

Round 5

First Half

(Tossup 1) **The tiles on the roof of this building are inspired by Japanese ceramic pottery. The shape of this building was proposed as the “spherical solution,” and this project went 1457 percent over budget. That solution led to the creation of a series of (*) concrete shells for this building. The first performance in this building was Prokofiev’s *War and Peace*. For ten points, what is this Australian building designed by Jorn Utzon?**

ANSWER: Sydney Opera House

(Bonus 1) In 2012, this work was moved to the Louvre-Lens museum. For ten points each,

[Part A] Name this painting which features a woman holding the tricolor aloft in one hand and a musket in another. This painting was intended to commemorate the July Revolution of 1830.

ANSWER: Liberty Leading the People

[Part B] *Liberty Leading the People* was painted by this French artist who also painted *The Massacre at Chios*.

ANSWER: Eugene Delacroix

[Part C] Eugene Delacroix’s *The Massacre at Chios* features a Turkish horseman, a soldier of this empire which once controlled Greece and perpetuated the Massacre at Chios.

ANSWER: Ottoman Empire

(Tossup 2) **This city’s King Cleombrotus was killed at the Battle of Leuctra and it was defeated by Thebes in the Boeotian War. The Agaid dynasty ruled this city while its main population was formed by the (*) helot class. This city’s male citizens underwent a rigorous training program called the Agoge. Greek forces at the Battle of Thermopylae were led by, for ten points, what city-state’s King Leonidas and his 300 men?**

ANSWER: Sparta

(Bonus 2) The severed head of a plotter in a conspiracy against this family was used as a door-knocker. For ten points each,

[Part A] Name this influential family that was targeted by the Pazzi Conspiracy in 1478. This family's coat of arms ironically resembles a pepperoni pizza.

ANSWER: Medici

[Part B] The Medici dominated this city, known for its patronage of the arts. Banking was the Medici's main source of power in this Italian city.

ANSWER: Florence

[Part C] Catherine de Medici became queen of this European country, where she frequently ruled as regent from Paris.

ANSWER: France

(Tossup 3) **This force is studied in tribology. Guillaume Amontons developed three laws concerning the “dry” form of this force. This force comes with two coefficients, a static one that is usually a bit larger than the kinetic one. To calculate the strength of this force, those coefficients are multiplied by the (*) normal force.** This force explains why it is easier to slide on ice than it is to slide in mud. For ten points, name this force that opposes motion along a surface.

ANSWER: friction

(Bonus 3) In humans, this organ is divided into 4 chambers. For ten points each,

[Part A] Name this muscular organ which pumps blood throughout the body.

ANSWER: Heart

[Part B] The heart is a central part of this system that circulates blood and transports nutrients throughout the body.

ANSWER: Circulatory system (Accept Cardiovascular system, accept vascular system)

[Part C] The circulatory system also includes this system, an important part of the immune system formed by a network of namesake vessels.

ANSWER: Lymphatic system

(Tossup 4) **Pure Land and Nichiren versions of this religion are prevalent in Japan, while Hojo Tokimune was known for spreading a Zen variant of it. Rinpoche is an honorific used to address certain members of this religion, which in Tibet is spiritually led by the (*) Dalai Lama.** For ten points, name this majority religion of countries like Thailand and Myanmar, with its major branches being the Theravada and Mahayana variants.

ANSWER: Buddhism

(Bonus 4) This god is sometimes depicted as the husband of Hathor. For ten points each,

[Part A] Name this god of the sky who is often depicted with the head of a falcon.

ANSWER: Horus

[Part B] Horus feuded with this god of chaos and the desert who murdered Horus's father.

ANSWER: Set

[Part C] This other god is frequently depicted with the head of an ibis and often arbitrated conflicts between Horus and Set. This god is also commonly associated with writing and science.

