| A. Illness or disease      | Overfeeding                      |
| Insufficient water         | Something is wrong with the feed |
| Dental problems            | Sore tongue or mouth             |
| Not familiar with the food | When the horse is stressed       |
- S. HIH 735-2; Lewis p. 151      700/3

**Resume Open Questions**

28. Q. Which nerve is responsible for motor control of the eyelid, ear and facial muscles?
- A. Facial nerve
- S. Kainer plate 78                      420/3

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29. Q. You are completing a cross country race and are approaching a brush fence with a white flag on the right side of the obstacle. What does this indicate?
- A. You are approaching the fence from the wrong direction (the white flag should be on the left side of the obstacle)
- S. DET p. 293                      1075/2
30. Q. Lethal white foal syndrome is a genetic lethal associated with which **specific** color pattern?
- A. Frame overo (must specify “frame” overo)
- S. Griffiths p. 49                      550/3
31. Q. What breed is a result of crossing an Arabian and American Saddlebred horse?
- A. National Show Horse
- S. DET p. 188                      200/2

**Last Question of the Round**

32. Q. In regards to evolution, which ancestor of the horse was the first to have the 2 side toes transformed into splint bones?
- A. Pliohippus
- S. Griffiths p. 9                      100/3





**2013 NC State 4-H Horse Bowl Contest  
Round 2**

5. C1 Q. Winging-in is associated with what conformation defect?  
A. Splay footed (toed-out)  
S. Evans p. 151 600/2
6. C2 Q. Vesicular stomatitis is a viral disease that results in the formation of vesicles in the mouth and on the lips, hooves and teats. What is a vesicle?  
A. Fluid filled sac (blister)  
S. HIH 685-1; DET p. 282 860/3
7. C3 Q. Green forage is an important source of which essential vitamin?  
A. Vitamin A  
S. Lewis p. 46 740/2
8. C4 Q. Which type of bit may be used as a snaffle or a curb and is commonly used on heavy harness or plow horses?  
A. Liverpool bit  
S. DET p. 170 1000/2

**2013 NC State 4-H Horse Bowl Contest  
Round 2**

9. C1 Q. In general, what type of fencing is considered to have the longest life expectancy?
- A. PVC (vinyl)
- S. Evans p. 768 920/2
- 
10. C2 Q. A thin protrusion of metal on the ground surface of the toe of a racing plate is known as what shoe alteration?
- A. Toe grab (toe grip)
- S. DET p. 270 900/2
- 
11. C3 Q. Which endocrine gland is responsible for the maintenance of calcium levels in the blood?
- A. Parathyroid (also accept thyroid due to the hormone calcitonin)
- S. DET p. 204 490/3
- 
12. C4 Q. Who is the foundation sire for the American Albino?
- A. Old King
- S. Evans p. 23 200/3

**End One-On-One**

**2013 NC State 4-H Horse Bowl Contest  
Round 2**

**Begin Open Questions**

13. Q. For what length of time are sperm viable in the reproductive tract of the mare?
- A. 48 to 72 hours (accept anything within that range)
- S. Evans p. 396                                    520/3
14. Q. What sensory deficit is exhibited in Belgian horses with the genetic condition aniridia?
- A. Sight (also accept blindness although aniridia does not always cause blindness)
- S. Evans p. 516                                    530/3

**Toss Up – Bonus Attached**

15. Q. Identify **two** other terms for the blemish commonly referred to as mud fever.
- A. Grease, grease heel, scratches, cracked heel
- S. Evans p. 167; DET p. 183                    620/2

**2013 NC State 4-H Horse Bowl Contest  
Round 2**

**Bonus Question**

16. Q. Describe **three** methods that can be used to help establish a patent or effective airway for a foal that is not breathing after delivery.

- A. Clear and remove fetal membranes from over nostrils  
Place foal on sternum (head outstretched with rear end elevated)  
Gently remove fluids from nostrils with fingers  
Tickle inside of nose to induce sneezing  
Suction fluids from mouth using a bulb syringe  
Rub with towels

S. Lewis p. 251

500/3

**Resume Open Questions**

17. Q. In general, you should graze horses when forages are 6-8 inches high. What type of forage is an exception to this rule?

- A. Kentucky bluegrass or White clover (ladino) (can be grazed at 4 inches)

S. HIH 735-2

780/2

18. Q. You are the conditioning veterinarian judge for an endurance trail ride. What condition would these vital signs indicate? Temperature 102 degrees, heart rate 80 beats/minute and respirations 100 breaths per minute.

- A. Inversion (respiratory rate higher than the pulse rate)

S. YLM BEG 115-1L

800/2

**2013 NC State 4-H Horse Bowl Contest**  
**Round 2**

19. Q. A caudal epidural anesthetic would result in numbness in what areas of the horse?
- A. Hind legs (also accept pelvic and groin regions)
- S. DET p. 51                              805/2

**Toss Up – Bonus Attached**

20. Q. Other than salt, identify **two** other minerals that would be found in trace mineralized salt.
- A. Manganese, iron, cobalt, copper, iodine or zinc
- S. YLM ADV 302-2L                      750/3

**Bonus Question**

21. Q. What specific color would be the result of a single dilution of the following **three** colors with the dominant dun dilution gene... black, bay and chestnut?
- A. Black – grullo  
Bay – zebra dun  
Chestnut – Red dun (Claybank dun)
- S. HIH 1040-2                              550/3

**Resume Open Questions**

22. Q. What is the correct category for the behavior described as contagious or infectious behavior?
- A. Allelomimetic
- S. Evans p. 676                              910/2

**2013 NC State 4-H Horse Bowl Contest  
Round 2**

23. Q. What type of bar shoe would be used for a horse with navicular disease?

A. Egg bar (do not accept heart bar)

S. HIH 515-4                      900/3

24. Q. What is the common term for the disease Borreliosis?

A. Lyme Disease

S. HIH 655-1                      800/3

25. Q. What mineral is essential for the synthesis of vitamin B12?

A. Cobalt

S. Griffiths p. 137                      750/3

**Toss Up – Bonus Attached**

26. Q. Which **two** parasites are most common in foals up to 6 months old?

A. Roundworms (parascaris equorum)  
Threadworms (strongyloides westeri)

S. HIH 950-9                      835/3

**Bonus Question**

27. Q. From distal to proximal identify the **three** parts of the small intestine.

A. Ileum, jejunum and duodenum

S. Kainer plate 51                      430/3

**2013 NC State 4-H Horse Bowl Contest  
Round 2**

**Resume Open Questions**

28. Q. Plant poisoning from consumption of Milkweed would be treated as what type of sudden death poisoning?

A. Cardiac (cardiac glycoside) sudden death poisoning

S. Lewis p. 334                      770/3

29. Q. What term refers to the team of horses behind the lead team in an 8-horse hitch?

A. Point team

S. DET p. 215                      1050/2

30. Q. Your horse sustained a laceration and has bright red blood spurting from the wound. What would be your initial action to control the bleeding?

