

## Round 5

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### Tossups

(1) **This poet wrote about a man who insists his “apple trees will never get across / and eat the cones” under his neighbor’s pine trees, even though his neighbor insists that “good fences make good neighbors.” This man ended a poem in which (\*) “two roads diverged in a yellow wood” by saying he would pretend that it has “made all the difference” that he “took the one less traveled by.”** For ten points, name this American poet of “Mending Wall” and “The Road Not Taken.”

ANSWER: Robert Lee Frost

(2) **In children, this organ can be scarred in Alport Syndrome or can form a Wilms’ tumor. Vasopressin and renin are secreted by this organ, which includes capillary networks surrounded by a Bowman’s capsule in its (\*) nephrons. Ureters bring urine from this organ to the bladder. Renal replacement therapies like dialysis are used when this organ fails. Blood is filtered by, for ten points, what pair of bean-shaped organs?**

ANSWER: kidneys

(3) **A precursor to this organization sought to unite coal and steel industries and was part of a 1965 Merger Treaty with the EEC. This organization’s Single Market allows the free movement of capital and persons, allowing citizens to work and live in any (\*) member country. The United Kingdom voted to leave this organization in 2016, a decision known as Brexit. For ten points, name this organization of countries whose primary currency is the Euro.**

ANSWER: European Union (accept EU)

(4) **Selma Lagerlöf was the first Swede to win this prize, and was the first woman in the group that chooses this award’s recipients. Gabriela Mistral is one of eleven Spanish-language recipients of this award since its introduction in 1901, though it is most often given to English-language (\*) authors like Toni Morrison. The Swedish Academy awards, for ten points, what prize, named for a Swedish scientist, that is given almost every year to people who have produced “outstanding work” in literature?**

ANSWER: Nobel Prize in Literature (do not accept or prompt on any answer that includes a separate Nobel prize)

(5) **The “King” of this type of musical piece wrote ones titled *Roses in the South* and *Tales from the woods of the city where this type of music originated*. This type of dance caused a craze when it was first introduced to Vienna. A dog chasing its tail inspired a (\*) “Minute,” or small, one of these, and the “King” of this dance, Johann Strauss, wrote many of these dances in 3/4 [three four] time. For ten points, name this type of ballroom dance, such as *The Beautiful Blue Danube*.**

ANSWER: waltz

(6) **In 1786, this state passed a Statute for Religious Freedom that its drafter prominently mentioned on his tombstone. This state's namesake university was founded as a secular school in response to weak leadership at the College of William and Mary. The estate of (\*) Monticello was built in this state by one of the eight US presidents to have been born in it. For ten points, name this largest of the thirteen original colonies, where Thomas Jefferson was once governor in Richmond.**

ANSWER: Virginia

(7) **A problem concerning the trajectories of this number of objects has thousands of known specific solutions, but no general solution has yet been found. Differences in the positions of a fulcrum, input force, and load are distinguished by this many (\*) classes of levers. The rule that orbits are elliptical with the sun at one focus is part of a set of this many planetary laws developed by Kepler. For ten points, give this number of laws of motion written by Isaac Newton.**

ANSWER: three (accept three-body problem; accept three classes of levers; accept Kepler's three laws of planetary motion; accept Newton's three laws of motion; prompt on "n" or "n-body problem")

(8) **This character took the name Vers [VEERS] after having her memories hidden by Yon-Rogg. This character and her best friend, Maria Rambeau, worked with Dr Wendy Lawson, an undercover Kree, on an experimental light-speed engine. This character was teased at the end of (\*) *Avengers: Infinity War* when Nick Fury pulled out a pager to contact her before being dusted. Carol Danvers is the real name of, for ten points, what heroine who was portrayed by Brie Larson in a 2018 film?**

ANSWER: Captain Marvel (accept Carol Danvers before it is read; accept Ms Marvel; prompt on "Carol" before it is read)

(9) **The attempted sale of this man's vacated Senate seat led to the resignation of governor Rod Blagojevich [blah-GOY-ah-vich]. Following negotiations with Raúl Castro, this president became the first to visit Cuba in eighty-eight years. This president, who nominated Merrick Garland, Elena (\*) Kagan, and Sonia Sotomayor to the Supreme Court, ended Operation Enduring Freedom in Afghanistan in 2014. For ten points, name this U.S. President, the namesake of the Affordable Care Act.**

ANSWER: Barack Obama (accept Barack Hussein Obama Jr.)

