

Round 2

Tossups

(Tossup 1) Centrosymmetric linear molecules cannot be observed by this form of radiation's spectroscopy. Cavity magnetrons create this form of radiation. This form of radiation is used for cellphone towers. This form of radiation has wavelengths between radio and infrared. For the point, name this form of radiation used to energize water to heat food in namesake ovens.

ANSWER: microwave radiation (prompt on radio waves)

(Tossup 2) Friedrich Nietzsche questioned why anyone would listen to this man when he was ugly. In one book, this man argues that because the gods differ in opinion, pious activities cannot be what they love. This man claimed to be the wisest man in the world because he knew nothing. This man was sentenced to death by hemlock for corrupting the youth of Athens. For the point, name this teacher of Plato.

ANSWER: Socrates

(Tossup 3) Members of this family collaborated on the song "They All Laughed" for the Astaire and Rogers film *Shall We Dance?* DuBose Heyward worked with two brothers from this family on an opera featuring the song "Summertime," *Porgy and Bess*. Numerous early Broadway hits were composed by, For the point, what family of lyricist Ira and composer George, the latter of whom also composed *Rhapsody in Blue*?

ANSWER: Gershwin family (accept Ira and/or George Gershwin; accept Gershowitz)

(Tossup 4) While protesting this conflict, four students were shot at Kent State University. Students wearing black armbands to protest this conflict led the case *Tinker v. Des Moines*. Eartha Kitt made Lady Bird Johnson cry after talking about people being sent to be "shot and maimed" in this conflict. Thousands of people burned their draft cards to protest, for the point, what war in Southeast Asia that ended with the fall of Saigon?

ANSWER: Vietnam War

(Tossup 5) This short story's protagonist claims to hear "many things in hell" and insists that "a madman cannot plan" while describing slowly opening a lantern repeatedly for eight nights. This story's protagonist is distracted by a sound like a watch "enveloped in cotton" under his floorboards after killing an old man with a "vulture-eye." For the point, name this short story by Edgar Allan Poe in which a murder is revealed by the sound of the title body part.

ANSWER: The Tell-Tale Heart

(Tossup 6) In one story, this religious figure chased away Shaitan at the Battle of Badr while leading a force of five hundred angels. In Islam, this figure is known as the “enemy of the Jews” for repeatedly delivering bad news, unlike Michael. This figure commanded Muhammad to “Recite!” when revealing the Quran, and told Mary she would give birth to Jesus. For the point, name this Angel of Revelation important to Islam and Christianity.

ANSWER: Jibreel (accept Gabriel; accept Jibrael)

(Tossup 7) In 1943, this country’s capital was the site of a massive ghetto uprising led by the ZOB and ZZW. False reports from the Charge at Krojanty led to the rumor that cavalry units from this country charged German tanks. Nazi Germany invaded this country on September 1st, 1939, sparking World War II in Europe. For the point, name this country where soldiers defended Warsaw.

ANSWER: Poland

(Tossup 8) The depleted form of this element can be used to create high density bullets. This element decays into thorium 231, which then decays into lead 206. This element is enriched by using a gas centrifuge on this element’s hexafluoride. That enrichment process is designed to produce this element’s 235 isotope. This element is mined in the form of yellowcake. For the point, name this radioactive element symbolized U.

ANSWER: uranium (accept U before it is read)

(Tossup 9) The Lucas numbers are defined similarly to these numbers, which are named for their appearance in the book *Liber Abaci*. A problem concerning the growth of rabbits yields this set of numbers, which can be arranged to form a spiral resembling the golden spiral. For the point, name this set of numbers named for an Italian mathematician, defined recursively as the sum of two previous numbers in a sequence beginning 1, 1, 2, 3, 5.

ANSWER: Fibonacci numbers (accept Fibonacci sequence)

(Tossup 10) A novella by this author is about a “Foretopman” who is sentenced to hang for killing John Claggart. A book by this author contains nine “gams,” or meetings between ships, the first of which is an encounter between the *Goney* and the *Pequod*. The line “Call me Ishmael” opens a novel by this author in which Captain Ahab obsessively pursues a white whale. For the point, name this author of *Billy Budd* and *Moby-Dick*.

ANSWER: Herman Melville

(Tossup 11) This civilization venerated a “Left-Handed Hummingbird,” and its dead were legendarily guided to Mictlan by this civilization’s god of thunder, Xolotl [shoh-loh-tull]. This civilization’s stories include the attempted destruction of the world by a jaguar who was actually Tezcatlipoca [tets-kaht-lee-poh-kah], the “Smoking Mirror” who opposed this civilization’s “Feathered Serpent,” Quetzalcoatl [ket-zal-koh-ah-tull]. For the point, name this Mesoamerican empire that was ruled from Tenochtitlan.