A. Direct pressure to the wound

S. HIH 440-2                      860-2

31. Q. Which farrier tool would be used to correct a flare?

A. Rasp

S. HIH 530-2                      900/2



**2013 NC State 4-H Horse Bowl Contest  
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**Last Question of the Round**

32. Q. What breed was developed by the east coast Indians?

A. Chickasaw

S. DET p. 55

200/2

**2013 NC State 4-H Horse Bowl Contest  
Round 3**

**One-On-One**

1. C1    Q. What type of joint is an enarthrosis?  
  
      A. Ball and socket  
  
      S. Evans p. 688                      410/3
  
2. C2    Q. What term refers to the 7 ½ or 8 minute time period in a polo match?  
  
      A. Chukka (also accept chukker)  
  
      S. DET p. 56                          1070/3
  
3. C3    Q. In general, what does the prefix “cysto” refer to?  
  
      A. Bladder  
  
      S. DET p. 76                          470/3
  
4. C4    Q. Which type of pack saddle is rigged for a double cinch?  
  
      A. Crossbuck (sawbuck)  
  
      S. HIH 1125-1                      1000/2

**2013 NC State 4-H Horse Bowl Contest  
Round 3**

5. C1 Q. What type of shoe would be a good choice for a horse that needs temporary shoe protection until the hooves can grow out enough to handle nailing a shoe in place?
- A. Glue-on shoe
- S. HIH 515-5                      900/3
- 
6. C2 Q. What is the scientific name for the common horse bot?
- A. *Gastrophilus intestinalis*
- S. HIH 430-3                      835/3
- 
7. C3 Q. Blood is pulled from the peripheral circulation to the internal vital organs in a horse with shock. How would this physiological process affect the capillary refill time?
- A. Delayed or slower capillary refill
- S. Griffiths p. 163                      800/3
- 
8. C4 Q. Which type of melanin controls the expression of red and yellow pigment?
- A. Pheomelanin
- S. Griffiths p. 93                      550/3

**2013 NC State 4-H Horse Bowl Contest  
Round 3**

9. C1 Q. There are 5 walk gaits in a dressage test. Which of these would have a footfall pattern where the hind feet touch the ground behind the footprints of the forefeet?

A. Collected walk

S. Evans p. 174                      640/3

10. C2 Q. Identify **one** of the breeds that the Tennessee Walking Horse was developed from.

A. Standardbred, Morgan or Narragansett pacer

S. Evans p. 40                      200/3

11. C3 Q. A feed containing 10% crude protein and 15% crude fiber would be appropriate for what type of horse?

A. Mature idle horse or horse with minimal work

S. HIH 745-5                      700/2

12. C4 Q. Thrombocytes are commonly referred to as what type of blood cells?

A. Platelets

S. DET p. 214                      440/3

**End One-On-One**

**2013 NC State 4-H Horse Bowl Contest  
Round 3**

**Begin Open Questions**

13. Q. You do the math...How many furlongs is a 1 ½ mile race?

A. 12 furlongs (1 furlong equals 1/8 mile)

S. DET p. 116                      1040/3

14. Q. What are you doing if you are fuzztail running?

A. Herding and catching wild horses

S. DET p. 116                      1070/3

**Toss Up – Bonus Attached**

15. Q. Identify the **three** “rough stock” events at a rodeo.

A. Saddle bronc riding, bareback riding and bull riding

S. DET p. 237                      1060/3

**Bonus Question**

16. Q. Identify **three** of the hormones produced by the anterior pituitary.

A. Growth hormone (GH)                      Adrenocorticotropin (ACTH)  
Luteinizing hormone (LH)                      Follicle stimulating hormone (FSH)  
Thyrotropin (thyroid stimulating hormone, TSH)  
Prolactin

S. Evans pp. 126-127                      490/3

**2013 NC State 4-H Horse Bowl Contest  
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**Resume Open Questions**

17. Q. What term refers to the mounted horseman who rode on the outside of a stagecoach for protection from bandits?
- A. Outrider
- S. DET p. 198                      100/3
- 
18. Q. In general, what does the prefix “leuko” refer to?
- A. White blood cells
- S. DET p. 168                      400/3
- 
19. Q. What type of negative reinforcement would be demonstrated by a horse moving away from pressure to avoid a more severe pressure?
- A. Avoidance
- S. YLM ADV 320-2L                      980/2

**Toss Up – Bonus Attached**

20. Q. (Two Part) In regards to maturity, what is the **term** that describes the optimal growth stage for harvesting legumes and what is the optimal growth stage for harvesting grasses?
- A. Legumes – bud or vegetative stage (just prior to when the legumes flower); Grasses – early or boot stage (when grasses begin to show heads through the sheath)
- S. Lewis p. 68                      780/3

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**Bonus Question**

21. Q. Premature separation of the placenta during parturition resulting in hypoxia is a known cause for neonatal maladjustment syndrome. Identify **three** terms used to describe these foal as they progress through the stages of this disorder.

A. Wanderer, dummy, convulsive or barker foal

S. HIH 950-8                      500/4

**Resume Open Questions**

22. Q. The process that uses intense cold to destroy the pigments cells of the skin and that is used for identification of livestock is known as what procedure?

A. Freeze branding

S. Evans p. 809                      920/3

23. Q. What is the **specific** location of the metatarsalphalangeal joint?

A. Hind fetlock joint (must specify hind for correct answer)  
(may also accept hind ankle or hind ankle joint)

S. Evans p. 689                      410/3

24. Q. When looking at the feed tag for the concentrate you are currently feeding you notice the abbreviation GRAS. What does GRAS indicate?

A. Generally Recognized as Safe (safe for animal consumption)

S. Lewis p. 391                      700/4

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25. Q. During the past 6 months horses across the United States were more likely to ingest poisonous plants due to what predominant weather condition?

A. Drought conditions

S. Lewis p. 301                      770/3

**Toss Up – Bonus Attached**

26. Q. (Two Part) What is the primary function of FSH in the mare and what is the primary function in the stallion?

A. Mare – stimulates growth of follicles in the ovaries  
Stallion – stimulates spermatogenesis (sperm production) in the testes

S. Lewis p. 390                      490/3

**Bonus Question**

27. Q. Stainless steel is the most common material bits are made from. Identify **four** other materials bits are made from.

A. German silver, solid nickel (or Never Rust), copper, aluminum, rubber, vulcanite or happy mouth

S. HIH 1100-10                      1000/3

**Resume Open Questions**

28. Q. What is the main physiological function of erythrocytes?

A. Transport oxygen in the blood

S. HIH 830-1                      440/2



**2013 NC State 4-H Horse Bowl Contest  
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29. Q. What is the only draft horse breed recognized as originating in the United States?

A. American Cream

S. HIH 155B-1                      200/3

30. Q. If hay is stored above stalls, the bales of hay should be **at least** how far from the outside walls to allow hot, moist air to escape?

A. At least 12 inches

S. HIH 320-9                      920/3

31. Q. What is the common term for the external parasite of the tabanids species?

A. Horse fly

S. HIH 415-2                      835/3

**Last Question of the Round**

32. Q. In general, in regards to the horse, what designates a fall?

A. When both the shoulder and quarter (hip area) on the same side touch the ground

S. DET p. 103                      1070/3

**2013 NC State 4-H Horse Bowl Contest  
Round 4**

**One-On-One**

1. C1     Q. What color dilution is often referred to as type B albino?  
  
          A. Perlino  
  
          S. DET p.209                                 300/3
  
2. C2     Q. Touching the saddle with a free hand is referred to by the slang term  
          “pulling leather” and is a disqualification in what rodeo event?  
  
