

Round 2

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Tossups

(1) **This country gained a lease on the New Territories from the Qing [cheeng] dynasty that lasted until 1997, when this country returned a city it had gained in the Opium Wars. In 1947, (*)** Pakistan was partitioned from this country's largest Asian colony. Hong Kong was once ruled by, for ten points, what European colonial power, whose Queen Victoria was named Empress of India?

ANSWER: United Kingdom of Great Britain and (Northern) Ireland (accept UK; accept Great Britain; do not accept England)

(2) **An angel in this poem opens the way to the City of Dis. In this poem, fortune-tellers walk backwards and the traitors Brutus, Cassius, and Judas squirm in the mouths of (*)** Lucifer as the narrator follows the poet Virgil through nine "circles" of sinners. For ten points, name this first section of Dante's *Divine Comedy*, which describes a journey through Hell.

ANSWER: Inferno (prompt on The "Divine Comedy" or "Divina Comedia" before it is read)

(3) **This event caused chemical explosions at an Arkema plant near the small town of Crosby. Victims of this event were controversially unable to seek refuge at the Lakewood Church. Recovery efforts after this event included over \$30 million in fundraising from JJ Watt. (*)** Beaumont and Port Arthur were hit with three feet of rainfall during, for ten points, what August 2017 hurricane that flooded Houston, Texas?

ANSWER: Hurricane Harvey

(4) **Paintings of this type in the Stanza della Segnatura [say-nyah-too-rah] include the *Disputation of the Holy Sacrament* and a painting in which Plato and Aristotle debate. Raphael's *The (*) School of Athens* is in this style, and was painted under an archway in the Vatican. For ten points, name this style of painting, in which pigment is bonded directly to freshly-laid, wet plaster walls.**

ANSWER: fresco by Raphael (prompt on "mural"s)

(5) **A number is algebraic if it can be the solution to one of these functions with integer coefficients. Horner's method simplifies calculations of these functions, usually by employing synthetic division on them. Four to the x power is (*)** not one of these expressions because the variable is in the exponent. For ten points, give this term for mathematical expressions like x squared plus 3, a term that comes from the Greek for "many named."

ANSWER: polynomials (accept polynomial equation, function, expression, etc.)

(6) A character in this play describes “the fairies’ midwife” in the “Queen Mab speech” on the way to a masquerade ball where his friend hopes to find Rosaline. In this play, Benvolio and Mercutio fight with (*) Tybalt, the cousin of a woman who muses that “a rose by any other name would smell as sweet.” For ten points, name this Shakespeare play about a pair of “star-crossed lovers.”

ANSWER: Romeo and Juliet

(7) This holiday takes place between Sha’ban and Shawwal. Suhur and iftar mark the limits of daily personal restrictions during this holiday, when the pillar of sawm is observed. This holiday includes Laylat al-Qadr, the Night of Power during which the (*) Quran was first revealed, and is ended by Eid al-Fitr, a feast day. Able-bodied Muslims fast during, for ten points, what holiest Islamic month?

ANSWER: Ramadan

(8) The C-rate is used to compare different types of these devices, and an early example of them, using zinc and copper sulfate, was the Daniell cell. A dry cell kind of these devices, the nickel-cadmium, can be (*) reused, while a lead anode is found in most automotive types. Portable electronics often employ the lithium-ion type of, for ten points, what device that converts stored chemical energy into electrical energy?

ANSWER: battery

(9) The price of this crop was manipulated by a group of Glasgow-based “lords.” Because American soil was too rich for European plants, this crop was used to deplete the soil of its nutrients. John Rolfe transformed the economy of (*) Jamestown by introducing this crop, which was also grown by Thomas Jefferson in Virginia. For ten points, name this cash crop used in cigarettes.

ANSWER: tobacco (accept Nicotiana tabacum)

(10) In this film, Etta Candy helps a character buy modern clothing and Isabel Maru makes a poison that can destroy gas masks. While trying to kill Erich Ludendorff, this film’s title character crosses (*) no man’s land, deflecting bullets with her bracelets. Steve Trevor’s plane crashes on Themyscira [the-mih-SKEE-rah] in, for ten points, what 2017 film that stars Gal Gadot as an Amazon warrior?

ANSWER: Wonder Woman

(11) In a novel by this author, the protagonist marries her “Lancashire husband,” Jemy, after accidentally marrying her half-brother in Virginia. This author of *Moll Flanders* wrote about a sailor who befriends the cannibal (*) Friday while stranded for twenty-eight years on a desert island. For ten points, name this English author of *Robinson Crusoe*.

