

Round 2

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Tossups

(1) **This language was used for a novel in which the decomposition of Zosima’s body disappoints one of the three title siblings. Another novel in this language follows the consequences of the murder of the (*) pawnbroker Alyona by a student named Raskolnikov. For ten points, name this language used to write Fyodor Dostoyevsky’s novels *The Brothers Karamazov* and *Crime and Punishment*, which begins in Saint Petersburg.**

ANSWER: Russian language (accept Russia; accept rússkiy yazýk; accept Rossiya)

(2) **In 1986, this country was led by Corazon Aquino after the People Power Revolution led to the exile of Ferdinand Marcos, whose wife had an infamously large collection of shoes. The mayor of this country’s Davao City supported a “death squad” to kill (*) drug addicts before being elected President in 2016. For ten points, name this Asian country where Rodrigo Duterte leads from Manila.**

ANSWER: the Philippines

(3) **When two polynomials are multiplied together, this operation is performed to find the degree of the result. A capital sigma is used in simplified notation for this mathematical operation, which is done to the exponents to simplify x squared (*) times x cubed. Negative numbers are the inverses of positive numbers when using, For ten points, what operation that undoes subtraction?**

ANSWER: addition (accept summation; accept plus; accept word forms like adding)

(4) **Particles emitted by the eruption of Krakatoa inspired this painting’s monochromatic background, under which shadowy boat masts float on the swirling water of Oslo Harbor. Two dark figures walk along the far left side of this painting, next to a (*) railing and behind a tortured central figure. For ten points, name this painting by Norwegian artist Edvard Munch, in which a bald figure raises its hands to its head and opens its mouth wide.**

ANSWER: The Scream (accept Skrik; accept Der Schrei der Natur)

(5) **People with this profession like Maria Ressa and Wa Lone were named *Time* People of the Year in 2018. Another person with this profession, Jamal Khashoggi [kash-oh-jee], was killed in Turkey at the (*) Saudi Arabian embassy. In June 2018, five people working in this profession were shot and killed at the office of the *Capital Gazette*. For ten points, name this profession that is protected in the US by the First Amendment to report the news.**

ANSWER: journalism (accept word forms like journalist; accept other equivalents; accept reporter and word forms thereof before “report” is said; accept newspaper and word forms before “news” is said)

(6) **When seen through an H-alpha filter, the Sun appears this color. The more silicate a meteorite contains, the more it glows this color while falling. The most common stars in the Milky Way are (*) dwarfs of this color, and in five billion years, the Sun will become a giant with this color. Jupiter's Great Spot is, for ten points, what color that is observed in a total lunar eclipse during a "blood moon?"**

ANSWER: red

(7) **After this god tried to woo the nymph Minthe, she was turned into a mint plant. This god owned the Helm of Darkness, which Perseus used to escape from the Gorgons. This god tricked his wife into eating (*) pomegranate seeds, thus forcing her to be his bride. For ten points, name this husband of Persephone [Per-seh-fuh-nee] and brother of Zeus and Poseidon, the Greek god of wealth and the underworld.**

ANSWER: Hades (Do not accept or prompt on Pluto)

(8) **This man was betrayed by James Wilkinson in their attempt to invade Mexico and form a new country in 1806. The Essex Junto tried to get this man elected Governor of New York in 1804, after he was dropped as Vice President by (*) Thomas Jefferson. This man became a fugitive for shooting a man at Weehawken, New Jersey. For ten points, name this politician who dueled and killed Alexander Hamilton.**

ANSWER: Aaron Burr

(9) **Ketones are produced from this kind of compound in the Jones oxidation. The isopropyl type of these compounds is found in hand (*) sanitizer. These compounds contain at least one OH [O-H] group, and one common example is a product of yeast fermentation that must be detoxified in the liver. For ten points, name this group of organic compounds with "grain" and "rubbing" types.**

ANSWER: alcohols

(10) **Characters in this novel form a Charles Dickens-inspired Pickwick Club and re-enact John Bunyan's *Pilgrim's Progress*. In this novel, a young artist goes to Europe and falls in love with her childhood friend, (*) "Laurie" Laurence. Professor Bhaer ["bear"] marries the aspiring writer, Jo, in this novel. Marmie's daughters, Meg, Jo, Beth, and Amy, are the title March sisters in, for ten points, what novel by Louisa May Alcott?**

ANSWER: Little Women

(11) **In this game, failing to kill a Chaos Bug leads a friendly knight from Astoria to attack the player. The Kings of New Londo are corrupted by Kaathe, one of two opposing primordial serpents in this game. At the end of this game, players defeat (*) Gwyn, Lord of Cinder and decide whether or not to rekindle the first flame. For ten points, name this recently remastered game by FromSoftware, an RPG known for its difficulty.**