          A. Saddle bronc riding  
  
          S. DET p. 222                                 1060/3
  
3. C3     Q. What term refers to the female side of the pedigree?  
  
          A. Distaff side (also accept dam side)  
  
          S. DET p. 82                                 220/3
  
4. C4     Q. What type of sudden death poisoning would be the result  
          of ingestion of water hemlock?  
  
          A. Alkaloid sudden death  
  
          S. Lewis p. 334                                 770/3

**2013 NC State 4-H Horse Bowl Contest  
Round 4**

5. C1 Q. What anatomical structure in the horse is described as a diverticulum of the auditory tube?
- A. Guttural pouch
- S. Kainer plate 46 400/3
6. C2 Q. What is the difference between a roached mane and a hogged mane?
- A. Hogged mane is clipped to a length of no more than 3 inches; Roached mane is clipped close to the skin (less than 3 inches)
- S. DET p. 141, 235 950/3
7. C3 Q. When fox hunting, what does the cry holloa indicate?
- A. The fox has been sighted
- S. DET p. 141 1080/3
8. C4 Q. In general, what does the suffix “itis” indicate?
- A. Inflammation
- S. DET p. 67, 118, 138 (multiple other pages) 400/3

**2013 NC State 4-H Horse Bowl Contest  
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9. C1 Q. What is unique in the horse in regards to respiratory frequency and stride frequency, especially at the gallop?  
A. 1:1 ratio (respiratory rate equals number of strides)  
S. YLM ADV 325-2L 980/3
10. C2 Q. What **specific** term refers to the prophylactic surgical procedure that would be used for a pregnant broodmare with pneumovagina?  
A. Caslick's  
S. YLM INT 230-1L 510/3
11. C3 Q. What is the diploid number of chromosomes for a donkey?  
A. 62 diploid chromosomes  
S. Griffiths p. 20 550/3
12. C4 Q. What phase of the stride occurs when all 4 feet are off the ground?  
A. Period of suspension  
S. Griffiths p. 74 640/3

**End One-On-One**

**2013 NC State 4-H Horse Bowl Contest  
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**Begin Open Questions**

13. Q. What term refers to bursts of white on a gray coat color?

A. Rosettes

S. Griffiths p. 45                                  300/4

14. Q. What would be the general location of the manubrium and xiphoid process?

A. Sternum

S. Kainer plate 8                                  410/3

**Toss Up – Bonus Attached**

15. Q. Identify **two specific** types of parasites that would cause pruritis ani.

A. Pinworms (oxyuris equi)

    Tail mange mite (also accept mange mite) (chorioptes equi)

    Biting louse (must specify **biting** louse) (damalinia equi)

S. Evans p. 641                                  835/4

**Bonus Question**

16. Q. Identify **three** of the four breeds that the Paso Fino breed was developed from.

A. Andalusian, Barb, Spanish Jennet and Friesian

S. Evans p. 43                                  200/4

**2013 NC State 4-H Horse Bowl Contest  
Round 4**

**Resume Open Questions**

17. Q. A broodmare whose foal is in a “flexed capri” position would need what problem corrected to enable normal vaginal delivery?
- A. Knees are bent, so the foal would need repositioned and the front legs straightened into normal position for delivery
- S. Evans p. 424 500/3
- 
18. Q. What type of electric fence is considered to be safer because it is more visible and less injurious to the horse?
- A. Electric tape
- S. Evans p. 767 970/3
- 
19. Q. What is the term for the Australian game on horseback that is based on polo and lacrosse?
- A. Polo crosse
- S. DET p. 217 1070/4

**Toss Up – Bonus Attached**

20. Q. Identify the **three** general types of clinchers or clinching tongs.
- A. Saddle horse, gooseneck and draft horse
- S. YLM BEG 116-2L 900/3

**2013 NC State 4-H Horse Bowl Contest  
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**Bonus Question**

21. Q. Identify **six** of the macro-minerals required by the horse.

A. Calcium            Sodium  
    Phosphorus       Chloride  
    Potassium        Magnesium  
    Sulfur

S. Griffiths p. 131                      750/3

**Resume Open Questions**

22. Q. In general, what does the prefix “desmo” indicate?

A. Ligament

S. DET p. 79                              410/4

23. Q. What type of bit is non-allergic?

A. Happy Mouth

S. HIH 1100-10                          1000/3

24. Q. There are 2 viruses that cause Rhinopneumonitis. Which of these can result in respiratory and neurologic symptoms as well as abortion in pregnant mares?

A. EHV-1 (Equine Herpes Virus 1)

S. HIH 610-2                              850/3

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25. Q. You do the math... If the cardiac output is 35 liters and the heart rate is 35 beats per minute...What is the stroke volume?

A. 1 liter

S. Evans p. 111                      440/3

**Toss Up – Bonus Attached**

26. Q. In general, for successful ejaculation of the stallion, an artificial vagina must provide what **two** physical characteristics ?

A. Must provide warmth and pressure

S. Evans p. 378                      500/4

**Bonus Question**

27. Q. Your job at a breeding farm is management of the pregnant broodmares. Identify **four** management practices you follow in regards to **herd management** to prevent an abortion storm.

A. Isolate all new arrivals for at least 21 days  
Keep pregnant mares separated from weanlings and other horses  
Do not mix maiden mares with older mares  
Divide pregnant mares into small groups by the stage of pregnancy  
Keep mares in group until all in group have foaled  
If pregnant mares are moved off the farm and later return – do not reintroduce them into the original group  
If a foster mare is introduced do not place her in a group with other mares  
Maintain all pregnant mares on vaccination program

S. HIH 610-3                      920/3



**2013 NC State 4-H Horse Bowl Contest  
Round 4**

**Resume Open Questions**

28. Q. What hormone is primarily responsible for diestrus?  
A. Progesterone  
S. Kainer plate 71                      510/3
29. Q. What is the common term for the tuber coxae?  
A. Hip  
S. Evans p. 687                      410/3
30. Q. Sidebones are a condition associated with ossification of the collateral (or lateral) cartilages. What term refers to the condition that occurs when the collateral cartilages become infected?  
A. Quittor  
S. HIH 455-5                      810/4
31. Q. Which contains more crude fiber – complete feeds or long stem hay?  
A. Long stem hay  
S. HIH 741-1                      780/3

**Last Question of the Round**

32. Q. Identify **two** different **medical** terms for the condition commonly referred to as moon blindness?  
A. Periodic ophthalmia, recurrent uveitis  
S. Evans p. 521                      800/4

**2013 NC State 4-H Horse Bowl Contest  
Round 5**

**One-On-One**

1. C1 Q. At what age are all of the permanent incisors in place?  
A. 4 ½ years  
S. Kainer plate 453/3
2. C2 Q. What **two** criteria determine the winner of an “against the clock” jumping competition?  
A. The rider with the fastest time and the fewest faults  
S. DET p. 4 1075/3
3. C3 Q. What breed is being described? Dun color with a dorsal stripe and black mane and tail. Breed that has survived since the Ice Age and originated in Mongolia.  
A. Asiatic Wild Horse (also accept Mongolian Wild Horse and Przewalski’s Horse)  
S. DET p. 16 200/4
4. C4 Q. Would the corium be considered to be part of the dermis or epidermis?  
A. Dermis  
S. Kainer plate 25 415/3

