FROSHMORE CHAMPIONSHIPS

Round Eight

Read only for Round Eight

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 pumpernickel 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. MATHEMATICS COMPUTATION: Solve this system of linear equations for x and y:
2x – 5y = -24 and x + y = 18

ANSWER: **x = 4, y = 2**

BONUS BONUS COMPUTATION: At Mom's Café, she offers a slice of pie or a pastry dish for dessert on her menu. Five slices of pie and two pastries cost $24. Four slices of pie and four pastries also cost $24. How much does one slice of pie cost?

ANSWER: **$4**

_____ _____ 2. SCIENCE: **This was the first technique used to make transmissions of information using radio waves.*** It involved varying the strength of the signal, which would then be converted into electrical impulses directed at a speaker. What is this earliest form of radio?

ANSWER: **Amplitude Modulation** [prompt on "AM"]

BONUS BONUS: Because AM transmissions are susceptible to interference, this technique has tended to replace it. What is this more complicated radio transmission protocol?

ANSWER: **Frequency Modulation** [prompt on "FM"]

_____ _____ 3. FINE ARTS: **One work by this artist is described in the W.H. Auden poem "Musee des Beaux Arts." That painting by this artist is *Landscape with the *** *Fall of Icarus*. Who is this artist of *Hunters in the Snow*?

ANSWER: (Pieter) **Bruegel** (the Elder) [pronounced Broy-gul]

BONUS BONUS: Bruegel also painted two different depictions of what structure from the Bible?

ANSWER: (Tower of) **Babel**

_____ _____ 4. SOCIAL STUDIES: **A lucky cannonball shot which nearly killed the Russian Tsar gave Napoleon a military victory in this city. This city's Frauenkirche was heavily damaged during *** the firebombing of this city in World War II. What is this German city, the largest in Saxony?

ANSWER: **Dresden**

BONUS BONUS: What Russian Tsar during the Napoleonic Wars was almost killed by a cannonball at Dresden?

ANSWER: **Alexander I** [also accept Alexander the Blessed]

_____ _____ 5. MATHEMATICS COMPUTATION: What is the decimal number equivalent to the binary number 1100011?
[READ one one zero zero zero one one].

ANSWER: **99**

BONUS BONUS COMPUTATION: What is the binary number equivalent to the Roman Numeral LXVII?

ANSWER: **1000011**   [One zero zero zero zero one one]

_____ _____ 6. POP CULTURE: **The X account for this character checked in on how everyone was doing and got a huge response.*** The fuzzy red monster posed the question to its 457,000 followers. Name the Sesame Street character.

ANSWER: **Elmo**

BONUS BONUS: Which star and creator of *Curb Your Enthusiasm* apologized to Elmo for being rude following the incident?

ANSWER: **Larry David**

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. SCIENCE**: This term refers to all the individuals in a given area*** that are of the same species and capable of interbreeding. Collections of these make up communities. This term can also be applied to humans within arbitrary borders.

ANSWER**: Population**

BONUS BONUS**:** This is the maximum number in a population. This number can vary over time and is controlled by whatever resource is most limited. What is this term?

ANSWER**: Carrying Capacity**

_____ _____ 8. HUMANITIES: **This man argued for a specific kind of religiously oriented government in the King Follett Sermon. This man received the First Vision in the *** Sacred Grove from two "shining personages" believed to be God and Jesus. What man received golden tablets at Cumorah from the angel Moroni and founded the Mormon Church?

ANSWER: (Joseph) **Smith**

BONUS BONUS: What was the original name for the Mormon colony in what is now Utah?

ANSWER: **Deseret**

_____ _____ 9. SOCIAL STUDIES: **Angkor Wat, the Terracotta Army, and Andre the Giant have all been suggested as additions to this list. Three things on this list were destroyed by earthquakes and only *** one is still standing. The Pyramids of Giza is the last remaining example of what list of great structures of antiquity?

ANSWER: (Seven) **Wonders of the** (Ancient) **World**

BONUS BONUS: Which Ancient Wonder of the World was purported to have been constructed during the reign of Nebuchadnezzar II, but may not have actually existed?