ANSWER: Dark Souls (accept Dark Souls: Prepare to Die Edition; accept Dark Souls: Remastered)

(12) **This ship won the Blue Riband in October 1907 by reaching New Jersey in just under five days. Travelers on this ship were warned that a "state of war exists" by a newspaper ad placed by the Imperial German Embassy before this ship was sunk by a German (*) U-boat in 1915, killing nearly 1,200 people. For ten points, name this ocean liner whose sinking helped push the US into World War I.**

ANSWER: RMS Lusitania

(13) **Thévenin's theorem allows analysis of these entities to be simplified, and the sum of potential differences around a closed one of these must be zero according to Kirchhoff's loop rule.** (*) Resistors appear as zigzag lines on diagrams of these entities, whose voltage and current are related by Ohm's law. For ten points, name these networks of batteries, wires, and other components that may be arranged in series or parallel.

ANSWER: electrical circuits

(14) **In this novel, a page of Dick Johnson's Bible is torn out as a warning. Doctor Livesey bribes Ben Gunn with cheese in this novel, and Squire Trelawney arranges an expedition to follow a** (*) map discovered in the belongings of Billy Bones, who dies after receiving the Black Spot. Jim Hawkins adventures with the pirate Long John Silver in, for ten points, what novel by Robert Louis Stevenson?

ANSWER: Treasure Island, or the mutiny of the Hispaniola

(15) **The clef for this vocal range puts C on the fourth line of the staff and is used by cellos, bassoons, and trombones. Songs like "Nessun dorma" were sung by a famous trio of performers with this vocal range that included Placido Domingo and Luciano** (*) Pavarotti. This range appears between alto and bass in a standard choir. For ten points, name this highest male vocal range.

ANSWER: tenor

(16) **Public art in this city includes a 24-foot-long arm and fist that was built as a memorial to boxer Joe Louis. Diego Rivera murals in this city show industrial workers building bombs and** (*) cars. This city owns Belle Isle Park, a river island between this city and Ontario. Thomas Edison's last breath is held in the suburb of Dearborn at the Henry Ford Museum just outside, for ten points, what largest city in Michigan?

ANSWER: Detroit

(17) **In this work, Pedrico is given meat scraps and an animal's enormous head by a man who had been considered *salao* after eighty-four luckless days. When this work's protagonist returns to his apprentice,** (*) Manolin, in Cuba, his catch has been eaten by sharks. For ten points, name this short novel about the elderly fisherman Santiago and his attempt to bring home a giant marlin.

ANSWER: The Old Man and the Sea

(18) **Some items used during this holiday may depict Judith holding Holofernes' head, even though this holiday celebrates Antiochus** [an-TYE-oh-kuss] **being defeated by the Maccabees. Sufganiyot,** (*) latkes, and other fried foods are consumed on this holiday. The miracle of a small amount of sacred oil lasting for eight days is celebrated in, for ten points, what Jewish Festival of Lights that is celebrated in December?

ANSWER: Chanukah

(19) **Topo-iso-merase breaks this shape to relieve super-coiling stress, and this shape is formed by hydrogen bonds between purine and pyrimidine bases. "Photograph 51," taken by Rosalind Franklin, contributed to the discovery of this shape.** (*) Watson and Crick received the Nobel for discovering, for ten points, what twisted ladder structure of DNA?

ANSWER: double helix (prompt on "DNA")

(20) **This battle's winning side lost the generals Stesilaos [tess-ih-lay-os] and Callimachus in the fighting. The Carneia festival prevented some troops from helping in this battle, so Miltiades [mill-tie-uh-deez] devised the winning strategy in this battle without (*) Spartan help. Darius the Great was repelled from Greece in, for ten points, what ancient battle, after which news was relayed to Athens 26 miles away by a runner?**

ANSWER: Battle of Marathon

Bonuses

(1) For ten points each, give the following about the 1449 Tumu **[tuh-MU]** Crisis.

The Tumu Crisis was a horribly mismanaged military effort by this dynasty, whose Zhengtong Emperor got himself captured by ignoring multiple opportunities to return to Beijing. This dynasty built the Forbidden City and is famous for its porcelain art.

ANSWER: **Ming** Dynasty

The crisis involved a raid of 20,000 of these people, led by Esen Taishi, into Ming territory where they destroyed an unprepared army of half a million Ming soldiers. These people ruled the Yuan Dynasty, which was defeated by the Ming.

