

FROSHMORE CHAMPIONSHIPS

# Round Six

Read only for Round Six

## Officials Checklist and reminders:

- 1.) Review this checklist and reminders document and the rules flow chart. \_\_\_\_\_
- 2.) Pencils and fresh scratch paper for each participant \_\_\_\_\_
- 3.) Timer instructions \_\_\_\_\_
- 4.) Identify the head coach for each team. \_\_\_\_\_
- 5.) Identify the team captain. \_\_\_\_\_
- 6.) Review the pumpnickel rule \_\_\_\_\_

Accept only the answer to the bonus question that comes from the captain.

The captain may defer to another team member to give the answer to the bonus question.

If you want them to indicate a deferral in a specific way – tell them at the beginning of the match. “If you are going to defer on a bonus question, please do so by ....”

**Coaches may use an ipad or table to keep score (I've sent out an excel score sheet) They may not use their ipad, phone or other technology to look up answers, send or received text messages or emails or to make calls during competition.**

Before you begin, remind students that on a toss-up question they must buzz-in and be recognized before giving the answer and that they may NOT confer on a toss-up. You may only confer on a bonus question.”

When you read a toss-up question – identify the subject, then read the question.

If the team member buzzes-in before the question is completed and the answer is incorrect, say ‘incorrect, I will finish the question’ then finish reading the question.

If you have finished reading the question when the first team buzzes-in and gives an incorrect response say ‘incorrect,’ look at the second team call them by team name and say ‘\_\_\_\_\_ I have finished the question’

If the time has expired, their response should be to immediately buzz-in to be recognized. If there is still time (5 seconds for a regular question 15 on a math computation) they have the remaining time to buzz.

If the toss-up question is not answered correctly by either team, give the correct answer. Do NOT read the bonus question, go on to the next toss-up. **If you need a replacement question for this subject, you may use the unused bonus.**

The first time you read a bonus question for each team say ‘Here is your bonus question, you do not need to buzz-in. Remember you may confer on this question, and I will take the answer from the team captain.’

There is NOT a penalty for buzzing during a bonus question.

**When the time for conferring has expired** (10 seconds – 15 on math or science computation) **call for the answer.** Say, ‘Captain?’ or ‘answer please’ (or something similar). If they do not give you an immediate answer say ‘time’ and give the correct answer.

There is no limit to the number of team members a team substitutes.

On a toss-up question, do not give the correct response until you have given both teams an opportunity to answer the question.

Leading articles such as “the,” “an,” and “a” are not required (e.g., Tale of Two Cities is an acceptable answer for The Tale of Two Cities). However, if an article is given, it must be the correct one.

Plural/Singular answers are acceptable unless otherwise delineated.

Last names are acceptable, except where there is more than one common person in the same field.

Prompt for more information by saying – ‘more’ or ‘more specific’.

**Questions requiring additional computation time (15 seconds) have computation in the subject line - MATH COMPUTATION: or SCIENCE COMPUTATION: or BONUS COMPUTATION:** (If it needs it and we forgot it, add it!)

**Math or Science questions that do not require computation and receive regular question time (5 for toss-up and 10 for bonus) do not have computation in the subject line - MATH: or SCIENCE: or BONUS**

Explain the addition of the word Computation to the timer and the team at the beginning of the tournament. After the first question containing COMPUTATION: You may choose to say only Computation if you wish.

Give your stall count before the game starts. A stall count is the amount of time allowed for the student to begin their answer once you've called on them. "My stall count is \_ \_ \_." Fill in the blanks with your count. Do you count 1, 2, stall? 1, 2, 3, stall? Do you say stall on the upbeat of the 3rd second or the downbeat? My preference is you count 1(1001), 2(1002), 3(1003) with stall being called on the downbeat of 3. (Down beat being the end of the 1003 with 100stall. You do not have to say the 1000 or the second 1, 2 or 3 out loud. You do need to make some type of physical indication - head nod, hand count (like a basketball referee counting the backcourt) even a foot tap. But do something so the student can see the seconds slipping away. This also helps with consistency. Neither team can say the other team received more time before a stall was called. When an immediate answer is expected 1 second is adequate time to allow before a stall is called.