ANSWER: Thoth

(Tossup 5) **This figure who has “become a name” states in one poem that he will “drink life to the lees” and decides to “sail beyond the sunset.” A character in a novel titled for this figure journeys through Dublin and is named Leopold Bloom. This (*) mythical figure returns to his wife Penelope and son Telemachus at the end of an epic poem. For ten points, name this “idle king” of a Tennyson poem and the title Greek hero of a Homeric epic.**

ANSWER: Ulysses [or Odysseus]

(Bonus 5) In this work, Jim Conklin dies after being shot in the side. For ten points each,

[Part A] Name this work in which Henry Fleming serves in the 304th New York Infantry Regiment during the Civil War and briefly deserts.

ANSWER: The Red Badge of Courage

[Part B] *The Red Badge of Courage* was written by this American author of *The Open Boat*

ANSWER: Stephen Crane

[Part C] *The Open Boat* is a story regarding Stephen Crane's ordeal when his boat sank while he was traveling to this island to serve as a war correspondent. The USS Maine sank in this island's Havana harbor.

ANSWER: Cuba

(Tossup 6) **The bison herd in this location is the largest and oldest herd in the country. Mount Washburn is located within this location, from which one can see the Teton Range to the south of this location. This location sits atop a caldera of the same name, which is the (*) largest supervolcano on the continent. For ten points, name this first national park of America almost completely located in Wyoming, famed for its Old Faithful geyser.**

ANSWER: Yellowstone National Park

(Bonus 6) This city is divided into Northside and Southside by the river Liffey. For ten points each,

[Part A] Name this capital city of the Republic of Ireland.

ANSWER: Dublin

[Part B] The Republic of Ireland only controls part of the island of Ireland. This city is the capital of Northern Ireland, a part of the United Kingdom.

ANSWER: Belfast

[Part C] The Republic of Ireland is a member of this European organization which the United Kingdom may soon not be a member of.

ANSWER: European Union (Accept EU)

(Tossup 7) **A corrector plate is used in Schmidt-Cassegrain variety of this device. The most precise measurements made before this device were done by Tycho [TIKE-oh] Brahe. A space version of this device named for James Webb will be the successor to one named for (*) Hubble. Refracting ones are named for Galileo while the reflecting type of this device is named for Newton. For ten points, name this device used to observe far away celestial objects.**

ANSWER: telescopes (accept space telescope; accept Hubble Space telescope)

(Bonus 7) This mathematical object exhibits a pattern of expanding symmetry, or ‘self-similarity’. For ten points each,

[Part A] Name these objects created by repeating a simple process over and over in an ongoing feedback loop.

ANSWER: Fractals

[Part B] Helge von Koch created a fractal curve based on this object, often said in real life that ‘no two of [these objects] are the same’. These objects typically fall from the sky in the winter.

ANSWER: Snowflake

[Part C] A plane fractal making use of a ‘carpet’ was made by this Polish mathematician.

ANSWER: Waclaw Sierpinski

(Tossup 8) **This country is ruled by the Chakri dynasty which was founded after the overthrow of Taksin the Great. It was the only Southeast Asian nation never to be colonized by European powers, and it allied with (*) Japan during World War II. The current king of this country took power after the death of Rama IX. For ten points, name this Southeast Asian country with capital Bangkok.**

ANSWER: Thailand

(Bonus 8) Despite his resolute leadership in times of conflict, he lost the 1945 General Election to Clement Attlee. For ten points each,

[Part A] Name this prime minister who led Great Britain through World War II.

ANSWER: Winston **Churchill**

[Part B] Winston Churchill famously noted that “never before has so much been owed by so many to so few” in praise of this group, which utilized Spitfires and Hurricanes in defense of England.

ANSWER: **Royal Air Force** (accept **RAF**)

[Part C] Immediately prior to the Cold War, Churchill described this title construct descending across Europe as a way to describe the West’s separation from the Soviet sphere.

ANSWER: **Iron Curtain**

Sixty-Second Rounds

The categories are . . .