ANSWER: Daniel Defoe (accept Daniel Foe)

(12) This country’s fate was decided in the Molotov-Ribbentrop Pact, which did not follow the historical Curzon Line. An invasion of this country dissolved the Free City of (*) Danzig and began on September 1st, 1939. For ten points, name this country whose invasion by Nazi forces officially started World War II one month before its capital, Warsaw, fell.

ANSWER: Poland

(13) **Diving below ten meters can lead to this element’s namesake narcosis. A drug containing three atoms of this element is commonly used to treat chest pains. The urea cycle excretes this element’s waste, and *Azotobacter* soil microbes (*) fix this element in its namesake cycle. Nucleotide bases like adenine and thymine include several atoms of, for ten points, what gaseous element with 7 protons in its nucleus and chemical symbol N?**

ANSWER: nitrogen (accept N before it is read)

(14) **This musician was inspired by the works of Joaquin Rodrigo and Manuel de Falla for his *Sketches of Spain*. This musician led a sextet that included Bill Evans and John Coltrane and recorded modal jazz songs like (*) “Freddie Freeloader” and “So What.” For ten points, name this jazz trumpeter of the albums *The Birth of the Cool* and *Kind of Blue*.**

ANSWER: Miles Dewey Davis III

(15) **In this civilization, soldiers who died in battle were believed to transform into hummingbirds to join Huitzilopochtli [hwee-tseel-oh-pock-tlee]. This civilization worshiped a feathered serpent who was not actually mistaken for (*) Hernan Cortez. For ten points, name this civilization that constructed the Great Temple of Quetzalcoatl [keh-tsal-koh-ah-tull] in Tenochtitlan [teh-nok-teet-lon], modern-day Mexico City.**

ANSWER: Aztec

(16) **Two of these objects are orthogonal when their dot product equals zero. Weight cannot exist in zero gravity because it is this type of quantity, while turning the steering wheel of a (*) moving car will generate an acceleration, which is this type of quantity. Displacement and velocity are also examples of, for ten points, what type of quantity that, unlike scalars, have both magnitude and direction?**

ANSWER: vectors

(17) **The Gila [hee-la] River flows into this river near Yuma, shortly before this river flows into the Gulf of California. Just east of Henderson, this river’s water forms Lake Mead behind a structure that powers much of (*) Arizona. Hoover Dam was built on, For ten points, what river that flows through the Grand Canyon and is named for its source state in the Rocky Mountains?**

ANSWER: Colorado River

(18) **This short story’s title character is bewildered by the phrases “members of Congress” and “Bunker’s Hill” after meeting a group of Dutch settlers led by Hendrick (*) Hudson, who play nine-pin in the Catskills mountains. For ten points, name this Washington Irving short story about a title colonial man who falls asleep for twenty years.**

ANSWER: Rip van Winkle

(19) **The sulfur level in this substance is described by the terms *sweet* and *sour*. This substance can form from kerogen in shale deposits, and fractional distillation of this substance produces (*) asphalt, paraffin wax, and the components of gasoline. The *Deepwater Horizon* rig spilled nearly 5 million barrels of, for ten points, what liquid fossil fuel?**

ANSWER: petroleum (accept crude oil; prompt on “oil”)

(20) **This man wrote to his “Dear Fellow Clergymen” to say “Injustice anywhere is a threat to justice everywhere” while in prison. This winner of the 1964 Nobel Peace Prize was assassinated by (*) James Earl Ray, and hoped his four children would “not be judged by the color of their skin.” For ten points, name this civil rights activist who, at the 1963 March on Washington, gave the “I Have a Dream” speech.**

ANSWER: Dr. Martin Luther King, Jr.

Bonuses

(1) Phase diagrams predict this state of matter should exist at low temperatures and high pressures. For ten points each,

Name this state of matter that has definite shape and volume. Matter in this state may be amorphous, but often has a crystalline structure.

ANSWER: solid

At low pressure, phase diagrams show that solids can transition directly into gases by this phase change. Dry ice becomes carbon dioxide gas by this phase change.

ANSWER: sublimation (accept word forms like subliming)

The boundary between liquid and gas states on a phase diagram ends at this point. Carbon dioxide above this point can be used to decaffeinate coffee.

ANSWER: critical point

(2) This musical work is accompanied by sonnets written by its composer, who spent much of his life working in a Venetian orphanage and music school. For ten points each,

Name this four-piece collection that opens with “La primavera” and ends with “L’inverno.”