**2013 NC State 4-H Horse Bowl Contest  
Round 5**

5. C1 Q. The breeding of a **sire** with a **daughter** would be an example of what **specific** type of breeding?
- A. Inbreeding (also accept close breeding) (do not accept linebreeding)
- S. HIH 1080-1                      500/3
- 
6. C2 Q. What **two** breeds were combined in the development of the Azteca?
- A. Andalusian and Quarter Horse
- S. DET p. 19                      200/3
- 
7. C3 Q. In general, what does the prefix “arthro” describe?
- A. Joints
- S. DET p. 15                      410/3
- 
8. C4 Q. Would a feed with a 2% or 5% crude fiber have a higher digestible energy?
- A. Feed with 2% crude fiber
- S. HIH 745-3                      710/4

**2013 NC State 4-H Horse Bowl Contest  
Round 5**

9. C1 Q. What does the abbreviation PSSM indicate?
- A. Polysaccharide Storage Myopathy
- S. HIH 460-4                      800/4
- 
10. C2 Q. You recently purchased a new stallion for your breeding program. The previous owner stated that the stallion had a respiratory illness accompanied by a high fever 30 days ago. What impact would this have on the stallion's fertility?
- A. Would expect a lower sperm count for 65 days after the illness
- S. HIH 920-4                      520/3
- 
11. C3 Q. A "red bag delivery" is most commonly observed in mares that have been grazed on what type of pasture?
- A. Fescue
- S. HIH 940-4                      780/3
- 
12. C4 Q. You are the veterinarian on call and are examining a horse that sustained a laceration to the front lower leg sometime in the past 12 hours. There is no active bleeding from the wound. What would be the main reason to **not** suture this wound?
- A. Suturing may increase the risk of infection due to elapsed time since injury (without the wound being properly cleaned)
- S. HIH 440-3                      800/3

**End One-On-One**

**2013 NC State 4-H Horse Bowl Contest  
Round 5**

**Begin Open Questions**

13. Q. What is the purpose of a prophylactic medication?  
A. To prevent an illness or disease  
S. DET p. 221                      805/3
14. Q. What is the definitive host for Equine Protozoal Myeloencephalitis?  
A. Opossum  
S. HIH 670-1                      800/3

**Toss Up – Bonus Attached**

15. Q. Which **three** types of western saddles would have a horn that is tall?  
A. Barrel Racing, Roping and Cutting  
S. HIH 1100-5                      1000/3

**Bonus Question**

16. Q. The permanent upper and lower teeth are located in what **three** bones?  
A. Maxilla, mandible and incisive bone  
S. Kainer plate 41                      435/3

**2013 NC State 4-H Horse Bowl Contest  
Round 5**

**Resume Open Questions**

17. Q. Based on research studies for initial re-feeding of the starved horse, the best approach is feeding what?
- A. High quality alfalfa hay (frequent small amounts)
- S. HIH 785-3                      700/4
- 
18. Q. What is the slang term for the main office of a rodeo where excuses and grievances are aired?
- A. Crying room
- S. DET p. 74                      1060/3
- 
19. Q. What is the main purpose of the close contact saddle?
- A. Jumping
- S. HIH 1100-1                      1000/2

**Toss Up – Bonus Attached**

20. Q. Which **two** glands empty into the small intestine at the major duodenal papilla?
- A. Liver (bile duct) and pancreas (pancreatic duct)
- S. Kainer plate51                      490/4

**2013 NC State 4-H Horse Bowl Contest  
Round 5**

**Bonus Question**

21. Q. Identify **five** advantages of maintaining horses on a well-managed pasture.
- A. Reduces required supplemental feed (hay and/or grain)
  - Recycles nutrients from manure
  - Exercise
  - Reduces frequency of respiratory disease
  - Maintains gastrointestinal health
  - Aesthetically pleasing
  - Increases grazing capacity
  - Enhances water quality
  - Socialization
  - Decreases erosion
- S. HIH 740-1                      970/3

**Resume Open Questions**

22. Q. The oribatid mite is the intermediate host for which internal parasite?
- A. Tapeworm
- S. HIH 430-4                      835/3
23. Q. What is the name for the radiopaque dye material given to a horse by mouth to outline the digestive tract on radiographs?
- A. Barium
- S. DET p. 23                      805/3

**2013 NC State 4-H Horse Bowl Contest  
Round 5**

24. Q. Horses with recurrence of urinary calculi may benefit from feeding a diet that has less of what specific mineral?

A. Calcium

S. Lewis p. 297                      750/3

25. Q. What type of striding leg interference occurs when the toe of the forefoot strikes the hind leg at the pastern or fetlock?

A. Speedy cutting

S. Evans p. 179                      640/3

**Toss Up – Bonus Attached**

26. Q. Which **two** criteria used to evaluate semen are **not** affected by the length of daylight or season of the year?

A. Morphology and motility

S. Evans p. 368                      520/3

**Bonus Question**

27. Q. The genetic conditions atresia coli and lethal white foal syndrome are both fatal conditions due to an inability to eliminate waste products from the intestines. In regards to anatomy, how do each of these conditions differ as to why the intestine does not function normally?

A. Atresia coli – the lumen of the colon is not continuous and is described as severed

Lethal white foal syndrome – intestine does not empty correctly due to absence of nerves responsible for peristalsis in the intestines

S. DET p. 17; HIH 1060-6                      830/4



**2013 NC State 4-H Horse Bowl Contest  
Round 5**

**Resume Open Questions**

28. Q. What is the slang term for a foal that is born with septicemia and is semi-comatose?

A. Sleeper or sleeper foal

S. Evans p. 429                      840/3

29. Q. In what anatomical structure of the stallion are sperm stored and matured?

A. Epididymis

S. DET p. 97                      480/3

30. Q. What is a jerk line?

A. Single rein fastened to the brake handle of a carriage and run through the driver's hand to the bit of the lead horse

S. DET p. 157                      1050/4

31. Q. What would be the estimated age of a horse when the Galvayne's groove extends to the wearing surface of the corner upper incisor?

A. 20 years

S. HIH 240-4                      435/3

**2013 NC State 4-H Horse Bowl Contest  
Round 5**

**Last Question of the Round**

32. Q. Which external parasite usually feeds on the inside ear folds and may cause a horse to be head shy?

A. Black flies (“Buffalo gnats”)

S. HIH 415-2                      835/3

**2013 NC State 4-H Horse Bowl Contest  
Round 6**

**One-On-One**

1. C1 Q. What is the common name for the medication flunixin meglumine?

A. Banamine

S. HIH 640-2                      805/4

2. C2 Q. In regards to physiology, why is the myometrium thicker around the left ventricle than it is around the other chambers of the heart?

A. The muscle around the left ventricle is thicker and stronger because it must contract with enough force to pump blood throughout the body

S. Evans p. 111                      440/3

3. C3 Q. You are the manager at a Thoroughbred farm and will be breeding a 15.2 hand stallion to a 16.3 hand mare. What is your solution for dealing with the physical size difference?

