

Round 6

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Tossups

(1) **A member of this family said “the dream shall never die” at a 1980 convention where Jimmy Carter defeated him for the Presidential nomination. Another member of this family won the California primary in 1968 before being assassinated by (*) Sirhan Sirhan, and served as Attorney General under his brother, who was shot by Lee Harvey Oswald in 1963. For ten points, name this American political family with members like Ted, Robert, and John Fitzgerald.**

ANSWER: Kennedy family (accept Edward “Ted” Kennedy; accept Robert F. Kennedy after “California” is read; accept John F. Kennedy after “his brother” is said)

(2) **A character created by this author is upset when the horse Frou-Frou is injured during a race. In a novel by this man, Helene Kuragina marries Pierre Bezhukov, who believes that he must kill Napoleon. The title character of one of this man’s novels has an affair with Count (*) Vronsky and commits suicide by throwing herself in front of a train. For ten points, name this Russian author of *Anna Karenina* and *War and Peace*.**

ANSWER: Leo Nikolayevich Tolstoy

(3) **This feat was done 195 times in 2017 by both Chris Davis and Khris Davis. Despite Cameron Maybin doing this, the Angels won a game after a Yasmani Grandal throwing error. Doing this 4 times earns a golden sombrero. This feat can happen 4 times in an (*) inning because if it finishes with a wild pitch, the batter can try to reach first base. A “K” symbolizes, for ten points, what baseball stat that can be earned by swinging and missing 3 times?**

ANSWER: strikeout (accept K before it is read; do not prompt on “out”)

(4) **China’s Wukong space telescope is currently searching for proof of this phenomenon. One alternative for explaining its effects is modified Newtonian dynamics. WIMPs are hypothetical particles that make up this substance, first proposed by Fritz Zwicky to solve the (*) missing mass problem in galaxy clusters. About 27% of the mass-energy of the universe is made of, for ten points, what exotic type of matter that does not interact with light?**

ANSWER: dark matter

(5) **In this painting, a red cross was a late addition to the coat of a man working at an easel, who looks through the fourth wall at a king and queen who are reflected in a mirror. A mastiff is nudged by one of the two (*) dwarves on the right of this painting, in which two servants in wide skirts attend a young, white-clothed princess. The daughter of Philip IV of Spain is depicted in, for ten points, what Diego Velázquez painting of the Infanta Margarita?**

ANSWER: Las Meninas (accept The Maids of Honor; accept The Ladies-in-Waiting)

(6) **This creature was fed cake soaked in wine by the Sibyl of Cumae to help Aeneas pass it, and this creature so terrified King Eurystheus that he hid in a jar. This brother of Orthrus was unable to pierce the Nemean Lion skin worn by (*) Heracles during his twelfth labor, during which this creature was captured from Hades. For ten points, name this three-headed guard dog of the Greek underworld.**

ANSWER: Cerberus

(7) **This country elected its first female president, Tsai Ing-wen, in 2016. This country's "Blue Sky with a White Sun" flag symbolizes the Kuomintang government, which was once led by Chiang Kai-shek. South Korea, Singapore, Hong (*) Kong, and this country are often labeled the Four Asian Tigers for their high-tech economies. For ten points, name this island nation with capital Taipei whose sovereignty is disputed by its mainland neighbor, China.**

ANSWER: Taiwan (accept Republic of China; accept ROC; do not accept or prompt on China alone)

(8) **The antibiotic tetracycline inhibits the function of this structure in bacteria. The nucleolus houses a type of RNA named for this organelle, which makes use of E, P, and A sites during its role in translation of mRNA. Two (*) subunits form these organelles, which can float in the cytoplasm or be found studded on the rough endoplasmic reticulum. For ten points, name these tiny cell organelles that synthesize proteins.**

ANSWER: ribosomes

(9) **In this novel, William Collins marries Charlotte Lucas after being rejected by the protagonist. This novel's protagonist is described as "tolerable; but not handsome enough to tempt" a guest at a ball. A character in this novel protects (*) Lydia's reputation by bribing George Wickham into marrying her, and his friend Mr Bingley gets engaged to Jane. For ten points, name this Jane Austen novel in which Elizabeth Bennet ultimately agrees to marry Mr Darcy.**

ANSWER: Pride and Prejudice

(10) **This man wrote that "no one ought to harm another in his life, health, liberty, or possessions" in one work, though he also attacked atheists as untrustworthy in his *Letter Concerning Toleration*. This man's concept of *tabula rasa*, that the mind begins as a (*) "blank slate," was outlined in his *Essay Concerning Human Understanding*. For ten points, name this English philosopher whose social contract theories inspired the Declaration of Independence.**