1. The Tragedy of Julius Caesar
2. Thomas Jefferson
3. Physical quantities

THE TRAGEDY OF JULIUS CAESAR

Name the...

(1) English playwright who wrote The Tragedy of Julius Caesar.

ANSWER: William **Shakespeare**

(2) Tragic event which befalls Julius Caesar in the play.

ANSWER: **Assassination** (Accept clear knowledge equivalents)

(3) Date which Julius Caesar is told to beware by a soothsayer.

ANSWER: **Ides of March**

(4) Last words of Julius Caesar, directed at Brutus.

ANSWER: **Et Tu, Brute?**

(5) Battle which takes place in the play during which Brutus commits suicide.

ANSWER: Battle of **Philippi**

(6) Ally of Brutus who had his servant kill him during that battle after hearing that his best friend Titinius was captured.

ANSWER: Gaius **Cassius** Longinus

THOMAS JEFFERSON

Name the...

(1) Incumbent who Thomas Jefferson defeated in the contentious election of 1800.

ANSWER: John Adams

(2) Vice President of Jefferson who fatally shot Alexander Hamilton in a duel.

ANSWER: Aaron Burr

(3) Party that Jefferson founded along with James Madison.

ANSWER: Democratic-Republican (do not accept on prompt on either “Democratic” or “Republican”)

(4) Home of Jefferson constructed on Renaissance architect Andrea Palladio’s designs.

ANSWER: Monticello

(5) Restrictive trade act passed during Jefferson’s presidency that was depicted in a cartoon by a turtle named “Ograbme”.

ANSWER: Embargo Act of 1807

(6) Slave with whom Jefferson fathered several children.

ANSWER: Sally Hemings

PHYSICAL QUANTITIES

In the physical sciences, name the...

(1) quantity, for rocks and minerals, measured by the Mohs scale.

ANSWER: scratch hardness

(2) ratio of an object's speed to the speed of sound, named for an Austrian scientist.

ANSWER: Mach number

(3) temperature at which water vapor begins to condense for any given atmospheric conditions.

ANSWER: dew point

(4) method of energy transfer using an applied force that causes another object's displacement.

ANSWER: work

(5) quantity represented by the fourth principal quantum number for atomic electrons, and can have values of plus or minus one-half.

ANSWER: quantum spin

(6) apparent brightness of a celestial object as seen from Earth, or its absolute brightness, if it were 10 parsecs from Earth

ANSWER: magnitude

Second Half

(Tossup 9) **A character from this country goes on a murderous rampage in the novel *The Chant of Jimmie Blacksmith*. One novel set in this country focuses on transporting a glass church. The novel (*) *Oscar and Lucinda* is from this country, as is a novel about a German saving 1,200 Jews from concentration camps. For ten points, name this country where authors like Peter Carey and Thomas Keneally wrote about Aborigines.**

ANSWER: Commonwealth of Australia

(Bonus 9) Veruca Salt and Augustus Gloop are among those who find golden tickets in this novel. For ten points each,

[Part A] Name this story in which Charlie visits a title location owned by chocolatier Willy Wonka.

ANSWER: Charlie and the Chocolate Factory

[Part B] *Charlie and the Chocolate Factory* was written by this British author who also wrote *The BFG*

ANSWER: Roald Dahl

[Part C] Roald Dahl wrote this autobiographical work in which he describes his exploits as a pilot during WWII. This work is a sequel to his first autobiography, *Boy*.

ANSWER: Going Solo

(Tossup 10) **P1 and P2 are names given to this object's double nucleus. By studying this object, Walter Baade discovered that there were two different types of Cepheid variables. Harlow Shapely and Heber Curtis debated whether or not this object was a (*) nebula. This object is about 2.5 million light years away from Earth. This largest object in the local group will collide with the Milky Way in about 4 billion years. For ten points, name this nearby spiral galaxy.**

ANSWER: Andromeda galaxy (accept Messier 31)

(Bonus 10) Answer some questions about the hottest and driest biome. For ten points each,

[Part A] Name this biome, known for its cacti and prickly pears. The Sahara region in Africa is classified as this biome.