(10) **The first of this set of principles requires two witnesses and a sincere confession. One of these principles mandates dedicating 2.5% of one's wealth to almsgiving, and is called zakat. For another of these principles, adherents wear ihram and walk around the (\*) Kaaba during a holy trip that these principles require all Muslims make. Sawm and salat are two of, for ten points, what fundamental principles of Islam that require Muslims to make a pilgrimage to Mecca and fast during Ramadan?**

ANSWER: Five Pillars of Islam (accept arkan al-Islam or arkan al-din; anti-prompt by asking the player to be less specific on the specific pillars of "shahadah" or "hajj;" anti-prompt on the specific pillars of "zakat," "salat," or "sawm" before they are read)

(11) **Satellites in geostationary orbit are placed directly above this feature and, as a result, don't appear to move in the sky when viewed from the ground. An African country with capital Malabo and a South American country with capital (\*) Quito are named for their location on or near this geographical feature. Zero degrees latitude is defined at, for ten points, what imaginary line that separates the Earth into northern and southern hemispheres?**

ANSWER: equator

(12) **This author examines the restrictions of courtly love in *La Vita Nuova*, and uses celestial bodies to represent different types of virtue in heaven in another work that features his lost love, (\*) Beatrice. In a poem by this man, he enters a gate inscribed with the words "Abandon all hope, ye who enter here," and is guided through the various circles of hell by Virgil. For ten points, name this Italian poet who included *Inferno* in his *Divine Comedy*.**

ANSWER: Dante Alighieri (accept either underlined name)

(13) **In America, these facilities typically decline to remove neutron poisons like xenon-135 because that reprocessing is expensive. Tunnels under Yucca Mountain were to be built to store waste products from these facilities, which usually include concrete casks and large (\*) pools to store their spent fuel rods. Large cooling towers are a common feature of, for ten points, what type of power plant, such as one at Three Mile Island that suffered a 1979 meltdown?**

ANSWER: nuclear power plants (accept nuclear alone after "power plant" is read; prompt on "power plant" before it is read)

(14) **King Laomedon [lah-oh-may-don] tricked Apollo and this god into building the walls of Troy. This god cursed Pasiphaë [pah-sih-fah-ay] after her husband, Minos, failed to sacrifice the Cretan Bull to this god. (\*) Horses were sacred to this god, who lost a competition to Athena's olive tree when he gave a salt spring to Athens. For ten points, name this brother of Zeus and Hades, the Greek god of the sea.**

ANSWER: Poseidon (do not accept or prompt on "Neptune")

(15) **A leader of this country employed the Duke of Caxias [kah-SHEE-ahss] to help win the War of the Triple Alliance against its neighbor. This country was led by two emperors named Pedro, the second of whom abolished slavery with the (\*) Golden Law. The Cry of Ipiranga declared this country's independence from Portugal, and a city designed by Oscar Niemeyer in 1960 replaced its former capital of Rio de Janeiro. For ten points, name this country whose modern capital is Brasilia.**

ANSWER: Federative Republic of Brazil

(16) **When preceded by the German root "zwitter" [z'vitter], this term describes a molecule that is simultaneously dipolar. Bases are classified as strong or weak by their ability to completely dissociate into these things. These things name a type of energy required to remove an (\*) electron from an atom, which creates one of these things. For ten points, give this term for atoms that have lost or gained electrons and thus have a positive or negative electric charge.**

ANSWER: ions (accept zwitterion; accept ionization energy; accept cations and/or anions)

(17) **Elementary operations can be used to convert these mathematical objects into reduced row echelon form, helpful in solving systems of equations. The commutative property does not necessarily apply to multiplication of these objects. Coefficients are stored in these objects for use in (\*)** Cramer's rule, which solves systems of equations by computing determinants of these objects. For ten points, give this term for an array of numbers organized into rows and columns.