ANSWER: **Hanging Gardens** (of Babylon)

_____ _____ 10. MATHETMATICS COMPUTATION: The sides of a rhombus are 13 centimeters. The shorter diagonal is 10 centimeters. How long is the longer diagonal in centimeters?

ANSWER: **24** (cm)

BONUS BONUS COMPUTATION: The lengths of the diagonals of a kite are in the ratio of three to four. The area of the kite is 384 square feet. How long are the two diagonals in feet?

ANSWER: **24 & 32** (ft)

_____ _____ 11. SCIENCE: **In November of 2023 scientists at Tufts University published a paper on the creation of hybrid transistors using the protein from this fiber as insulating material***. This material can be modified to detect environmental stimuli, making the transistors responsive to conditions such as humidity. What is this biological fiber that this lab has previously used to make bioactive inks?

ANSWER: **Silk** (fibroin)_

BONUS BONUS: Silk is produced by this type of animal which is the immature form of a winged insect that will go through metamorphosis to become an adult. What is this name for larva form of Lepidoptera? [leh-puh-DAAP-the-ruh]

ANSWER: **Caterpillar**

_____ _____ 12. LITERATURE: **It provides narratives with some of the most exciting and compelling events, pulled out of ordinary moments.*** As a literary device, it is the moment when a character is suddenly struck with a life-changing realization which changes the rest of the story. What is the term for an "Aha!" moment?

ANSWER: **epiphany**

BONUS BONUS: Which term describes a moment of revelation that is a dark and dramatic element of a tragic story?

ANSWER: **anagnorisis**

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. CURRENT EVENTS: **This university president faced backlash over the institution's response to antisemitism*** on campus. Her testimony then led to increased scrutiny of her academic record. Of which university did Claudine Gay resign as president?

ANSWER: **Harvard**

BONUS BONUS: Gay resigned after criticism of the University's response to which group's attack on Israel?

ANSWER: **Hamas**

_____ _____ 14. SOCIAL STUDIES: **Fifty Prostitutes attended the Banquet of Chestnuts in this city. This city was legendarily founded by the grandsons of Numitor who had been *** raised by a she-wolf. What is this Italian city, which names an Ancient Mediterranean Empire?

ANSWER: **Rome**

BONUS BONUS: The Banquet of Chestnuts was hosted by Cesare, a member of what Spanish noble house which produced the popes Callixtus III and Alexander VI?

ANSWER: **Borgia**

_____ _____ 15. MATHEMATICS COMPUTATION: How many square centimeters are there in five square meters?

ANSWER: **50,000** (square cm)

BONUS BONUS COMPUTATION: How many cubic millimeters are there in two and one-half cubic meters?

ANSWER: **2,500,000,000** (cubic millimeters) [**accept 2.5 billion**]

_____ _____ 16. SCIENCE: **Literally meaning "self-feeder"*** what is this term for those organisms that synthesize organic molecules like glucose from inorganic ones like water and carbon dioxide?

ANSWER: **Autotroph**

BONUS BONUS: This is another name for an autotroph to describe the first level of a tropic pyramid. What is this term also used in economics to describe a manufacturer?

ANSWER: **Producer**

_____ _____ 17. FINE ARTS: **One example of this kind of building began construction in 1882 and will not be completed until 2026. That building of this type is located in *** the Eixample district of Barcelona. The Sagrada Familia and St. Paul's are examples of what kind of religious buildings?

ANSWER: **Cathedral** [prompt on Churches]

BONUS BONUS: The Sagrada Familia was designed by what architect?

ANSWER: (Antoni) **Gaudi**

_____ _____ 18. SOCIAL STUDIES: **The Battle of Bloody Brook occurred during this war which was ended by the Treaty of Casco Bay. The Great Swamp Fight also occurred during this war which was sparked by the *** death of John Sassamon. What is this war, the first between American colonists and Native Americans and named for the English name taken by Metacomet?

ANSWER: **King Philip**('s War)

BONUS   BONUS: Metacomet was a leader of what Native American tribe of Massasoit and Squanto?

ANSWER: **Wampanoag**

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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.