ANSWER: John Locke

(11) **In 2002, it was proven that this number is the only positive cubic number that is one less than a square number. This number, whose divisibility check looks at the last 3 digits, is the only cubic number greater than 1 that appears in the (*) Fibonacci sequence. A cube has this many vertices between its 12 edges and 6 faces. For ten points, give this number that is equal to two cubed and serves as the base of the octal number system.**

ANSWER: eight

(12) **This desert's Tibesti Mountains are home to the Toubou people. In the east of this desert, the salty Lake Turkana is threatened by a dam on the Omo River. The large-eared fennec fox lives in this desert, where two Grand Ergs lie in the rain shadow of the** (*) Atlas Mountains to its north. This desert is north of a transition zone that passes from Sudan to Mali called the Sahel. For ten points, name this African desert, the largest in the world.

ANSWER: Sahara Desert

(13) **Because enthalpy is constant in a throttling process, both heat and this quantity will equal zero. In a uniform electric field, this quantity equals the product of charge and voltage. This quantity can only be calculated in the direction of an object's** (*) displacement, and it is measured in the same units as energy. Carrying a weight up a flight of stairs is an example of, for ten points, what quantity often expressed as force times distance?

ANSWER: work

(14) **Dr Montague searches for these creatures in a Shirley Jackson novel. A blood-covered character of this type takes Macbeth's seat at a feast. One of these creatures drags cash-boxes and ledgers by chains, and identifies himself as Jacob** (*) Marley when he tells Ebenezer Scrooge he will be followed by three of these creatures representing Christmas Past, Present, and Yet-to-Come. For ten points, name these disembodied spirits of the dead.

ANSWER: ghosts (accept spirits; accept phantoms; accept poltergeists before "Macbeth" is read; prompt on "dead people" until it is read)

(15) **This party sponsored John C. Fremont in its first presidential election. Thaddeus Stevens led a Radical faction of this political party that attempted to impeach Andrew Johnson. After the Civil War, this party supported** (*) Reconstruction, in contrast to its Southern-based rivals. For ten points, name this political party that elected Abraham Lincoln President over John Breckenridge and Stephen Douglas, a pair of Democrats.

ANSWER: Republican Party (accept Grand Old Party; accept GOP)

(16) **A religion founded in this country practices Harae [hah-rah-ay], which involves washing away sin with water. Monks in this country created rock gardens, meant to channel the essence of nature, to aid them in their** (*) meditations. Temples for this country's native religion are separated from the profane world by red gates called torii [toh-ree]. Zen Buddhism and Shinto are worshiped jointly in, for ten points, what country whose sacred sites include Mt Fuji?

ANSWER: Japan (accept Nippon-koku; accept Nihon-koku)

(17) **A more accurate version of this statement includes *a* and *b* terms to account for particle interactions and excluded volume; that version is known as the Van der Waals equation. When certain parameters are held constant,** (*) Charles's, Gay-Lussac's, and Boyle's Laws are equivalent to this law. For ten points, name this equation of state that can be expressed as " $P V$ equals $n R T$ " and describes the behavior of a theoretical substance.

ANSWER: Ideal Gas Law

(18) **Dvořák’s last concerto was composed for this instrument and premiered by Leo Stern. This instrument plays arpeggiated chords in the first of J.S. Bach’s six suites for it, while Edward Elgar’s concerto for this instrument in E Minor was popularized by Jacqueline du Pré. Pablo (*) Casals also played, for ten points, what string instrument that is slightly smaller than the double bass and is played by Yo-Yo Ma in string quartets with violins and viola?**

ANSWER: cello (accept violincello; do not accept or prompt on violin)

(19) **A 9th century holder of this position named Formosus had his corpse put on trial. A holder of this position allied with Philip II and Charles V to fight the Ottomans at Lepanto. Julius II was labeled the “warrior” one of these people after he formed the (*) Holy League. The Council of Clermont was called by another of these men, Urban II, who launched the First Crusade to capture Jerusalem. For ten points, name this head of the Catholic Church.**

ANSWER: Pope (accept Bishop of Rome; accept Roman Pontiff; accept Pontifex Maximus)

(20) **The narrator of this novel stays at the Spouter Inn and hears a sermon by Father Mapple before beginning a journey on a ship co-owned by Peleg. A character in this novel nails a doubloon to his ship’s mast to motivate his crew, which includes the harpooner (*) Queequeg and the first mate, Starbuck. This novel’s narrator joins the crew of the *Pequod* after asking the reader to “Call me Ishmael.” For ten points, name this Herman Melville novel in which Captain Ahab pursues the title white whale.**

ANSWER: Moby-Dick; or, The Whale

Bonuses

(1) Many books in the Tanakh and biblical Old Testament have a well-established tradition regarding their authorship. For ten points each,

Name this first book of both the Torah and Old Testament, which details the creation of the world and is usually attributed to Moses.