ANSWER: The Four Seasons (accept Le Quattro Stagioni)

The Four Seasons was composed by this Italian composer.

ANSWER: Antonio Vivaldi

The Four Seasons are, like hundreds of Vivaldi’s works, concertos written for this instrument. A traditional string quartet features a pair of these instruments.

ANSWER: violin

(3) This publication predicted the death of Titan Leeds in 1732. Leeds wasn’t dead in 1733, but this publication printed an obituary anyway; when Leeds protested, this publication suspected an imposter. For ten points each,

Name this annual publication, filled with astronomical information, poems, proverbs, and a calendar, that was extremely popular in the American colonies.

ANSWER: Poor Richard’s Almanac

Poor Richard’s Almanac was written under the name “Richard Saunders” by this inventor and founding father.

ANSWER: Benjamin Franklin

In his almanac, Benjamin Franklin claimed that these astronomical events “do not signifie much” and mocked those who believe they do. Nat Turner took one of these events as a signal to begin his revolt.

ANSWER: (solar and/or lunar) eclipses

(4) This president is addressed in poems that say “our fearful trip is done” and describe “the debris and debris of all the slain soldiers” of the Civil War. For ten points each,

Name this American president, whose death was memorialized in the poems “O Captain! My Captain” and “When Lilacs Last in the Dooryard Bloom’d.”

ANSWER: Abraham “Abe” Lincoln

“O Captain! My Captain” and “When Lilacs Last in the Dooryard Bloom’d” are by this American author, whose poems, like “Crossing Brooklyn Ferry” and “Song of Myself,” were collected in *Leaves of Grass*.

ANSWER: Walt(er) Whitman

This Beat poet called Walt Whitman a “childless, lonely old grubber, poking among the meats in the refrigerator” in his poem “A Supermarket in California,” and wrote “I saw the best minds of my generation destroyed by madness” in “Howl.”

ANSWER: (Irwin) Allen Ginsberg

(5) When the mythical Greek King Oeneus snubbed this goddess, she released a vicious boar on his city-state of Calydon. For ten points each,

Name this Greek goddess of the hunt, whose actions led to the Calydonian Boar Hunt.

ANSWER: Artemis

This hero was one of the many who joined the Calydonian Boar Hunt. In other adventures, this hero slew the Minotaur with Ariadne’s help.

ANSWER: Theseus

This legendary huntress and devotee of Artemis landed the first wound on the Calydonian Boar. This woman was later tricked into marrying Hippomenes when he beat her in a foot race.

ANSWER: Atalanta

(6) Supreme Court justice Sonia Sotomayor attended one of this team’s 2017 games, sitting in the “Judge’s Chambers” section. For ten points each,

Name this Major League Baseball team, whose star outfielder Aaron Judge broke the rookie record for home runs in a season with 52. This team finished second in the AL East to their rival, the Boston Red Sox.

ANSWER: New York Yankees (prompt on New York)

The previous record for home runs in a rookie season was 49 by this Oakland Athletic in 1987. As a St. Louis Cardinal in 1998, he raced Sammy Sosa to break Roger Maris’ single season record, finishing with 70 home runs.

ANSWER: Mark McGwire

For parts of 2017, this Miami Marlin was on pace to reach Maris’ mark of 61 home runs in a season; he finished with 59.

ANSWER: Giancarlo Stanton (accept Mike Stanton)

(7) Chthonians and Hot Jupiters are two types of these objects discovered by the Kepler space telescope. For ten points each,

Name this term for large bodies found orbiting a star outside of Earth's solar system. Named examples of these include Draugr, Arion, and Hypatia.

ANSWER: exoplanets (accept extrasolar planets)

About 20 percent of Sun-sized stars have an orbiting exoplanet within this zone, where temperature and radiation levels are thought to be "just right" for supporting life.

ANSWER: Goldilocks zone (accept circumstellar habitable zone)

Despite the discovery of many exoplanets in the Goldilocks zone, there is no evidence yet that any contain this resource, critical for life, in a liquid state.

ANSWER: water (accept H₂O)

(8) This man's brother, Hasdrubal, was killed at the Battle of the Metaurus, after which his head was cut off and thrown into this man's camp. For ten points each,

Name this Carthaginian general who invaded Italy over the Alps to attack Rome.

ANSWER: Hannibal Barca

Hannibal's crossing of the Alps was particularly hard on these animals, most of which died on the journey. Reinforcements brought Hannibal more of these massive war animals, which were scared by Roman trumpets at the Battle of Zama.