A. Mare's hind legs can be placed in a shallow depression or stand the stud on a hill or raised area (only need to give one answer) (do not accept option of AI or embryo transfer as these are not permitted with Thoroughbreds)

S. Evans p. 415                      500/3

4. C4 Q. What term refers to supporting leg interference that results in an open wound?

A. Striking

S. Evans p. 179                      640/3

**2013 NC State 4-H Horse Bowl Contest  
Round 6**

5. C1 Q. What is the primary symptom of a horse that ingests wild onions?

A. Anemia

S. Lewis p. 331 770/3

6. C2 Q. What type of grass provides the highest yield of hay-crop forage each year in the southern United States?

A. Bermuda grass

S. Lewis p. 109 780/4

7. C3 Q. How quickly a horse's heart rate decreases and returns to their resting heart rate is an indication of what?

A. Fitness of the horse (accept any answer that indicates this)

S. Lewis p. 206 980/3

8. C4 Q. What is the common term for prognathia?

A. Monkey mouth (sow mouth)

S. Lewis p. 396 600/4

**2013 NC State 4-H Horse Bowl Contest  
Round 6**

9. C1 Q. What type of forage would be most appropriate for a horse with renal failure?
- A. Grass forage (lower in protein, phosphorus and calcium)
- S. Lewis p. 296 700/3
10. C2 Q. What physical characteristic is described by the term microphthalmia?
- A. Small eye
- S. Lewis p. 398 425/4
11. C3 Q. Evaluating a feed for aflatoxin-producing mold can be accomplished using ultraviolet light from what type of lamp?
- A. Woods lamp
- S. Lewis p. 408 790/4
12. C4 Q. What general term refers to a horse that eats unnatural substances such as wood, hair or dirt?
- A. Pica
- S. Lewis p. 400 910/3

**End One-On-One**

**2013 NC State 4-H Horse Bowl Contest  
Round 6**

**Begin Open Questions**

13. Q. What glandular organ is located near the stomach and serves as a reservoir for red blood cells?

A. Spleen

S. Lewis p. 404                      400/3

14. Q. What is the recommended width of a gate that would be wide enough for hay equipment?

A. 16 feet

S. Evans p. 771                      920/3

**Toss Up – Bonus Attached**

15. Q. Identify **two** problems that may occur when hay is baled with a moisture content greater than 20 percent.

A. Mold and heat (also spontaneous combustion)

S. Lewis p. 65                      780/3

**Bonus Question**

16. Q. Jugging is the practice of administering a large quantity of a concentrated solution into the jugular vein. Identify **three general types** of nutrients or substances that would be included in this solution.

A. Amino acids, electrolytes, vitamins, glucose

S. DET p. 158                      805/4







**2013 NC State 4-H Horse Bowl Contest  
Round 6**

24. Q. The most common cause of spontaneous abortion is placental or uterine infections. Prior to the current widespread use of ultrasound, what accounted for about 25% of abortions and was considered to be the second most common cause?
- A. Twinning
- S. Lewis p. 240                      500/4
- 
25. Q. What breed is being described... Noted for its speed and jumping ability although it can be stubborn. Able to withstand the severe weather in its country of origin which is Russia.
- A. Akhal-Teke
- S. DET p. 6                      200/4

**Toss Up – Bonus Attached**

26. Q. In regards to biosecurity identify **three** ways to diminish the possibility of transferring infective agents with your boots.
- A. Disinfect boots using a spray disinfectant  
    Disposable boots or boot covers  
    Disinfect boots with a boot dip  
    Change boots (between farms, between clean and dirty areas, etc)
- S. Griffiths p. 194                      920/4

**2013 NC State 4-H Horse Bowl Contest  
Round 6**

**Bonus Question**

27. Q. What color would be the result of the silver dapple gene on the following **three** colors...black, bay and chestnut?

A. Black – Blue silver or silver dapple  
Bay – Red silver  
Chestnut – Chestnut (silver gene only affects black areas)

S. HIH 1040-2                      300/4

**Resume Open Questions**

28. Q. What is the scientific name for the stable fly?

A. *Stomoxys calcitrans*

S. HIH 415-1                      835/4

29. Q. When driving a horse and turning left...Which rein is the “bearing rein”?

A. Right rein (rein opposite the direction)

S. DET p. 25                      1000/3

30. Q. In foxhunting, who hunts the hounds and is in charge of the kennels?

A. Huntsman

S. DET p. 145                      1080/3

**2013 NC State 4-H Horse Bowl Contest  
Round 6**

31. Q. In general, what does the suffix “oma” describe?

A. Tumor (also accept cancer or neoplasm)

S. DET p. 178, 190,240                      400/4

**Last Question of the Round**

32. Q. The mating of imported draft stallions with native mares in Southern Pennsylvania produced what breed that eventually disappeared and never had a breed registry.

A. Conestoga horse

S. Evans p. 9                                      100/3



**2013 NC State 4-H Horse Bowl Contest**  
**Round 7**

5. C1 Q. What anatomic structure is responsible for increasing absorption in the small intestine and is described as tiny, finger-like projections?

A. Villi

S. DET p. 283                      430/4

6. C2 Q. In what **specific** area of the uterus does the conceptus attach and the fetus develop in a normal horse pregnancy?

A. Uterine horn

S. Evans p. 340, 347                      510/3

7. C3 Q. The alkaloid slaframine would result in what symptom in horses grazing red clover affected with black patch?

A. Excessive salivation (slobbers)

S. Lewis p. 108                      780/4

8. C4 Q. Who is the foundation sire for the American Saddlebred Horse?

A. Denmark

S. Evans p. 38                      200/3

**2013 NC State 4-H Horse Bowl Contest  
Round 7**

9. C1 Q. What is the primary benefit of extruded feed?  
A. Improved digestibility  
S. HIH 745-1                      790/3
10. C2 Q. Ovulation will usually occur within how many days after the discontinuation of treatment with Regumate?  
A. Approximately 12 days  
S. HIH 930-4                      805/4
11. C3 Q. Would the parasympathetic or sympathetic nervous system be stimulated with the “fight or flight” instinct?  
A. Sympathetic  
S. Kainer plate 80                      420/4
12. C4 Q. What is the correct term for a full turn on the haunches in dressage?  
A. Volte  
S. DET p. 284                      1090/4

**End One-On-One**

**2013 NC State 4-H Horse Bowl Contest  
Round 7**

**Begin Open Questions**

13. Q. What are the **two** functions of the turbinate bones?
- A. Warm, hydrate and filter inspired air (only need to give two answers)
- S. DET p. 276                      410/4
- 
14. Q. Which pony breed is referred to as the “living fossil”?
- A. Exmoor
- S. HIH 157B-1                      200/4

**Toss Up – Bonus Attached**

15. Q. (Two Part) The diaphragm is the muscle that separates the thoracic and abdominal cavities. What serous membrane covers the abdominal surface of the diaphragm and what serous membrane covers the thoracic surface?
- A. Abdominal – peritoneum  
    Thoracic – pleura
- S. Kainer plate 56                      400/4

**Bonus Question**

16. Q. What are the **four** methods used to breed mares?
- A. Pasture breeding, hand breeding, artificial insemination and embryo transfer
- S. Lewis p. 237                      500/4