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_____ _____ 19. MATHEMATICS COMPUTATION: Patty the slug starts slithering at 5 inches an hour. Sam the snail is 4 feet away from Patty when she starts slithering. If he creeps towards Patty at 7 inches per hour, in how many hours will they meet?

ANSWER: **4** (hours)

BONUS   BONUS COMPUTATION: Stanley starts running around a 440-meter track at 9:00 am. At 9:40 am, he stops running. If he is running at 220 meters per minute, how many laps did he run?

ANSWER: **20** (laps)

_____ _____ 20. POP CULTURE: **One of the stars of this film became the first Indigenous*** person to win a Golden Globe for best actress. Lily Gladstone played Mollie Burkhart in the film. Name the movie, directed by Martin Scorsese.

ANSWER: ***Killers of the Flower Moon***

BONUS   BONUS: Which actor played Mollie's husband Ernest in the film?

ANSWER: Leonardo **DiCaprio**

_____ _____ 21. SCIENCE**: This term comes from the French meaning "to strike" and is used in law to mean striking another.*** It was applied to a collection of guns and gunmen and then expanded to any repeating units, where it was applied to repeating units that stored electric charge. What is this term used to refer to a chemical energy storage device?

ANSWER**: Battery**

BONUS   BONUS**:** This is the proper term for the item that is usually referred to as a battery, such as in our flash light, where a electrolyte paste is used instead of a liquid and the whole is enclosed and can be used in any orientation.

ANSWER**: Dry Cell**

_____ _____ 22. HUMANITIES: **This poet wrote the ode "To Autumn." Another work by this poet is an ode to a translation of a *** Greek epic and is called "On First Looking Into Chapman's Homer." "Beauty is truth; truth beauty" appears in what poet's "Ode on a Grecian Urn?"

ANSWER: (John) **Keats**

BONUS   BONUS: The line, "I have been half in love with easeful death" appears in what Keats ode to a songbird?

ANSWER: (Ode) **to a Nightingale**

_____ _____ 23. CURRENT EVENTS: **Their new nine-page code outlines five rules of ethics.*** It's the first code of ethics for the group. Name the US court that has been under scrutiny for accepting luxury trips.

ANSWER: **Supreme Court**

BONUS   BONUS: Which Justice is accused of using taxpayer-paid staff to secure book sales?

ANSWER: **Sonia Sotomayor**

_____ _____ 24. MATHEMATICS COMPUTATION: Solve this proportion for x: The quantity three x plus two, close quantity over six x equals the quantity x plus 10, close quantity, over nine x.

ANSWER: (x =) **2**

BONUS   BONUS COMPUTATION: Two similar solids have corresponding sides in a ratio of 2 to 3. The volume of the smaller solid is 40 cubic units. What is the volume of the larger solid?

ANSWER: **135** (cubic units)

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. Read all 5 questions to determine the winner.

Tie Breakers

SOCIAL STUDIES: What event was organized by Elizabeth Cady Stanton, included a speech by Frederick Douglass, and created the Declaration of Sentiments which argued for women's suffrage?
ANSWER: **Seneca Falls** (Convention)

SCIENCE**:** This is not a clade nor is it considered by many biologists to be a true kingdom since it is made up of all eukaryotic organisms that are not animals, fungi, or plants. What is this group whose members are not related in any way except by exclusion from other groups?
ANSWER**: Protista**

MATHEMATICS COMPUTATION: Solve for all complex answers for x: $3x^2 + 71 = 23$
ANSWER: (x =) **4i, -4i**   [May say plus or minus four i]

HUMANITIES: This author's poetry collection *Poems, Chiefly Lyrical* included his poems "The Kraken" and "The Ballad of Oriana." This poet was inspired by a battle in the Crimean War to write a poem which includes the refrain, "Into the valley of death rode the six hundred." What English poet wrote "The Charge of the Light Brigade?"
ANSWER: (Alfred, Lord) **Tennyson**

LITERATURE: In this book, the main character and her dad haven't been home in five years since her mom and sisters died in a car crash. But when she finds out her neighborhood's park is going to be demolished, she creates a plan to travel back. Name this novel by Dan Gemeinhart.
ANSWER: ***The Remarkable Journey of Coyote Sunrise***

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