"Welcome to Round \_\_\_\_ of the tournament. I am \_\_\_\_\_, your moderator. (if you have a judge, timer and scorekeeper, introduce them as well) Our two teams are \_\_\_\_\_ and \_\_\_\_\_. Head coaches, will you please stand. A protest may be lodged only by the head coach." (run a buzzer check) "Students, remember, you may not give an answer until you are recognized. If you do so, it will be ruled as an incorrect response, even if your answer is correct. Explain the timing for Math or Science Computation: (see instructions) Good sportsmanship is expected from **all** players, substitutes, coaches, spectators and parents. Except for using the excel spreadsheet to keep score, you may not use computers, smart phones, iPad, etc. during the competition. Turn off all and put away all electronics at this time. (pause) Are there any questions? Let's begin."

\_\_\_\_ 1. MATH COMPUTATION: What is the Roman Numeral for the current calendar year, 2024?

ANSWER: **M M X X I V**

BONUS BONUS COMPUTATION: What is the decimal number for the Roman Numeral M M M C M X C I X?

ANSWER: **3,999** [three thousand nine hundred ninety nine]

\_\_\_\_ 2. SOCIAL STUDIES: **Walt Whitman was present for this man's execution. This man and his sons led a raid in Kansas known as the Pottawatomie Massacre. This man later led a failed \* slave uprising at Harpers Ferry. Who is this radical abolitionist?**

ANSWER: (John) **Brown**

BONUS BONUS: What future Confederate General captured John Brown at Harpers Ferry?

ANSWER: (Robert E.) **Lee**

\_\_\_\_ 3. SCIENCE: **A 200 year old geology mystery was solved when the procedure from growing this crystal was published in a November 2023 paper. Scientists at the University of Michigan and Hokkaido University developed a technique of washing the edge of growing crystals\*, simulating rain or tides, to dislodge the calcium or magnesium atoms that had taken the wrong spot. What is this key mineral found in namesake mountains in Italy, Niagara Falls, the White Cliffs of Dover and Utah's Hoodoos?**

ANSWER: **Dolomite**

BONUS BONUS: Dolomite is made of alternating rows of these two elements, both of which have two valence electrons. What are these two elements?

ANSWER: **Calcium** and **Magnesium** [any order]

\_\_\_\_ 4. CURRENT EVENTS: **This country launched its first-ever military spy satellite.\* The SpaceX-assisted launch came a little over one week after a rival country successfully placed its first spy satellite in orbit. Name the country that plans to launch four more satellites to achieve 24-hour surveillance over its peninsula.**

ANSWER: **South Korea**

BONUS BONUS: From which US state did South Korea launch the satellite?

ANSWER: **California**

- \_\_\_\_\_ 5. HUMANITIES: **In one novel by this author, a group of POWs led by Cyrus Smith escape the Siege of Richmond in a balloon. *The Mysterious Island* is a work by this author who created the character \* Captain Nemo. *Twenty Thousand Leagues Under the Sea* is a work by what French author?**

ANSWER: (Jules) Verne

BONUS

BONUS: Phileas Fogg is the main character of what other novel by Jules Verne?

ANSWER: **Around the World in Eighty Days**

- \_\_\_\_\_ 6. MATH COMPUTATION: Solve this equation for x:  $21x + 34.95 = 13x - 65.05$

ANSWER: (x = ) **-12.5**

BONUS BONUS COMPUTATION: Solve this equation for x:  $51.4x - 131.2 = 27.4x + 120.8$

ANSWER: (x = ) **10.5**

END OF FIRST QUARTER

*The score at the end of the first quarter is*  
Team one \_\_\_\_\_ Team two \_\_\_\_\_

*Are there any questions?*

(pause and look at the coaches if there are no protests proceed)

*"Coaches... you may substitute if you wish."*

- \_\_\_\_\_ 7. SOCIAL STUDIES: **Ratko Mladic was convicted of war crimes for his participation in the Srebrenica Massacre during a war resulting from the dissolution of this country. This country avoided direct allegiance to the Soviet Union during the reign of \* Tito. What is this former country, which split into, among other countries, Serbia and Bosnia?**

ANSWER: (Socialist Federal Republic of) Yugoslavia

BONUS BONUS: What first President of Serbia reigned during most of the Yugoslav Wars?

ANSWER: (Slobodan) Milosevic

- \_\_\_\_\_ 8. SCIENCE: **This has uracil instead of thymine.\*** What is this single stranded genetic molecule that carries out multiple functions in cells?

ANSWER: **Ribonucleic Acid** [ accept "**RNA**"]

BONUS BONUS: This is a specific type of RNA that carries the code in the DNA to the ribosomes for decoding.

ANSWER: **Messenger RNA** [accept "**mRNA**"]

\_\_\_\_\_ 9. MATH COMPUTATION: What is the value of twenty factorial divided by eighteen factorial?