ANSWER: Aztec Empire

(Tossup 12) This country's city of Carlisle was formerly a center for the textile industry and is located in the region of Cumbria. The confluence of the Rivers Fromm and Avon in this country is the location of the city of Bristol. This country's other major cities include Liverpool, Birmingham, and Manchester. Northern Ireland, Wales, Scotland, and England form, for the point, what country governed from London?

ANSWER: **United Kingdom** (accept **UK**; accept **England** until "Northern Ireland" is read; do not accept or prompt on Northern Ireland, Wales, or Scotland)

(Tossup 13) This novel's protagonist discovers that several of his crewmates had previously served on the *Walrus* under John Flint, including Ben Gunn. Billy Bones receives the Black Spot in this novel, kicking off Jim Hawkins's adventures aboard the *Hispaniola* with Captain Smollett and a peg-legged cook. For the point, name this adventure novel by Robert Louis Stevenson in which Long John Silver searches for a hidden trove in the title location.

ANSWER: **Treasure Island**

(Tossup 14) In this country, a future leader was imprisoned after leading an attack on the Moncada Barracks against the government of Fulgenico Batista. Thousands of people fled this country in the Mariel boatlift, with many of them deciding to settle in Miami. The United States attempted to assassinate a leader of this country by poisoning his cigars. For the point, name this country where Che Guevara helped Fidel Castro take over cities like Havana.

ANSWER: **Cuba**

(Tossup 15) This substance is liquefied by the Fischer-Tropsch process. When peat undergoes further compression it can become this substance. Power plants that use this substance use scrubbing to reduce pollution. This substance can be classified as bituminous, lignite, and anthracite. For the point, name this solid fossil fuel formed from compressed and decomposed plant matter.

ANSWER: **coal** (accept **lignite** before it is read; accept **bituminous** before it is read; accept **anthracite** before it is read)

(Tossup 16) Euler's formula states that e raised to the product of this number with x equals cosine of x plus this number times sine of x . Exponentiating this number yields a cycle that repeats every 4 powers. Dividing 1 by this number yields its negative. This number is the solution to the equation " x squared plus 1 equals zero." For the point, name this imaginary number that is equal to the square root of negative one.

ANSWER: **i**

(Tossup 17) Gabriel Fauré wrote one of these works that includes a *Pie Jesu* [pee-ay YAY-soo] instead of a *Dies Irae* [dee-ays ee-ray]. Johannes Brahms wrote one of these works in German using the Luther Bible. Mozart died while composing one of these works, convinced that he was writing it for himself. A Latin text is typically set in, For the point, what type of musical work that is performed at a mass for the dead?

ANSWER: **requiem** mass (prompt on "mass for the dead" before mentioned)

(Tossup 18) This organ contains the sinusoid, where special macrophages called kupffer cells break down old red blood cells. This organ is fed by the portal vein. Conditions that affect this organ include cirrhosis and hepatitis. Damage to this organ can cause jaundice. This organ stores glycogen and produces bile. For the point, name this organ that filters toxins from the blood.

ANSWER: liver

(Tossup 19) This man used the pen name Mrs. Silence Dogood to publish his work in the *New-England Courant*. At the Albany Congress, this man presented his “plan of union” which he represented with a cartoon of a segmented snake that read “join, or die.” This publisher of *Poor Richard’s Almanac* organized the Union Fire Company in Philadelphia. For the point, name this founding father from Pennsylvania who legendarily flew a kite during a thunderstorm.

ANSWER: Benjamin Franklin

(Tossup 20) This character gives the object of a quest to Clarisse LaRue, who uses it to revive the tree of Thalia. In another book, this character decides to return to live with his mother, Sally, after foiling Luke Castellan’s and Cronos’s plot to cause discord between Poseidon, Zeus, and Hades. *The Sea of Monsters* and *The Lightning Thief* feature, for the point, what demigod who is the protagonist of a Rick Riordan series?

ANSWER: Perseus “Percy” Jackson (accept any name)

(Tossup 21) A recently discovered painting by this artist depicts Jesus holding a clear crystal ball and is titled *Salvator Mundi*. This artist painted a woman wearing a black necklace while holding the title white animal, *Lady with an Ermine*. Another painting by this artist depicts the title woman sitting with an enigmatic smile. For the point, name this Renaissance painter of the *Mona Lisa*.