ANSWER: elephants

Hannibal fought during the second of these wars between Rome and Carthage. A popular legend holds that, after the third of these wars, the Romans salted the earth to prevent Carthage from rebuilding and threatening Rome again.

ANSWER: Punic Wars

(9) The short stories "Dark They Were, and Golden-Eyed" and "The Locusts" are set on this planet. For ten points each,

Name this red fourth planet from our sun, which is colonized by Earth people in the aforementioned science fiction stories.

ANSWER: Mars

"Dark They Were, and Golden-Eyed" and "The Locusts" are from this American science fiction writer's collection *The Martian Chronicles*. This man also wrote *Something Wicked This Way Comes* and "A Sound of Thunder."

ANSWER: Ray (Douglas) Bradbury

Bradbury also wrote this collection of connected short stories about a summer that Douglas Spaulding spends growing up in Green Town, Illinois.

ANSWER: Dandelion Wine

(10) The latitudinal gradient in this quantity means it increases from the poles to the tropics. For ten points each, Name this quantity, often measured as the number of species in a given area, that is particularly high in “hotspots” like Madagascar and Colombia.

ANSWER: **biodiversity** (accept **species richness**)

One major threat to biodiversity is this type of non-native species that can out-compete native plants and animals. The brown tree snake in Guam and the zebra mussel in America are examples.

ANSWER: **invasive** species (prompt on “introduced” species)

This Japanese climbing vine was introduced to the US in the 19th century and quickly “took over” the American South.

ANSWER: **kudzu** (accept **arrowroot**)

(11) A union for these workers, the NFWA, was led by Dolores Huerta, who popularized the rallying cry “Si, se puede!” [see, say pway-day], or “Yes, we can!” For ten points each,

Name this type of worker. The NFWA was also led by Cesar Chavez, who went on numerous hunger strikes to protest poor conditions.

ANSWER: **agricultural** workers (accept **farmers**; accept job-specific equivalents, like **harvesters**; accept food-specific equivalents, like grape **farmers**; do not accept or prompt on answers related to immigration status)

In the 1960s, Chavez and Huerta protested the Bracero Program, an agreement between the US and this southern neighbor, that undermined American workers while exploiting immigrants from this country.

ANSWER: **Mexico** (accept the **United Mexican States**)

In 1992, the US and Mexico, as well as Canada, signed this economic agreement. One of the effects of this agreement was the creation of *maquiladoras*, Mexican factories that import parts to produce finished goods.

ANSWER: **NAFTA** (accept **North American Free Trade Agreement**)

(12) This man’s design for the Hancock Tower included engineering faults that allowed the building’s large panes of reflective glass to release from the building and shatter. For ten points each,

Name this architect, who also used panes of glass in his designs for the Bank of China Tower in Hong Kong and the Rock and Roll Hall of Fame in Cleveland.

ANSWER: I(eoh) M(ing) **Pei**

I.M. Pei’s [”pay”s] pyramidal glass design for the Rock and Roll Hall of Fame is similar to his front entrance design for this Parisian palace-turned-art museum, which holds Leonardo da Vinci’s *Virgin and Child with Saint Anne* and one version of his *Madonna of the Rocks*.

ANSWER: Musée du **Louvre** (accept **Louvre** Museum)

In addition to Leonardo’s religious paintings, the Louvre holds this iconic portrait by Leonardo of a woman with an enigmatic smile. The Louvre has allowed researchers to carefully scan this painting, revealing that its subject may once have had visible eyebrows.

ANSWER: **Mona Lisa** (accept La **Gioconda**)

(13) After the 480s BCE, the Dionysia competition expanded its program to include a competition for comedy, though it had already been judging this genre of drama for some time. For ten points each,

Name this genre of Greek drama, in which a character's fatal flaw leads to his or her downfall.

ANSWER: Greek **tragedy** (accept **tragic** plays)

Performances of Greek tragedy almost always included this group of people, who recited lines in unison to represent narration, the common people, or other groups of characters.

ANSWER: **chorus**

This late-period Athenian playwright was known for his distant, uninvolved choruses. This playwright won the Dionysia festival with *Bacchae*, and took third with his play *Medea*.

ANSWER: **Euripides**

(14) For ten points each, give the following about calculations involving triangles.

This theorem, named for an ancient Greek mathematician and philosopher, sets the square of the hypotenuse of a right triangle equal to the sum of the squares of the two legs. As a formula, it's usually written a squared plus b squared equals c squared.

ANSWER: **Pythagorean** Theorem (accept "Formula" in place of "Theorem")

If two angles of a triangle have known sizes, the size of the third angle can be found by subtracting the two known sizes from this value.