ANSWER: **380** [20x19]

BONUS BONUS COMPUTATION: What is the value of one factorial times two factorial times three factorial times four factorial divided by zero factorial?

ANSWER: **288** [1! = 1, 2! = 2, 3! = 6, 4! = 24, 0! = 1, so 1x2x6x24]

\_\_\_\_\_ 10. FINE ARTS: **This artist's *Forever* is a work featuring 1,200 bicycles. This artist also created the performance work \* *Dropping a Han Dynasty Urn*. *Human Flow* is a work by what Chinese artist and human rights activist who was arrested in 2011?**

ANSWER: **Ai Weiwei**

BONUS BONUS: Ai Weiwei's *Study of Perspective - Hong Kong* is a picture of the city, with the artist performing what mildly obscene gesture in the foreground?

ANSWER: **Showing his Middle Finger** [accept obvious equivalents like "Flipping the Bird"]

\_\_\_\_\_ 11. POP CULTURE: **Members of this band played their final concert in late 2023, but their digital\* avatars will keep touring. The band wrapped up 50 years of touring at a show in New York. Name the band, featuring Gene Simmons, who will continue to be shown in avatar format.**

ANSWER: **KISS**

BONUS BONUS: The avatars were created by visual effects founded by this man, who also created Star Wars. Who is he?

ANSWER: **George Lucas**

\_\_\_\_\_ 12. MATH: A chord in a circle divides the circle into two arcs. What is the arc with the larger measure called?

ANSWER: **Major** (arc)

BONUS BONUS: What is the term for a line segment that connects nonconsecutive vertices in a polygon?

ANSWER: **Diagonal**

END OF FIRST HALF

*The score at the end of the first half is*

*Team one \_\_\_\_\_ Team two \_\_\_\_\_*

*Are there any questions?*

(pause and look at the coaches if there are no protests proceed)

*"Coaches... you may substitute if you wish."*

13. SOCIAL STUDIES: **The Law of the Splintered Paddle was enacted in what is now this state. This state's first territorial governor led the overthrow of a Kingdom in what is now this state and was named \* Sanford Dole.** Honolulu is the capital of what current US state?

ANSWER: Hawaii

BONUS BONUS: The 1887 Constitution of Hawaii which removed the power of the monarchy is commonly referred to by the name of what weapon?

ANSWER: Bayonet (Constitution)

14. SCIENCE: **Fictional examples of this are the Trill of Star Trek and the Tok'ra of Stargate,\*** while lichen [lie-kin] are real world examples. What is this type of mutualistic relationship where both organisms benefit from the relationship?

ANSWER: Symbiosis

BONUS BONUS: This type of fungus exists usually in a mutualistic relationship with a green plant's roots. While a few species are parasites, most help the plant with disease, drought, or insect tolerance while the plant's roots provide a safe and comfortable home. What is this type of fungus literally named "fungus-root?"

ANSWER: Mycorrhizae [pronounce "My-core-rise-uh"]

15. LITERATURE: **The main character and setting of this book are Wade Watts in OASIS.\*** The book is set in 2044. Name the book where Wade Watts is searching for an Easter egg in a worldwide virtual reality game.

ANSWER: Ready Player One

BONUS BONUS: Who wrote *Ready Player One*?

ANSWER: Ernest Cline

16. MATH COMPUTATION: How many ounces are there in 5.5 pounds?

ANSWER: **88 (oz)**

BONUS BONUS COMPUTATION: How many pounds are there in 2.4 kilotons?

ANSWER: **4,800,000 OR  $4.8 \times 10^6$**

17. HUMANITIES: **One member of this family developed a law of linguistics related to sound shifts in Germanic languages. Two members of this family collected stories in \* *Children's and Household Tales*.** What is this family, which included the brothers Jacob and Wilhelm who collected German fairy tales including Hansel and Gretel?

ANSWER: Grimm

BONUS BONUS: "Aschenputtel" is the original German title for what fairy tale collected by the Brothers Grimm?

ANSWER: Cinderella

18. SOCIAL STUDIES: **One of this man's reforms led to one year being 455 days long. This man won the Battle of Alesia by defeating \* Vercingetorix** as part of the Gallic Wars. Who is this Roman general and statesman who was killed in an assassination plot on March 15?

ANSWER: (Gaius) **Julius Caesar** [prompt on Caesar; do NOT accept Augustus Caesar]

- BONUS BONUS: Julius Caesar also defeated what British tribal leader in his Second Invasion of Britain?