ANSWER: matrix (or matrices)

(18) **A figure on the left of this painting wears a cameo brooch that may depict Persephone over a polka-dotted brown apron, and looks uneasily toward another figure. A strangely ornate window in the Dibble House in (\*)** Iowa inspired the background of this painting, for which the artist's dentist modeled as a man wearing denim overalls and holding a pitchfork. For ten points, name this painting of a stern-looking couple, created by Grant Wood.

ANSWER: American Gothic

(19) **Tennessee politician Harry Burn cast the deciding vote for this amendment. The Silent Sentinels, including Lucy Burns and Alice Paul, protested in favor of this amendment in front of the White House and were tortured by police in (\*)** 1917. Carrie Chapman Catt led the National American Woman Suffrage Association, which advocated for, for ten points, what Constitutional amendment that guaranteed women the right to vote?

ANSWER: Nineteenth (19th) Amendment to the US Constitution

(20) **This character takes a squeaky pencil away from Bill, and is told the story of "The Walrus and the Carpenter." This character is asked "Why is a raven like a writing desk?" at a (\*)** "mad" tea party she is sent to by a grinning cat that vanishes from her sight. Tweedle-Dee, Tweedle-Dum, and the Cheshire Cat are encountered by for ten points, what Lewis Carroll character who travels through a looking glass to have adventures in Wonderland?

ANSWER: Alice (accept Alice Liddell; accept Alice's Adventures in Wonderland; accept Alice Through the Looking Glass; accept Alice in Wonderland)

## Bonuses

(1) Give the following about triangular numbers, for ten points each.

Triangular numbers get their name because they are usually represented in a diagram of dots that form this type of triangle, whose three sides are all of equal length.

ANSWER: equilateral triangle (accept equiangular triangle)

The sum of any two consecutive triangular numbers - like one and three, three and six, or six and ten - is always one of these numbers. This fact can be proven geometrically by careful arrangements of the two triangular diagrams.

ANSWER: square numbers (accept, but do not otherwise reveal, perfect square numbers)

According to a formula involving Mersenne primes, every known one of these numbers is a triangular number. These numbers are equal to the sum of their proper factors; for example, six equals one plus two plus three.

ANSWER: perfect number (do not accept “perfect squares”)

(2) Georgia’s Cobb County threatened to close several libraries to save just under three million dollars per year in 2018, just a few years after giving away almost four hundred million dollars to help build one of these buildings. For ten points each,

Name this type of entertainment facility. The aforementioned example replaced one built in downtown Atlanta in 1996.

ANSWER: sports stadium (accept equivalents; accept answers that specifically involve baseball, such as baseball field)

In 2015, this state’s former governor, Scott Walker, cut hundreds of millions of dollars in university funding, then months later pledged the same amount of money to fund a new arena for the Milwaukee Bucks.

ANSWER: Wisconsin

The Flames still play in this largest city in Alberta, even though the National Hockey League publicly threatened to abandon this city if mayor Naheed Nenshi, an opponent of a new publicly-funded stadium, won re-election in 2017.

ANSWER: Calgary

(3) This monster's mother is a witch who emerges from her home under a lake to seek revenge after a Geatish [GAY-tish] warrior pulls off this monster's arm, killing him. For ten points each,

Name this monster, the title creature of a John Gardner novel, who terrorizes the mead-hall Heorot [HAY-oh-roht] in an Old English epic poem.

ANSWER: **Grendel**

Grendel and Grendel's mother are both slain by the title hero of this Anglo-Saxon epic poem. This poem's title warrior promises King Hrothgar [h'ROTH-gahr] that he will stop Grendel's nightly raids on the hall Heorot.

ANSWER: **Beowulf**

In the poem *Beowulf*, the warrior Unferth gives Beowulf a magical and supposedly-infallible weapon of this type, named Hrunting [h'RUN-ting], to kill Grendel's mother. When it inevitably fails, Beowulf uses a double-edged one of these weapons made by giants to kill her instead.

ANSWER: **greatsword** (accept war-bill; accept maiche or mece)

(4) The 1895 Atlanta Compromise offered these people basic rights like vocational education and due process in exchange for not seeking the right to vote or agitating for better treatment in daily life. For ten points each,

Name this minority class represented by Booker T. Washington, who announced the unofficial compromise in a speech at the Atlanta Exposition.