ANSWER: Leonardo Da Vinci (accept either underlined portion)

(Tossup 22) Content that was aimed at disturbing children on this platform has been dubbed *Elsagate*. In 2019, this platform announced that the use of cartoon characters and celebrities could result in demonetization in compliance with COPPA. Popular content creators on this platform include Mat Pat, Markiplier, and Pewdiepie. For the point, name this Google-owned video platform whose logo is a red play button.

ANSWER: YouTube

(Tossup 23) Rhizobium bacteria produce an iron molybdenum cofactor necessary for reducing this element. This element is fixed from the atmosphere by plants, which is artificially recreated by the Haber-Bosch process. Along with three hydrogen atoms, this element forms ammonia. For the point, name this element that makes up the majority of the atmosphere, symbolized N.

ANSWER: nitrogen (accept N before it is read)

(Tossup 24) A literary character is transported to this location after hiding from Native Americans in a cave with his friend Powell. This location is represented as Barsoom in Edgar Rice Burroughs's stories about John Carter. Characters from this location employ weapons such as heat rays and black smoke in an 1897 novel about the invasion of Earth. For the point, name this planet whose aliens appear in H.G. Wells's novel *The War of the Worlds*.

ANSWER: Mars

(Tossup 25) This leader wrote his "April Theses" while travelling to Finland Station to return from exile. The co-existence of private and public sectors was allowed by this leader's 1922 New Economic Policy. With Leon Trotsky, this leader and the Bolsheviks rose to power in the October Revolution. For the point, name this Communist leader, the founder of the Soviet Union.

ANSWER: Vladimir Lenin (or Vladimir Ilyich Ulyanov)

(Tossup 26) This non-New York state's largest city is home to a pentagonal I.M. Pei designed World Trade Center; that city in this state is home to Pimlico Race Course. This state is home to the cities of Rockville and Frederick as well as most of the northern half of the Delmarva Peninsula. The northern end of the Chesapeake Bay is surrounded by, for the point, what US state with capital Annapolis and home of Baltimore?

ANSWER: Maryland

(Tossup 27) In the book *Gylfaginning*, Gangleri is told that the goat Heidrun produces the mead drunk in this location, whose roof is made of golden shields. The Einherjar ["eye" n-hayr-yahr], the honored dead who did not go to Folkvangr, were taken to this location by valkyries. For the point, name this hall in Asgard that housed half of the humans who died in battle and was ruled by Odin.

ANSWER: Valhalla (prompt on Asgard before mentioned)

(Tossup 28) This character receives grape juice, money, and books for her birthday, and expresses the desire to exchange one such book, *Camera Obscura*, because her sister Margot already owns it. This character has budding romances with Jacqueline van Maarsen and Peter van Pels while hiding in an annex in Amsterdam. *The Diary of a Young Girl* is by, for the point, what Jewish author, who died in the Bergen-Belsen concentration camp in 1945?

ANSWER: Anne Frank (accept either name)

(Tossup 29) The Planck Time came immediately after this event. A form of nucleosynthesis named for this event was the origin of elements heavier than hydrogen. This event was followed by cosmic inflation and the afterglow light pattern. The Cosmic Microwave Background Radiation is the remnant of this event. For the point, name this event, the rapid expansion at the beginning of the universe.

ANSWER: Big Bang (prompt on "the beginning of the universe" before it is read)

(Tossup 30) This city was burned during a dispute with William Berkeley that evolved into Bacon's Rebellion. In 1610, this city was temporarily abandoned before the arrival of the Third Supply under Baron De La Warr. This city was deemed economically viable after John Rolfe successfully cultivated tobacco. John Smith led, for the point, what first permanent English settlement in the Americas, a former capital of Virginia?

ANSWER: Jamestown

Replacements

(Tossup 31) This disease may have been prevented in China by blowing scabs of infected people up the nose. The vaccine for this disease was created from a minor form of this disease contracted by milkmaids. Rahima Banu was the last person to contract the Variola major form of this disease. For the point, name this only human disease to be eradicated which caused scarring blisters to appear on the skin.

ANSWER: smallpox (accept Variola major; accept Variola minor before "variola" is read)

(Tossup 32) One of these structures in Chicago has an exterior wall which has been nearly entirely filled with chalk writing. One of these locations in Boston is home to a yellow pillar called Pesky's Pole. One of these structures contains an extremely tall wall known as the Green Monster. For the point, name these structures which include Wrigley Field, Fenway Park, and Yankee Stadium.

ANSWER: baseball stadium (accept baseball park; accept baseball field; prompt on partial answers or answers like "sports stadium")