ANSWER: **Cassivellaunus** [there are many different spellings and pronunciations, give them credit as long as they are close]

END OF THIRD QUARTER

*The score at the end of the third quarter is*  
Team one \_\_\_\_\_ Team two \_\_\_\_\_

*Are there any questions?*

(pause and look at the coaches if there are no protests proceed)

*"Coaches... you may substitute if you wish."*

19. SCIENCE: **This quantity can be abbreviated as a lowercase "a" with a subscript of "c" and has a direction pointing inward to the center of rotation.\*** What is this quantity that is often confused for a pseudo-force directed outward from the center?

ANSWER: **Centripetal Acceleration** [do not accept "centrifugal" ]

- BONUS BONUS: The force which causes centripetal acceleration is this type of force, the sum of all the forces on the object. What is this two-word term?

ANSWER: **Net Force**

20. FINE ARTS: **Techniques innovated by this artist of *The Dispute* were disavowed by a group of artists led by \* Dante Gabriel Rossetti.** Another work by this artist depicts great thinkers including Plato and Zoroaster. Who is this Renaissance artist of the *School of Athens*?

ANSWER: **Raphael**

- BONUS BONUS: Raphael's *Gavari Altarpiece* is alternatively known as the *Mond [this biblical scene]*. What is this biblical scene which was depicted in White and Yellow versions by Marc Chagall?

ANSWER: **Crucifixion** (of Jesus Christ)

21. SOCIAL STUDIES: **A decapitated skeleton was uncovered from this site in 1923. This site's connection to the winter and summer \* solstice** makes it a center of New Religious movements. What is this Neolithic bluestone monument located in England?

ANSWER: **Stonehenge**

- BONUS BONUS: One theory about the purpose of Stonehenge is that it was used as a sacred site of what Ancient Celtic religious class?

ANSWER: **Druids**

- \_\_\_\_\_ 22. **SCIENCE: This law was first published by French chemist Joseph Louis Gay-Lussac, who credited and named it after THIS French chemist whose unpublished work described the law.\*** Name this gas law which states that the volume of a gas sample is directly proportional to the temperature.

ANSWER: Charles Law

BONUS BONUS: If a sample of gas at 100.0 K has a volume of 200.0 mL, what will the volume be if the sample is heated to 300.0 K?

ANSWER: 600.0 mL

- \_\_\_\_\_ 23. **POP CULTURE: This internet personality announced on X in January 2024 that she would be leaving Twitch\*** and to hold her first ever YouTube live stream on February 1<sup>st</sup>. This content creator and live streamer also cohosted the 2024 Streamer Awards. Name the Moroccan born Canadian streamer.

ANSWER: **Pokimane** (Accept Imane Anys)

BONUS BONUS: Which other streamer cohosted the Streamer Awards with Pokimane? This streamer founded the awards in 2022 and hosts a podcast called *Wine About It*?

ANSWER: QTCinderella

- \_\_\_\_\_ 24. **HUMANITIES: A mansion in the film Citizen Kane is named for this place, which also titles a 1977 song by the band Rush. A palace with this name is described in the Samuel Taylor Coleridge poem \* "Kublai Khan."** Shangdu is another name for what place, originally the summer palace of the Yuan Emperors?

ANSWER: **Xanadu**

BONUS BONUS: The first non-Chinese or Mongolian descriptions of Xanadu come from the writings of what Venetian explorer?

ANSWER: (Marco) **Polo**

END OF GAME

*The score at the end of the game is*

*Team one* \_\_\_\_\_

*Team two* \_\_\_\_\_

If there is a tie allow for substitution before you ask the tie-breaker questions. Reall all 5 questions to determine a winner.



**Tie Breakers**

SOCIAL STUDIES: What empire was founded by Sundiata Keita and had a later leader, Mansa Musa, nearly bankrupt Europe while undertaking the Hajj?

ANSWER: Mali (Empire)

MATHEMATICS COMPUTATION: What is the prime factorization of 240, using exponents if necessary?

ANSWER:  $2^4 \times 3 \times 5$  [may be in any order]

SCIENCE: This can be found in Sodium Chloride as well as Magnesium oxide and lithium fluoride. What is this type of chemical bond where electrons are taken, not shared?

ANSWER: Ionic (bond)

FINE ARTS: What painter created *Les Femmes d'Alger* and *Guernica*?

ANSWER: (Pablo) Picasso

CURRENT EVENTS: Google is harvesting electricity directly from the Earth in this state. It's the first-of-its kind geothermal energy project that powers Google data centers. Name the state whose capital is Carson City.

ANSWER: Nevada

***Are there any questions?*** ( pause and look at the coaches if there are no protests proceed)  
***This ends the game. "***