**2013 NC State 4-H Horse Bowl Contest  
Round 7**

**Resume Open Questions**

17. Q. Which **two** types of white spotting are described as rising up from the underline of the horse?
- A. Splashed white and sabino
- S. Evans pp. 492-493                      300/4
- 
18. Q. What type of knot is used on the end of a rope to keep it from unraveling?
- A. Crown knot
- S. DET p. 74                                      1000/3
- 
19. Q. You do the math... You are feeding a weanling that weighs approximately **400 pounds**. If you are feeding **twice a day** and need to feed a **total of 1%** of the body...How many pounds would you feed for the **morning** feeding?
- A. 2 pounds
- S. HIH 765-2                                      700/4

**Toss Up – Bonus Attached**

20. Q. Identify the **three** gaits of the Paso Fino beginning with the speed that is the fastest and ending with the speed which is slower and more collected.
- A. Paso largo, paso corto and paso fino
- S. Evans p. 178                                      640/4



**2013 NC State 4-H Horse Bowl Contest  
Round 7**

**Bonus Question**

21. Q. Identify **three** breeds that originated in the United States and were developed from crossing other breeds with Canadian pacers.
- A. Standardbred, American Saddlebred and Tennessee Walking Horse
- S. Evans p. 28, 38, 40                      200/4

**Resume Open Questions**

22. Q. What is the anatomical name for a natural passageway or opening in the body that blood vessels and nerves pass through?
- A. Foramen (also accept foramina)
- S. DET p. 111; Kainer plate 41                      410/3
23. Q. Sprinting and galloping can produce an oxygen deficit within skeletal muscle and result in what type of metabolism?
- A. Anaerobic
- S. HIH 895-1                      980/3
24. Q. What is the correct medical terminology for giving birth?
- A. Parturition
- S. DET p. 205                      500/3

**2013 NC State 4-H Horse Bowl Contest  
Round 7**

25. Q. For what specific equine competition would you have herd holders?

A. Cutting

S. DET p. 139                      1070/4

**Toss Up – Bonus Attached**

26. Q. Which **two** breeds were crossed to develop the Americana?

A. Shetland and Hackney Pony

S. Evans p. 66                      200/4

**Bonus Question**

27. Q. Identify **two** reasons why additional protein is not a desirable source of energy in the athletic horse.

A. Produces excess body heat  
Increased water loss (due to increased sweating)  
Increased electrolyte deficit  
More expensive

S. Lewis p. 196                      760/4

**Resume Open Questions**

28. Q. English stagecoaches often were accompanied by a cockhorse that was ridden behind the coach. What was the purpose of the cockhorse?

A. Hitched in front of the team when going up steep hills or heavy going

S. DET p. 60                      1050/4

**2013 NC State 4-H Horse Bowl Contest  
Round 7**

29. Q. The heart, trachea and esophagus are contained in what **specific** area of the chest cavity?

A. Mediastinum

S. DET p. 178                      400/4

30. Q. Cremello is a double dilution of what color?

A. Chestnut

S. HIH 1040-2                      650/3

31. Q. Which farrier tool is used to cut hot metal?

A. Hardy

S. Evans p. 727                      900/3

**Last Question of the Round**

32. Q. What breed's characteristics include a rat tail?

A. Appaloosa

S. Evans p. 32                      200/3



**2013 NC State 4-H Horse Bowl Contest  
Round 8**

5. C1 Q. What is the common term for Enterotoxemia?  
A. Overeating disease  
S. Evans p. 305 840/4
6. C2 Q. For fire safety, a barn used for hay storage should be located at least how far from other buildings?  
A. At least 100 feet  
S. Evans p. 781 920/3
7. C3 Q. What type of parasite is only a problem for horses that are being grazed with ruminants?  
A. Hairworms (*Trichostrongylus axei*)  
S. Lewis p. 158 835/4
8. C4 Q. What is the country of origin for the New Forest Pony?  
A. England  
S. DET p.190 200/3

**2013 NC State 4-H Horse Bowl Contest  
Round 8**

9. C1 Q. Would front or hind plates have “jar calks”?  
A. Front plates (are referred to as heel calks on hind plates)  
S. Evans p. 734 900/4
10. C2 Q. What does the slang term “owl head” describe?  
A. A horse that is difficult to train  
S. DET p. 199 980/4
11. C3 Q. When using the Y-Text Corporation system for freeze branding, the alpha character is used to identify what?  
A. Breed of horse (or “E” if grade or unregistered horse)  
S. Evans p. 810 920/4
12. C4 Q. What is the **scientific** name for the type of bot fly that is associated with eggs that are black and deposited on the lips?  
A. *Gastrophilus hemorrhoidalis*  
S. Evans p. 634 835/3

**End One-On-One**

**2013 NC State 4-H Horse Bowl Contest  
Round 8**

**Begin Open Questions**

13. Q. Common signs of ocular disease include color changes such as redness or cloudiness, increased tearing and blepharospasm. What is blepharospasm?
- A. Squinting or closing the eye (indicates pain)
- S. HIH 465-2                      425/4
14. Q. You would collect prize money if the horses you bet on placed first and second in the order you predicted if you placed what type of wager?
- A. Exacta
- S. DET p. 100                      1040/3

**Toss Up – Bonus Attached**

15. Q. What is the difference between hyperplasia and hypertrophy?
- A. Hyperplasia is an increase in the **number** of cells  
Hypertrophy is an increase in the **size** of the cells
- S. DET pp. 146-147                      400/4

**Bonus Question**

16. Q. Give **four** observations that would indicate that a foal with diarrhea would require medical attention.
- A. Large amount of diarrhea                      Diarrhea contains blood  
Decreased appetite                                      Fever  
Depression/lethargy                                      Dehydration  
Large volume of water in diarrhea
- S. Lewis p. 259                      830/4

**2013 NC State 4-H Horse Bowl Contest  
Round 8**

**Resume Open Questions**

17. Q. What is the common term for alpha tocopherol?
- A. Vitamin E
- S. DET p. 7                      740/4
- 
18. Q. What do the initials NHSRA stand for?
- A. National High School Rodeo Association
- S. HIH 186D-2                      230/3
- 
19. Q. In general, what does the suffix “malacia” describe?
- A. Softening
- S. DET 56, 91, 197                      400/4

**Toss Up – Bonus Attached**

20. Q. Identify **two** equine diseases that are caused by protozoa.
- A. Equine Piroplasmosis (Babesiosis)  
Equine Protozoal Myeloencephalitis (EPM)  
Giardia Infection (Giardiasis)
- S. Griffiths p. 174                      800/4



**2013 NC State 4-H Horse Bowl Contest  
Round 8**

**Bonus Question**

21. Q. (Four Part) In regards to balance, the angle or slope of the shoulder will directly influence the **ratio** of which **two** other areas.  
How are **each** of these areas altered if the shoulder is **longer** and **more sloping**? How do they change if the shoulder is **shorter** and **straighter**?
- A. Length of back: Length of underline  
More slope = length of back is shorter  
Straightener = length of back is longer  
Top line of neck: Bottom line of neck  
More slope = top line of neck is longer  
Straightener = top line of neck is shorter
- S. HIH 220-5/6                      600/4

**Resume Open Questions**

22. Q. Which pony breed has adapted to harsh winter weather with the growth of a cluster of short hairs on the top of the tail that is referred to as an “ice-tail” or “snow-chute”?
- A. Exmoor Pony
- S. HIH 157B-2                      200/4
23. Q. In the zoological classification, what is the order the horse would be included in?
- A. Perissodactyla
- S. Griffiths p. 15                      100/3



**2013 NC State 4-H Horse Bowl Contest  
Round 8**

**Resume Open Questions**

28. Q. Combined Immunodeficiency Disease and Epitheliogenesis imperfecta would be classified as what type of genetic lethal?