ANSWER: **Mongols** (accept **Oirats**)

The Ming Dynasty responded to the Tumu Crisis by renewing its efforts to maintain this defensive structure, which was supposed to keep the Mongols out. Contrary to legend, you cannot see this structure from space.

ANSWER: **Great Wall** of China

(2) This event ended the time of the Nephilim, a race of giants. For ten points each,

Name this biblical event, whose end was revealed by a dove carrying an olive branch.

ANSWER: the great **flood** (accept **deluge**)

This man built a three-hundred-cubit-long ark and filled it with seven pairs of each clean animal and two of each unclean animal to repopulate the world after the flood.

ANSWER: **Noah** (accept **Nuh**)

The descendants of this son of Noah were cursed after this man failed to cover Noah while he was naked and drunk after the flood. This man was the father of Canaan and the brother of Shem and Japheth.

ANSWER: **Ham**

(3) This branch of physics can be used to predict where a ski jumper will land once she leaves the ramp. For ten points each,

Identify this field that studies the two-dimensional motion of a projectile only traveling under the influence of gravity. The paths of a thrown baseball or a bullet leaving the barrel of a gun are subjects for this field.

ANSWER: **ballistics**

Assuming zero air resistance, a projectile will achieve maximum range when it is launched at this degree angle of elevation.

ANSWER: **45** degrees (accept **pi over 4 radians** or **one-fourth pi radians**)

This Italian scientist was the first to determine that the path of a projectile is a parabola. He also rolled balls down ramps and supposedly dropped them off the Leaning Tower of Pisa to demonstrate the uniform acceleration of falling bodies.

ANSWER: **Galileo** Galilei

(4) This politician lied about the extent of his war service, turning his original nickname of “Tail Gunner Joe” into a mockery used by some of his opponents. For ten points each,

Name this senator whose reckless pursuit of Communists within the US government during the Red Scare led to his condemnation by the Senate.

ANSWER: Joseph “Joe” McCarthy

Joe McCarthy represented this US state in the Senate until his 1957 death from alcoholism. This state’s junior senator, Tammy Baldwin, previously represented its capital city of Madison in the House.

ANSWER: Wisconsin

McCarthy’s crusade against communist influence was sparked with his 1950 speech in West Virginia, in which he claimed to hold a list of 205 names of Communists in this governmental department.

ANSWER: State Department

(5) 10 years after the creation of the Marvel Cinematic Universe, there is significantly less focus on men in tights. For ten points each,

Marvel’s first solo female superhero film will be 2019’s *Captain Marvel*, starring this actress who won an Oscar for her role in *Room*.

ANSWER: Brie Larson (accept Brianna Sidonie Desaulniers)

While the role of this superhero defender of Wakanda has been held by T’Challa, many fans speculate that in the aftermath of *Avengers: Infinity War*, Shuri will take up this mantle. In the comics, Shuri becomes this superhero after taking the title of queen and consuming the heart-shaped herb.

ANSWER: Black Panther

Infinity War did not have a happy ending for this adopted daughter of Thanos, who was thrown off a cliff as part of the sacrifice needed to claim the soul stone.

ANSWER: Gamora Zen Whoberi Ben Titan

(6) In Giovanni Boccaccio’s story collection *The Decameron*, three young men and seven young women tell stories after retreating to the countryside outside this city. For ten points each,

Name this city in central Italy, which was once ruled by the Medici family.

ANSWER: Florence (accept Firenze)

The young Florentines in *The Decameron* move to the country to avoid this catastrophic illness that swept across Europe in the 1340s and -50s, and which was nicknamed for the dark color of gangrenous skin in infected people.

ANSWER: Black Death (accept Black Plague; accept Bubonic Plague; accept the Plague)

In *The Decameron*, Fiametta tells a story about one of these animals owned by Federigo. In the story, Federigo feeds this bird of prey to Giovanna, earning her respect.

ANSWER: falcon (accept Federigo’s Falcon)

(7) This composer depicted the various personalities of his friends in his *Enigma Variations*. For ten points each, Name this British composer who is better known for a series of marches written for the coronation of Edward VIII, *Pomp and Circumstance*.

ANSWER: Sir Edward Elgar

In America, *Pomp and Circumstance*'s first march is commonly performed at these ceremonies, both at the high school and college level.

ANSWER: graduation ceremonies

Elgar's last major work was an E minor concerto for this large string instrument. Famous performers of this instrument include Pablo Casals and Jacqueline du Pré.

ANSWER: cello (accept violoncello)

(8) At the height of the Roman Empire, two rivers formed the border of much of the Roman frontier in Europe. For ten points each,

The border began at this river's mouth on the North Sea in the Netherlands. Today, this river forms much of the Franco-German border.