ANSWER: desert

[Part B] These formations are found in deserts when sand particles accumulate. Each of these formations have a windward side and a slipface.

ANSWER: sand dunes

[Part C] Sand dunes are formed by this phenomenon. This phenomenon is the flow of gases.

ANSWER: wind

(Tossup 11) **A combination of Roman and Arabic symbols to notate chord progression is known as “figured” plus [this word]. A consistent rhythmic and melodic pattern in the accompaniment is known as “walking” plus [this word]. The largest string instrument in the orchestra is often referred to as this (*)** one word term. The left hand of piano music is usually written in the clef described by this word. For ten points, name this word that describes the lowest voice of a piece of music.

ANSWER: bass

(Bonus 11) This work includes movements like “The Market at Limoges” and “The Hut on Hen’s Legs.” For ten points each,

[Part A] Name this suite in which a trumpet plays the opening “Promenade.” This piece is based on a set of paintings by the artist’s late friend Viktor Hartmann.

ANSWER: Pictures at an Exhibition

[Part B] Pictures at an Exhibition was composed by Modest Mussorgsky, who was from this country. Mussorgsky was a member of The Five, a group of composers from this country which included Alexander Borodin.

ANSWER: Russia (or Rossija)

[Part C] Maurice Ravel’s orchestration of Pictures at an Exhibition used this instrument to depict a troubadour singing at a castle. Players of this single reed instrument include Ornette Coleman and Paul Desmond.

ANSWER: Alto saxophone

(Tossup 12) **In one story, this figure turns into a salmon to avoid being caught by the Aesir. After the death of Baldr, this figure is bound in his son’s entrails and poison is dripped onto his head. This god loses an eating contest to fire in one story, and this god was the mother of the horse (*)** Sleipnir. This god will kill Heimdall at Ragnarok, and fathered Hel and Fenrir. For ten points, name this trickster god from Norse mythology.

ANSWER: Loki (do not accept “Utgard-Loki

(Bonus 12) These individuals appear when the lamb breaks the first four of the seven seals. For ten points each,

[Part A] Name this group of individuals whose appearance legendarily signifies the imminent end of the world.

ANSWER: Four Horsemen of the Apocalypse (Prompt on “Horsemen”)

[Part B] This third Horseman of the Apocalypse is usually depicted riding a black horse and carrying weighing scales. Those scales represent how bread will be weighed during his namesake type of event.

ANSWER: Famine

[Part C] The Horsemen of the Apocalypse appear in this last book of the New Testament, which also features the Second Coming of Jesus.

ANSWER: Book of Revelation

(Tossup 13) **This poem takes place “between the woods and frozen lake” during “the darkest evening of the year.” The speaker hears the sound of “the sweep of easy wind and downy flake” and hears his horse give his “harness bells a shake.” This poem’s speaker remembers watching his neighbor’s (*) “woods fill up with snow” and notes that “the woods are lovely, dark and deep.”** For ten points, name this Robert Frost poem about the title journey.

ANSWER: Stopping by Woods on a Snowy Evening

(Bonus 13) One work by this author features the German spy Doctor Yu Tsun. For ten points each,

[Part A] Name this South American author of *The Garden of Forking Paths* and *The Aleph*.

ANSWER: Jorge Luis Borges

[Part B] Jorge Luis Borges was an author from this country where he opposed Juan Peron.

ANSWER: Argentina

[Part C] In Argentina, Jorge Luis Borges was a professor of English Literature at a university in this city, the capital of Argentina.

ANSWER: Buenos Aires

(Tossup 14) **This man’s administration implemented the Don’t Ask, Don’t Tell Repeal Act. A policy introduced by this man, the Affordable Care Act, has been significantly targeted by his (*)** Republican opponents. During his election, this man used the slogan “Yes We Can” and won the Nobel Peace Prize in his first year in office. For ten points, name this Democrat President who preceded Donald Trump.