A. Delayed lethal

S. HIH 1060-4                      550/4

29. Q. You do the math... A foal normally weighs **9-10%** of the mare's body weight. A foal that weighs **50 pounds** would indicate that it's dam weighs how much?

A. 450-500 pounds (accept anything within that range)

S. HIH 940-5                      500/3

30. Q. Praziquantel and pyrantel pamoate are both effective for the control of tapeworms. How does the dosage of pyrantel paomate need to be altered when treating tapeworms?

A. Give twice the standard dose

S. HIH 430-4                      835/3

31. Q. What term refers to the discipline described as "gymnastics on horseback"?

A. Vaulting

S. HIH 185D-1                      1010/3

**2013 NC State 4-H Horse Bowl Contest  
Round 8**

**Last Question of the Round**

32. Q. What are the **two** types of balance to consider when trimming the hoof?

A. Heel to toe (front to back) and medial/lateral (side to side)

S. HIH 510-1                      900/3

**2013 NC State 4-H Horse Bowl Contest  
Round 9**

**One-On-One**

1. C1     Q. What is the correct term for the medication referred to by the abbreviation DMSO?  
  
          A. Dimethyl sulfoxide  
  
          S. DET p. 2                                 805/4
  
2. C2     Q. What is the common term for Lethal White Foal Syndrome?  
  
          A. “Megacolon”  
  
          S. Griffiths p. 98                                 550/3
  
3. C3     Q. What color describes a dun with black points and a black dorsal stripe?  
  
          A. Coyote dun  
  
          S. DET p. 71                                 300/4
  
4. C4     Q. What breed is being described...Sometimes used as a pack animal; dun color with black and silver mane and tail, eel stripe and zebra markings; resembles the wild horses of the Ice Age; country of origin is Norway.  
  
          A. Fjord  
  
          S. DET p. 108                                 200/3

**2013 NC State 4-H Horse Bowl Contest  
Round 9**

5. C1 Q. Equine supplements that contain valerian root provide what affect?
- A. Calming effect, sedative effect, anti-spasmodic effect (only need to give one answer)
- S. HIH 742-3                      700/4
- 
6. C2 Q. What mineral imbalance results in the condition commonly referred to as “bob-tail disease”?
- A. Excess selenium (must designate excess for answer to be correct)
- S. Lewis p. 329                      770/4
- 
7. C3 Q. For an obese horse, weight loss should occur gradually over several months. What amount of weight loss in pounds **or** what change in the body condition score is recommended in **one month**?
- A. Approximately 50 pounds or one body condition score
- S. HIH 790-3                      700/3
- 
8. C4 Q. What type of parasite may result in coughing, fever and nasal discharge which is commonly referred to as a “summer cold” in foals?
- A. Roundworms (parascaris equorum)
- S. Lewis p. 157                      835/4

**2013 NC State 4-H Horse Bowl Contest  
Round 9**

9. C1 Q. In general, what does the term viscera describe?  
A. Internal organs  
S. DET p. 283 400/4
10. C2 Q. Which breed was developed by crossing the Thoroughbred and Irish Draft breeds?  
A. Irish Hunter  
S. DET p. 155 200/4
11. C3 Q. Horses that are stalled 24 hours a day are more likely to be deficient in which vitamin?  
A. Vitamin D  
S. HIH 730-1 740/3
12. C4 Q. Halitosis with an odor of garlic would be an indication of what specific mineral toxicity?  
A. Selenium  
S. Griffiths p. 142 770/4

**End One-On-One**

**2013 NC State 4-H Horse Bowl Contest  
Round 9**

**Begin Open Questions**

13. Q. What omega 3 fatty acid source when added to the diet has recently been identified as providing a significant improvement in sweet itch or other allergic skin conditions?

A. Flaxseed

S. HIH 742-4                      700/4

14. Q. What ligament connects the splint bone to the cannon bone?

A. Interosseous ligament

S. DET p. 154                      410/4

**Toss Up – Bonus Attached**

15. Q. Identify **two systemic** fungal diseases that affect horses.

A. Aspergillosis                      Blastomycosis  
    Coccidiomycosis                  Hisoplasmosis

S. Griffiths p. 173                      800/4

**Bonus Question**

16. Q. Identify **three** of the five classifications of donkeys according to size.

A. Miniature                      Small Standard  
    Standard                      Large Standard  
    Mammoth

S. HIH 156B-1                      200/4



**2013 NC State 4-H Horse Bowl Contest  
Round 9**

**Resume Open Questions**

17. Q. What is considered to be the primary reservoir host for rabies in horses?
- A. Skunk
- S. HIH 680-1                      820/3
- 
18. Q. A mare that shows lack of interest to a stallion but is not aggressive toward the stallion would be given what estrus behavioral score?
- A. Score of 2
- S. HIH 9330-2                      520/4
- 
19. Q. Hay feeders should be placed at a height **no higher** than what part of the horse's anatomy?
- A. Shoulder
- S. HIH 740-12                      920/3

**Toss Up – Bonus Attached**

20. Q. Weakening of the broad ligaments can cause a downward tilting of the uterus and can predispose a mare to uterine infections and infertility. Other than injury or illness, identify **two** things that would contribute to the weakening of these ligaments
- A. Age of the mare, number of pregnancies the mare has had
- S. HIH 910-3                      510/4

**2013 NC State 4-H Horse Bowl Contest  
Round 9**

**Bonus Question**

21. Q. What is the correct name for the following **four** vitamins...  
Vitamin B1, B2, B6 and B12?

- A. Vitamin B1      Thiamin
- Vitamin B2      Riboflavin
- Vitamin B6      Pyridoxine
- Vitamin B12     Cobalamin

S. Griffiths pp. 126-127                      740/4

**Resume Open Questions**

22. Q. What does the slang term dog soldier describe?

- A. A stallion that has been cast out from a wild herd

S. DET p. 83                                      910/3

23. Q. Clipping along the belly, under the neck and above the thigh is known as what type of body clip?

- A. Trace clip

S. DET p. 950/3                                  950/3

24. Q. You do the math... Water hemlock ingestions results in sudden death in horses. Death results after ingestion of as little as **0.1 ounce** for each **100 pounds** of body weight. A horse that weighs **1000 pounds** would be fatally poisoned after consuming how many ounces of water hemlock?

- A. Poisoned after ingesting only 1 ounce

S. Lewis p. 343                                  770/3

**2013 NC State 4-H Horse Bowl Contest  
Round 9**

25. Q. Identify which **two** grasses are the most palatable.

A. Kentucky bluegrass and timothy

S. Lewis p. 109                      780/3

**Toss Up – Bonus Attached**

26. Q. Identify **two** types of colic in regards to the position of the small intestine.

A. Displacement, Telescoping (intussusception) or twisting (volvulus)

S. HIH 435a-1                      830/4

**Bonus Question**

27. Q. Identify **four** physiological and/or anatomical factors that would indicate a horse's racing performance or athletic ability.