ANSWER: Rhine River

East of the Rhine, the Roman frontier often extended to this river, the second longest in Europe after the Volga. Four national capitals lie on this river, which empties into the Black Sea.

ANSWER: Danube River

The Roman Empire's expansion into the Middle East reached this river, where they agreed on a short-lived border with the Parthian Empire. The ancient Mesopotamian culture flourished between this river and the Tigris River.

ANSWER: Euphrates [yoo-fray-tees] River

(9) Henry Fleming and Jim Conklin discuss whether they would desert their regiment in this novel. For ten points each,

Name this novel in which Henry wants the title mark to prove that he is not a coward.

ANSWER: The Red Badge of Courage

The Red Badge of Courage was written by this American author of "The Bride Comes to Yellow Sky" and *Maggie: A Girl of the Streets*.

ANSWER: Stephen Crane

The Red Badge of Courage is set during this war. In "An Occurrence at Owl Creek Bridge," another story set during this war, Peyton Farquhar is executed by Union troops for his support of the Confederacy.

ANSWER: American Civil War

(10) Homeostasis and adaptation are among the characteristics shared by all living things. Answer these questions about other common traits of life, for ten points each.

Life requires that existing organisms give rise to offspring through this process, which can be sexual or asexual. Spores and seeds are common ways of achieving this among non-animals.

ANSWER: reproduction

The energy needed for reproduction and other functions must be obtained by organisms through this process, the complete set of chemical reactions that occur inside a cell.

ANSWER: metabolism

Because they are non-cellular and lack the ability to reproduce on their own, these disease-causing agents are often not grouped with living organisms. Phages are examples of these that infect bacteria.

ANSWER: viruses

(11) Answer the following about divisibility by prime numbers, for ten points each.

A number is divisible by this non-prime, single digit number if and only if it's divisible by both 2 and 3.

ANSWER: six

The computational difficulty in finding the divisors of large semiprime numbers - for example, a product of just two prime numbers with hundreds of digits - explains why the RSA algorithm for this process is hard for hackers to beat.

ANSWER: cryptology (accept encryption; accept decryption; accept word forms)

Using this procedure, if a number is crossed out 5 times, it is divisible by five different prime numbers. This "sieve" [sivv], which is named for a Greek mathematician, will leave the prime numbers uncrossed.

ANSWER: Sieve of Eratosthenes

(12) George Washington issued the Proclamation of Neutrality regarding U.S. involvement between England and this country. For ten points each,

Name this country, which assisted the Americans in their revolution before undergoing its own revolution starting in 1789.

ANSWER: France

The French Revolution was started after the firing of Jacques Necker and the storming of this structure, a prison fortress in Paris.

ANSWER: the Bastille Saint-Antoine

America purchased Louisiana from France against the wishes of French foreign minister Charles Talleyrand, who later led France's embassy at an 1814 Congress held in this Austrian capital city.

ANSWER: Vienna (or Wien)

(13) Answer the following about depictions of couples in art, for ten points each.

A man holding a pitchfork and a woman wearing an apron stand in front of a white house with a strangely ornate window in this Grant Wood painting.

ANSWER: American Gothic

This artist's many self-portraits included one in which she wears a red shawl and stands under a dove, holding hands with her husband, fellow painter Diego Rivera.

ANSWER: Frida Kahlo de Rivera

Art historian Erwin Panofsky has theorized that this Dutch portrait of a merchant and his wife acted as a legal marriage document. The couple in this painting stand over a pair of wooden clogs and a small black dog that represents fidelity.

ANSWER: The Arnolfini Portrait (accept Giovanni Arnolfini and His Bride; accept any answer that includes the name Arnolfini and the suggestion of a marriage, such as The Arnolfini Marriage or The Arnolfini Wedding)

(14) This type of fossilization occurred 225 million years ago in Arizona, leaving behind an entire forest's worth of preserved logs. For ten points each,

Name the fossil-making process in which buried plants and animals become filled with mineral-rich water that eventually replaces all tissue with hard crystals.

ANSWER: petrification (accept petrifaction or permineralization)

One of the most complete petrified dinosaur skeletons ever found is the Chicago Field Museum's Sue, a member of this carnivorous species. This small-armed predator dominated North America at the end of the Cretaceous Period.

ANSWER: Tyrannosaurus rex (accept T. rex)

An "explosion" of life during the Cambrian Period is recorded in this geologic formation in British Columbia. This petrified fossil deposit has yielded many trilobite species and the bizarre predator *Anomalocaris*.