ANSWER: **180 degrees** (accept **pi radians** or **200 gradians**; prompt on "180," "pi," or "200" alone)

If all three side lengths are known, the triangle's area can be found using this ancient Greek mathematician's formula, which incorporates the semiperimeter of the triangle.

ANSWER: **Heron's** formula (accept **Hero's** formula)

(15) Smaller islands off the coast of this island include Gonâve [**go-nahv**] Island near Port-au-Prince and Tortuga off the northern coast. For ten points each,

Name this island whose land is divided between two modern countries.

ANSWER: **Hispaniola**

The western half of Hispaniola is owned by this country, whose capital of Port-au-Prince was rocked by a deadly 2010 earthquake.

ANSWER: **Haiti**

Hispaniola's political division also creates a language barrier; Spanish is the official language of the Dominican Republic on the eastern half of the island, while this is the official language spoken in Haiti.

ANSWER: **French**

(16) In Catholicism, this solemn holiday is a fast day on which no mass is observed. For ten points each, Name this holiday near the end of the Christian Holy Week. It commemorates the day of Jesus's crucifixion.

ANSWER: Good Friday (accept Holy Friday; accept Great Friday; accept Black Friday)

Holy Week, which ends Lent, leads up to this important springtime Christian holiday, which celebrates Jesus's resurrection.

ANSWER: Easter Sunday (accept Pasha)

The Thursday before Good Friday, which commemorates the Last Supper, is often given this name, which is thought to come from the Latin for "commandment."

ANSWER: Maundy Thursday (do not accept "Holy Thursday")

(17) Although fuel concerns and improving American counterattacking forced a withdrawal, Admiral Yamamoto later lamented the cancellation of the third wave of this attack. For ten points each,

Name this December 7, 1941 surprise attack on the US Pacific fleet. Over 2,400 Americans were killed in this attack in Hawaii.

ANSWER: attack on Pearl Harbor

Crucially for the US fleet, their three ships of this type, including the *Enterprise*, were out at sea during the attack. The fact that the Japanese did not know where these American ships were contributed to the decision against a third wave.

ANSWER: aircraft carriers

Over 1,100 men were killed in the sinking of this battleship in Pearl Harbor. A floating memorial over the hull of this ship commemorates those lost during the attack.

ANSWER: USS Arizona

(18) A 1784 essay by Immanuel Kant asks "What is [this idea]?", and answers "man's emergence from self-imposed immaturity." For ten points each,

Name this concept. It names an 18th century period in which philosophers like Kant, Jean-Jacques Rousseau, and David Hume argued for separation of church and state, liberty, and increased reliance on scientific examination of the world.

ANSWER: (Age of) Enlightenment (accept Aufklärung)

During the Enlightenment, Denis Diderot and numerous French thinkers collaborated on one of these works, which collect human knowledge. While these works are often organized alphabetically, they provide much more detailed information than a simple dictionary.

ANSWER: encyclopedia (accept Encyclopédie)

Discourse during the Enlightenment in France took place in these gatherings, which were often organized by upper- and middle-class women in their homes.

ANSWER: salons

(19) This wife of William Godwin wrote a pamphlet advocating for women's education during the French Revolution. For ten points each,

Name this 18th century feminist who wrote *A Vindication of the Rights of Woman*.

ANSWER: Mary Wollstonecraft

Mary Wollstonecraft was the mother of this author, who wrote *The Last Man* and told a story about a creature that kills Elizabeth Lavenza while participating in a contest against Lord Byron, John William Polidori and this woman's husband, Percy.

ANSWER: Mary Wollstonecraft Shelley

During that writing contest, Mary Shelley told a story that would later become this novel, in which the title medical student creates a living monster out of the body parts of the dead.

ANSWER: Frankenstein; or, the Modern Prometheus

(20) This principle is often stated as the inability to exactly measure a particle's position and momentum at the same time. For ten points each,

Name this quantum physics principle. It was first introduced by Werner Heisenberg in 1927.

ANSWER: Heisenberg's uncertainty principle (accept indeterminacy principle)

Heisenberg's uncertainty principle can be written as an inequality with this scientist's reduced constant on the right side. This constant is the ratio of a photon's energy to its frequency.

ANSWER: Planck's constant (prompt on "h")

Heisenberg's uncertainty principle is one tenet of this theory of quantum mechanics co-developed with Niels Bohr. This theory uses wave functions to show all possible states of a particle before its observation, and is named for the Danish city where Bohr and Heisenberg developed it.

ANSWER: Copenhagen interpretation