A. Conformation

Oxygen intake ability (respiratory capacity)

Gait

Heart size and heart rate capacity (cardiac capacity)

Proportion/type of muscle fibers

S. Lewis pp. 220-222                      400/4

**Resume Open Questions**

28. Q. What part of a decker saddle is described as a heavy canvas or poly cover with a wooden bar at the bottom?

A. Half Breed

S. YLM BEG 118-1L                      1000/3



**2013 NC State 4-H Horse Bowl Contest  
Extra One-on-One Questions**

**100**

1. Q. in the zoological classification of the horse, what phylum includes the horse?

A. Chordata

S. Griffiths p. 15                      100/3

2. Q. Equus disappeared from North America during what time period?

A. Pleistocene epoch

S. Evans p. 4                      100/3

**200**

3. Q. (Two Part) The foundation sire for the Morgan breed was Figure. Figure was known by what other name and how did he get that name?

A. Justin Morgan – The custom at that time was to give the horse the same name as his owner

S. Evans p. 36                      200/3

4. Q. What breed was formerly known as the “Karster” horse?

A. Lipizzan (Lipizzaner)

S. HIH 159B-2                      200/4

**2013 NC State 4-H Horse Bowl Contest  
Extra One-on-One Questions**

**300**

5. Q. What is the base color of a red silver horse?

A. Bay

S. HIH 1040-2                      300/3

6. Q. What marking is known by the slang term “handprint”?

A. Blood mark

S. Griffiths p. 39                      310/4

**400**

7. Q. What is the anatomical term for the coffin joint?

A. Distal interphalangeal joint

S. Evans p. 689                      410/4

8. Q. Which hormone is needed for “milk let down” and parturition?

A. Oxytocin

S. Evans p. 127                      490/3

**2013 NC State 4-H Horse Bowl Contest  
Extra One-on-One Questions**

**500**

9. Q. What type of inheritance affects males and females equally and results in an observed phenotype **only** when there are **two** copies of the **recessive** allele necessary for the trait?

A. Autosomal recessive

S. HIH 1060-2                      550/4

10. Q. Light areas of color over the eyes, on the muzzle, flanks and inside the legs are seen with influence of what color gene?

A. Pangaré gene

S. Evans p. 481                      550/3

**600**

11. Q. What term describes too much angle in the pastern joint?

A. Coon footed

S. DET p. 68                          600/3

12. Q. What slang term refers to legs in which the tendons lack definition and do not stand out clearly?

A. Gummy legged

S. DET p. 126                        620/4

**2013 NC State 4-H Horse Bowl Contest  
Extra One-on-One Questions**

**700**

13. Q. During rapid growth, foals need more of which **two** amino acids?  
A. Lysine and threonine  
S. HIH 765-1                      700/4
14. Q. Decreased immune function is associated with what vitamin deficiency?  
A. Vitamin E  
S. HIH 730-3                      740/3

**800**

15. Q. Describe the typical stance of a horse with tetanus.  
A. "Saw horse" stance  
S. Griffiths p. 172                      820/3
16. Q. What is the scientific name for the horn fly?  
A. Haematobia irritans  
S. HIH 415-2                      835/4

**900**

17. Q. Which type of hammer is used for making and shaping shoes?  
A. Rounding hammer  
S. Evans p. 728                      900/3



**2013 NC State 4-H Horse Bowl Contest**  
**Extra One-on-One Questions**

18. Q. What characteristic makes a horse described as a “sunfisher” a desirable mount in bronc-riding events at a rodeo?

A. It is a bucking horse that twists its body in the air

S. DET p. 259                      910/4

**1000**

19. Q. When neck reining and completing a turn to the left, the rein on which side of the neck would be the opposition rein?

A. Rein on the right side of the neck

S. DET p. 196                      1000/3

20. Q. Identify **two** of the classical “airs above the ground” when all four feet are off the ground.

A. Ballatade, capriole and croupade

S. DET p. 22, 48, 73                      1090/4

**2013 NC State 4-H Horse Bowl Contest**  
**Extra Toss Up Questions**

1. Q. What are the **two** general types of chronic exertional rhabdomyolysis?  
  
A. Recurrent exertional rhabdomyolysis (RER)  
Polysaccharide storage myopathy (PSSM)  
  
S. HIH 795-4                      700/4
  
2. Q. Which **two** hormones are produced by the adrenal glands?  
  
A. Epinephrine (adrenaline) and corticoids (also accept glucocorticoids, mineralcorticoids, norepinephrine, corticosterone, hydrocorticosterone, aldosterone, androgens)  
  
S. Evans p. 127                      490/4
  
3. Q. The **two** semilunar valves are located between what **specific** structures?  
  
A. Right ventricle and pulmonary artery  
Left ventricle and aorta  
  
S. Evans p. 112                      440/4
  
4. Q. Which **two** external parasites are intermediate hosts for habronemiasis?  
  
A. House fly and stable fly  
  
S. Lewis p. 167                      835/3

**2013 NC State 4-H Horse Bowl Contest  
Extra Bonus Questions**

1. Q. Identify **four** different variations of the rings on snaffle bits.  

A. D-ring	Egg butt
Half cheek	Loose ring (O-ring)
Full cheek	

  
S. HIH 1100-8                      1000/3
  
2. Q. Other than infection, identify **four** problems that would result in a FPT or “failure of passive transfer” foal.  
  
A. Mare that grazed endophyte-infested fescue  
Maiden mare (are sometimes agalactic)  
Low immunoglobulin G in colostrum  
Mare that is leaking milk longer than 24 hours before foaling  
Mare that rejects the foal  
Weak foal that is unable to stand  
Foal that lacks suckling reflex  
  
S. HIH 950-2                      500/4
  
3. Q. Identify **three** genetic disorders that primarily affect draft breeds.  
  
A. Junctional Epidermolysis Bullosa (JEB)  
Aniridia  
Epitheliogenesis imperfecta  
Rhabdomyolysis (Monday morning disease, Azoturia)  
  
S. Griffiths p. 100; HIH 1095-2; Evans p. 514                      550/4
  
4. Q. What are the **two** predominant sire lines for Standardbred pacers and the **two** predominant sire line for Standardbred trotters?  
  
A. Pacers – The Direct and The Abbe lines  
Trotters – The Axworthy and Peter the Great lines  
  
S. Evans p. 29                      200/4

## 2013 NC State 4-H Horse Bowl Contest Tie Breaker 1

1. Q. For what **maximum** period of time after parturition would the foal be able to absorb the immunoglobulins in colostrum?  
  
A. up to 12-36 hours after birth (accept anything within this range)  
  
S. HIH 950-3; Evans p. 197                      500/3
  
2. Q. What breed is often confused with the Appaloosa because most are spotted?  
  
A. Rangerbred Horse  
  
S. Evans p. 58                      200/3
  
3. Q. In the hind legs, what is the anatomical term for the short pastern bones?  
  
A. Middle phalanx or Second phalanx  
  
S. Kainer plate 12                      410/3
  
4. Q. What term describes plant toxins that cross the placental barrier during pregnancy and cause defects in the foal?  
  
A. Teratogenic  
  
S. Lewis p. 332                      770/3
  
5. Q. What is the contributing factor to the condition known as anaphylaxis?  
  
A. Severe allergy  
  
S. DET p. 10                      800/3