ANSWER: **African-Americans** (accept black people; prompt on "people of color")

Booker T. Washington founded and led this institute, which supported the Atlanta Compromise by providing vocational training in Alabama.

ANSWER: **Tuskegee** Institute (accept Tuskegee University)

The Atlanta Compromise was criticized as weak by W.E.B. Du Bois and other co-founders of this American civil rights organization. Thurgood Marshall represented this group in arguments before the Supreme Court, including *Brown v. Board*.

ANSWER: **NAACP** (accept National Association for the Advancement of Colored People)

(5) Thanks largely to this substance, World War II was the first conflict in which more American soldiers died in combat than from disease. For ten points each,

Name this early antibiotic that was discovered accidentally by Alexander Fleming in a moldy Petri dish. This medicine is still used to treat syphilis, strep throat, and other infections.

ANSWER: **penicillin**

Penicillin is most effective against bacteria that are positive for this stain test, which colors cells violet or pink based on the thickness of the cell wall.

ANSWER: **Gram** stain test (accept Gram positive and/or negative)

Despite being Gram-positive, this *Staphylococcus* "superbug" has evolved to survive many penicillin derivatives and is a persistent threat in hospitals, nursing homes, and prisons.

ANSWER: **MRSA** (accept methicillin-resistant Staphylococcus aureus)

(6) This mythical figure originated in the myths of the Akan people in modern Ghana. For ten points each,

Name this mythical trickster in Caribbean and early African-American folklore. In one myth, this trickster ties signal-ropes to his legs so his friends can tell him when they are each done cooking; when all the ropes are pulled at once, this figure's eight legs are stretched long and thin.

ANSWER: Anansi (accept Kwaku-Ananse)

Though he is usually depicted as a humanoid trickster, Anansi often appears as one of these eight-legged creatures.

ANSWER: spider

Anansi came into American folklore as a trickster and a keeper of these things. Anansi gained all of these things by completing a challenge set by the Sky-Father, Nyame.

ANSWER: stories (accept story; accept equivalents like tales)

(7) This empire was severely weakened by a civil war declared by Huáscar [h'wah-scar] against his reigning brother. For ten points each,

Name this South American empire whose brief control over much of the Andes was ended by Francisco Pizarro's conquest. This empire built a royal estate at Machu Picchu.

ANSWER: Incan Empire (accept Incas)

Francisco Pizarro led conquistadors from this European nation to conquer the Incas. This empire established colonies in all of Central America and most of South America.

ANSWER: Kingdom of Spain (accept Reino de España)

This brother of Huáscar and last Incan Emperor was captured by Francisco Pizarro at the Battle of Cajamarca [kah-hah-MAR-kah]. This emperor was executed despite paying a room's worth of gold for his ransom.

ANSWER: Atahualpa [ah-tah-h'WAHL-pah]

(8) While posing as Monsieur Madeleine, this man's cover is blown when he demonstrates his immense strength by saving Fauchelevent [foh-shay-lay-vahn] from being crushed by a cart. For ten points each,

Name this literary character, who poses as Fauchelevent's relative in Paris after Inspector Javert discovers his identity. This man is saved by Bishop Myriel after serving a nineteen-year prison sentence.

ANSWER: Jean Valjean [val-zhahn] (accept Ultime Fauchelevent)

Jean Valjean is pursued by the obsessed Inspector Javert in this novel. In this novel, Cosette and Marius fall in love, and the Friends of the ABC die at a barricade during the June Rebellion.

ANSWER: Les Misérables (do not accept or prompt on "Les Mis")

*Les Misérables* is by this French author of *The Hunchback of Notre Dame*.

ANSWER: Victor Hugo (accept Victor Marie Hugo)

(9) In this technique, an indicator like phenolphthalein [PHEEN-ol-THAY-leen] is used to determine the point of neutralization. For ten points each,

Name this lab technique that is used to determine the concentration of an unknown solution through the gradual addition of a known solution.

ANSWER: **titration** (accept word forms, like **titrating**)

The titrant in a titration is often stored in this long, graduated glass tube with a tap at one end and a stopcock valve at the other.

ANSWER: **buret**

When using a buret, students are generally taught to read the liquid level by measuring at the bottom of this curved surface of the liquid.