ANSWER: Burgess Shale

(15) This poet collaborated on the collection *Lyrical Ballads* with Samuel Taylor Coleridge. For ten points each,

Name this English poet, who wrote "I Wandered Lonely as a Cloud" and "Lines Composed a Few Miles Above Tintern Abbey."

ANSWER: William Wordsworth

In Wordsworth's poem "I Wandered Lonely as a Cloud," he describes being on a walk "when all at once [he] saw a crowd, / a host, of" these yellow flowers, and says that to think about them his "heart with pleasure fills / and dances with" these flowers.

ANSWER: daffodils

Wordsworth wrote "Tintern Abbey" and "I Wandered Lonely as a Cloud" for Dorothy, a woman with this relationship to Wordsworth. In Wordsworth's poem "We Are Seven," a little girl describes six boys and girls who are related to her in this way, although she is the only one who lives with their mother.

ANSWER: sibling (accept sisters and/or brothers)

(16) This thinker described his past Manichean [man-ih-kee-un] faith, his son born out of wedlock, and his conversion to Catholicism are detailed in a 13-book autobiography. For ten points each,

Name this Christian theologian of the 4th and 5th centuries CE who lived in the north African city of Hippo.

ANSWER: Saint Augustine of Hippo

Augustine's autobiography of the sins of his youth is named for this act of admitting one's sin.

ANSWER: confession (accept word forms; accept Confessions)

Augustine's work *City of God* includes early thoughts on the justness of this action, noting that it should never be performed pre-emptively and that, if this large-scale action is taken in defense, it does not violate a commandment.

ANSWER: war (accept Just War theory; prompt on answers describing "killing," "murder," "violence," "fighting," etc)

(17) This year's Presidential election was won by the National Union Party, an adopted name used by Republicans who wanted to attract War Democrats and other pro-Union forces who wouldn't otherwise vote for Abraham Lincoln. For ten points each,

Name this year, in which Lincoln won re-election. The following year, the Civil War ended and Lincoln was assassinated.

ANSWER: 1864 (prompt on "64")

In the 1864 election, Lincoln was opposed by this Democratic candidate, a Union general who Lincoln had fired in 1862 after he failed to crush Robert E. Lee at Antietam.

ANSWER: George McClellan

Officially, this 17th U.S. President represented the National Union Party in the White House when he took power following Lincoln's death. The party disappeared after this man left office in 1869, having survived his impeachment trial.

ANSWER: Andrew Johnson (prompt on Johnson)

(18) Molecules such as vitamin E and beta-carotene that scavenge these chemicals in the body are called antioxidants. For ten points each,

Give this term for molecules or ions with an unpaired electron in the outer shell. These species are highly reactive, like the ones formed by chloro-fluoro-carbons that break down the ozone layer.

ANSWER: free radicals

One major source of free radicals in cells is this compound with formula H_2O_2 [H-two-O-two]. This compound is decomposed by the enzyme catalase and is sold in brown bottles for use as a disinfectant.

ANSWER: hydrogen peroxide (accept peroxide)

Cumulative damage to DNA and cell membranes is behind the free radical theory of this process that typically ends with death. A diet full of antioxidant-rich fruits and vegetables has not been conclusively shown to slow this process.

ANSWER: aging (accept senescence)

(19) In a novel by this author, a quick-spreading “red weed” spreads through the ruins of English cities after a mysterious colonizing force destroys human society with a Heat-Ray. For ten points each,

Name this English science fiction author, who also wrote *The Island of Doctor Moreau*.

ANSWER: Herbert George “H.G.” Wells

Red weed is used to create a Mars-like environment as humans are harvested for food in this H.G. Wells novel about a Martian invasion of Earth.

ANSWER: The War of the Worlds

Because they lack digestive organs, Martians in *The War of the Worlds* consume this part of the human body with the help of a “little pipette” designed for the purpose.

ANSWER: blood

(20) This god stepped down as sun after murdering all of his followers with massive hurricanes. For ten points each,

Name this “feathered serpent” whose followers were changed into monkeys by Tezcatlipoca [tez-kaht-lee-poh-kah]. As a result, this god traveled to Mictlan to create mankind for the fifth age.

ANSWER: Quetzalcoatl [keht-zall-koh-ah-tull]

Quetzalcoatl [keht-zall-koh-ah-tull] created humans by mixing his blood with these items. These items were the remains of the people of fourth age.

ANSWER: bones

Quetzalcoatl and Tezcatlipoca are prominent members of the mythology of this Mesoamerican civilization. This civilization’s mythology also included Huitzilopotchli [h-weet-zill-oh-pot-kee], the patron of the Mexica tribe.

ANSWER: Aztec