ANSWER: Barack Obama

(Bonus 14) The subject of this case married Harriet Robinson while in the Wisconsin Territory with his owner, John Emerson. For ten points each,

[Part A] Name this 1857 case which ruled that slaves had no standing to sue in federal court.

ANSWER: Dred Scott v. Sandford

[Part B] Dred Scott v. Sandford's majority opinion was written by this Chief Justice, who declared that "black people are not included...under the word 'citizens' in the constitution". He had earlier served as Treasury Secretary under Andrew Jackson.

ANSWER: Roger Brooke Taney

[Part C] This black intellectual condemned the decision, calling it a "glaring and scandalous tissue of lies". This man was mentored by William Lloyd Garrison and developed impressive oratory skills under Garrison's tutelage.

ANSWER: Frederick Douglass (or Frederick Augustus Washington Bailey)

(Tossup 15) **These animals have metapleural glands to prevent bacterial growth on their exoskeletons. Myrmecologists study these insects in the family Formicidae that may release formic acid when attacked. They may mutualistically feed on (*) honeydew released by aphids, which they protect in return. These insects form colonies in mounds, and can lift up to 5000 times their own weight. For ten points, name these insects that come in "leaf-cutter," "army," and "fire" types.**

ANSWER: ants

(Bonus 15) This element can be found in Uranium and Thorium ores. For ten points each,

[Part A] Name this chemical element with symbol Ra which is highly radioactive.

ANSWER: Radium

[Part B] Radium was discovered by this French-Polish scientist, the first woman to win a Nobel Prize. This woman also discovered Polonium.

ANSWER: Marie Curie

[Part C] Radium is part of this group of chemical elements. Other members of this group include Barium and Magnesium.

ANSWER: Alkaline Earth Metals (Accept Group 2)

(Tossup 16) **This author documented marine biology around Lesbos in his work *History of Animals*. The existence of three kinds of souls was posited by this philosopher in his work *On the Soul*. This philosopher's work (*) *Prior Analytics* is considered the earliest study of formal logic. This philosopher was the tutor of Alexander the Great and established a school called the Lyceum. For ten points, name this student of Plato often called the "Father of Western Philosophy"**

ANSWER: Aristotle

(Bonus 16) This concept is discussed in a Marcel Mauss work titled for a “General Theory” of this phenomenon. For ten points each,

[Part A] Name this practice performed by people like shamans with the use of rituals, curses, and spells. One anthropologist studied this practice in coral gardens.

ANSWER: Magic

[Part B] That philosopher who studied magic in coral gardens analyzed the Kula ring’s impact on the Trobriand Islands in his Argonauts of the Western Pacific.

ANSWER: Bronislaw Malinowski

[Part C] E.E. Evans-Pritchard associated magic with witchcraft and oracles among the Zande people. Evans-Pritchard worked at this English university, the oldest English-speaking university in the world.

ANSWER: Oxford University

Tiebreakers

(Tossup 17) **One annual event in this state was known as the Great Race of Mercy and was first caused by a diphtheria outbreak. That outbreak occurred in this state’s city of (*)** Nome and led to the Iditarod race. That race currently starts in this state’s largest city, Anchorage. For ten points, name this U.S. state which is home to the tallest mountain in North America, Denali, and is governed from Juneau.

ANSWER: Alaska

(Bonus 17) The Tennis Court Oath occurred during this event. For ten points each,

[Part A] Name this event in which King Louis XIV and Marie Antoinette were overthrown and a republic was established.

ANSWER: French Revolution

[Part B] The storming of this Parisian prison occurred at the start of the French Revolution. The fall of this prison fortresses fall is commemorated on July 14th.

ANSWER: Bastille

[Part C] During the French revolution, prisoners were often beheaded using this device.

ANSWER: Guillotine