ANSWER: **meniscus**

(10) The longest American river that doesn't reach the sea, the Bear River, flows through the southwest corner of Montana and southeast corner of Idaho before emptying into this body of water. For ten points each,

Name this lake, the largest in America that isn't part of the Great Lakes system.

ANSWER: **Great Salt** Lake (prompt on "Salt Lake")

The Great Salt Lake is, by far, the largest body of water in this western US state, whose capital is Salt Lake City.

ANSWER: **Utah**

The Great Salt Lake is a remnant of this ancient lake that stretched into Idaho and Nevada until a flood event and change in climate roughly fourteen thousand years ago. Another remnant of this lake is a large salt flat of the same name west of the modern Great Salt Lake.

ANSWER: Lake **Bonneville** (accept **Bonneville** Salt Flats)

(11) This artist created a series of twenty-five paintings depicting haystacks in different lights and seasons. For ten points each,

Name this French Impressionist who painted a distinct orange sun in the background of a painting of a *Sunrise* set in Le Havre harbor.

ANSWER: Claude **Monet** (accept Oscar-Claude **Monet**; do not accept "Manet")

The haystacks Monet depicted were located in this French commune where Monet also owned a cottage and an extensive garden with a green, Japanese-style bridge.

ANSWER: **Giverny** [zhee-ver-nee]

Monet painted approximately two hundred fifty depictions of these flowers near the bridge in his Giverny garden.

ANSWER: **water lilies** (accept **water lily**; accept **nymphéas**)

(12) Give the following about the island of Rhodes, for ten points each.

Rhodes is the largest of the Dodecanese Islands, a group of islands in the eastern Aegean Sea controlled by this European country, whose other islands include Lesbos and Crete.

ANSWER: **Greece** (accept **Hellenic** Republic)

Rhodes was home to this ancient Wonder of the World, a massive statue of Helios that collapsed in a third century BCE earthquake.

ANSWER: **Colossus** of Rhodes

The Knights Hospitaller, who were based in Rhodes starting in 1310, were given a papal charter after this eleventh century conflict. This military campaign was called by Pope Urban II in 1095 as aid for the Byzantines against the Turks.

ANSWER: **First Crusade** (prompt on “crusade” or “the crusades”)

(13) Answer these questions about the life of Gautama Buddha, the founder of Buddhism, for ten points each.

According to legend, Gautama’s birth was foretold by his mother’s dream that a white one of these animals with six tusks and holding a lotus in its trunk entered her right side.

ANSWER: **elephant**

Gautama lived his early life as a spoiled prince, then became an ascetic beggar, and finally preached this practice, the principle of living moderately.

ANSWER: **Middle Way** (accept **Middle Path**; accept **Majjhimapatipada**; accept **Madhyamapratipada**)

After eating a meal made by a blacksmith, the Buddha died and passed into this deathless state, the final stage of enlightenment, when a person has escaped from the cycle of rebirth.

ANSWER: **Nirvana** (accept **Mahaparinirvana**)

(14) In a play by this author, Willy Loman is fired from his job after failing to turn a profit on his business trips. For ten points each,

Name this American playwright, who also wrote *All My Sons* and *The Crucible*.

ANSWER: Arthur **Miller** (accept Arthur Asher **Miller**)

Willy kills himself so his family can collect his insurance policy at the end of this Arthur Miller play. This play describes Willy’s life through flashbacks, several of which address his affair with an unnamed woman.

ANSWER: **Death of a Salesman**

This man, the elder of Willy’s sons, is so upset by discovering his father’s affair that he fails to attend summer school to make up for a failed math class, ruining his chances of becoming a college football star.

ANSWER: **Biff** Loman (prompt on “Loman”)

(15) The *New Horizons* probe made a historic flyby of this body and its satellites in 2015. For ten points each,

Name this dwarf planet that was, at the time of *New Horizons*' launch in early 2006, still considered the ninth planet of the Solar System.

ANSWER: 134340 **Pluto**

*New Horizons* observed the probable presence of this simple organic gas in the atmosphere of Pluto and the north pole of its largest satellite, Charon. This gas has chemical formula CH<sub>4</sub>.

ANSWER: **methane**

*New Horizons* continued on to study Ultima Thule, a pair of small bodies fused together, in January 2019. Like Pluto and several other dwarf planets, Ultima Thule is located in this "belt" of space that extends beyond Neptune's orbit and is home to numerous small, rocky bodies.

ANSWER: Edgeworth-**Kuiper** [kye-per] belt

(16) This French author co-edited the journal *Les Temps modernes* with thinkers like Maurice Merleau-Ponty, Raymond Aron, and her husband. For ten points each,

Name this twentieth century feminist philosopher who decried how Aristotle defined women as men without certain qualities in her magnum opus, *The Second Sex*.

ANSWER: Simone de **Beauvoir** [see-mohn duh boh-v'WAHR] (accept Simone Lucie Ernestine Marie Bertrand de **Beauvoir**)

In *The Second Sex*, Beauvoir [boh-v'WAHR] famously notes that "One is not born, but rather becomes, a woman," in an early discussion of the distinction between biological sex and this social characteristic.

ANSWER: **gender**

Simone de Beauvoir and her husband, Jean-Paul Sartre, were leading figures in this twentieth century philosophical movement, which concerns the feelings and will of the individual.

ANSWER: **existentialism** (accept word forms)

(17) This novel's title character builds a cross on the "Island of Despair" and inscribes the date "30th September 1659" to commemorate the day he came ashore. For ten points each,

Name this novel in which the title shipwrecked castaway befriends and then sells the slave Xury before getting stranded on an island for twenty-eight years.

ANSWER: **Robinson Crusoe** (accept The Life and Adventures of **Robinson Crusoe**; accept The Life and Strange Surprising Adventures of **Robinson Crusoe** of York, Mariner)

Robinson Crusoe gets back to his old tricks on the Island of Despair. After saving this man from cannibals, Crusoe gives him a condescending name, forces him to convert to Christianity, and indentures him as a servant.

ANSWER: **Friday**

*Robinson Crusoe* is by this English author of *Moll Flanders* and *A Journal of the Plague Year*.

ANSWER: Daniel **Defoe** (accept Daniel **Foe**)

(18) This lawyer prosecuted Richard Lawrence, the attempted assassin of Andrew Jackson, and he was briefly and politely held captive on the HMS *Tonnant* in 1814 after negotiating with the British. For ten points each,

Name this man best known for a patriotic poem he wrote after he witnessed the bombardment of Fort McHenry during the War of 1812.

ANSWER: Francis Scott **Key**

Key described the “rockets’ red glare” and “the bombs bursting in air” during the bombardment in his poem, “The Defense of Fort McHenry,” which is now commonly sung as this patriotic song.

ANSWER: The **Star-Spangled Banner** (prompt on descriptive answers like “the national anthem”)

Fort McHenry defended the harbor of this eastern US city, which was named after the noble title of Cecil Calvert, the founder of a colony for Catholics.

ANSWER: **Baltimore**, Maryland

(19) In 1947, Chuck Yeager flew the *Glamorous Glennis* at a speed of Mach 1.05, becoming the first pilot to break this barrier. Answer some questions about his flight, for ten points each.

Mach 1, about three hundred forty-three meters per second in air, is the speed of this phenomenon that humans cannot hear above twenty thousand Hertz.

ANSWER: speed of **sound**

The harmonic sounds produced by a musical instrument are multiples of a fundamental one of these quantities, the number of vibrations per second.

ANSWER: **frequency**

A singer can shatter a wine glass when their voice achieves this type of frequency, the glass’s naturally occurring vibration.

ANSWER: **resonant** frequency (accept **resonance** frequency)

(20) A solo for this instrument opens the tone poem *Prelude to the Afternoon of a Faun*. For ten points each,

Name this woodwind instrument, a larger relative of the piccolo.

ANSWER: **flute**

This French composer of “Clair de Lune” wrote *Prelude to the Afternoon of a Faun* in 1894.

ANSWER: Claude **Debussy** (accept Achille-Claude **Debussy**)

The descending and ascending flute solo in *Prelude to the Afternoon of a Faun* is often described by this term. A major scale includes seven different notes, but this type of scale ascends through all twelve semitones.

ANSWER: **chromatic** (scale)