ANSWER: **Genesis** (accept **Bereshit** or **Bereshis**)

King David is credited with writing most of the poems in this book, including a verse that begins “The Lord is my shepherd / I shall not want.”

ANSWER: **Psalms** (accept **Tehilim**)

David’s son Solomon is usually credited with many of the Proverbs, Ecclesiastes, and this book, which describes God as a lover and the Hebrew people as his beloved.

ANSWER: **Song of Songs** (accept **Song of Solomon**; accept **Shir Hashirim**)

(2) The Gibbs free energy of a chemical reaction is minimized once this condition is reached. For ten points each,

Name this state that is achieved when the forward and reverse rates of a reaction are equal.

ANSWER: (dynamic) chemical **equilibrium**

When a reaction is upset, because of changes in temperature or other conditions, this French chemist’s principle states that the equilibrium will shift to counteract the change.

ANSWER: **Le Chatelier’s** [shat-lee-ay’s] principle

Le Chatelier’s principle allows the Haber process to maximize production of this base by combining hydrogen and nitrogen gases at high pressure.

ANSWER: **ammonia** (accept **NH₃**)

(3) The protagonist of this work, Oskar Matzerath, stops growing up at the age of three but has the mind of an adult. For ten points each,

Name this 1959 Günter Grass novel, set in the Polish city of Danzig. In this book, Oskar swears off playing the title musical instrument after the death of his father, Alfred.

ANSWER: The **Tin Drum** (accept Die **Blechtrommel**)

The Tin Drum, as well as the rest of Grass’s *Danzig* trilogy, was written in this language.

ANSWER: **German** (accept **Deutsch**)

Alfred is shot and killed by Soviet troops while he chokes on a small pin that Oskar hands to him; the pin is an emblem of this political party, which Alfred must conceal from the interrogating Soviets.

ANSWER: **Nazi** Party

(4) In 2016, a 5.0 magnitude earthquake struck this state's city of Cushing; that was the third 5.0 quake for this state in 2016 but just the sixth since 1882. For ten points each,

Name this central US state, where quakes have rattled buildings in towns like Edmond and Stillwater.

ANSWER: **Oklahoma**

The rise in earthquakes in Oklahoma is believed to be related to the rise in this process, used in the oil and natural gas industry, in which pressurized liquid is used to crack underground rock, allowing the gas or oil to be collected.

ANSWER: **hydraulic fracturing** (accept **fracking**; accept word forms like **hydraulic fracture**)

Most of Oklahoma's earthquakes have taken place along its border with this state, its northern neighbor.

ANSWER: **Kansas**

(5) For ten points each, give the following about a seemingly interchangeable group of Hollywood stars, the Chrises.

In a 2017 appearance on this show, Chris Pine attempted to teach the audience of Studio 8H that he isn't Chris Evans, Pratt, or Hemsworth with a song set to "Uptown Girls." Meanwhile, Kate McKinnon, who debuted on this show in 2012, explains that the Chrises are "always at the airport wearing raggedy tees that are tight just around the pees."

ANSWER: **Saturday Night Live** (accept **SNL**)

In 2009, Chrises Hemsworth and Pine united to play George and James Kirk in a J.J. Abrams reboot of this sci-fi franchise. This Gene Roddenberry-created franchise returned to television in 2017 with the premiere of *Discovery*.

ANSWER: **Star Trek**

This third film in a Marvel superhero franchise will boast the highest concentration of Chrises yet. In this film, Hemsworth, Pratt, and Evans will reprise their roles as Thor, Starlord, and Captain America to defeat Thanos.

ANSWER: Avengers: **Infinity War** (prompt on (the) Avengers)

(6) One mechanism for this process is the proton-proton chain. For ten points each,

Identify this process in which atoms of light elements combine to form atoms of heavier elements, exemplified by hydrogen turning into helium.

ANSWER: nuclear **fusion** (do not prompt on or accept "nuclear fission")

One common stellar form of fusion is a cycle in which an atom of hydrogen combines with this element to form nitrogen. In the triple-alpha process, three atoms of helium combine to form an atom of this element.

ANSWER: **carbon** (accept **C**)

Fusion of elements lighter than this element's 56-isotope releases energy, while fusing heavier elements requires energy input. This element is the heaviest produced in standard stellar nucleosynthesis.

ANSWER: **iron** (accept **Fe**)

(7) For ten points each, give the following about the America First Committee, which organized to oppose American entry into World War II.

The America First Committee was chaired by Robert Wood, a businessman who led this retail company for nearly three decades. This company began operating via mail order catalogs in the late 19th century, and was purchased by Kmart in 2005.

ANSWER: Sears, Roebuck & Company

The AFC was criticized for supporting the anti-Semitic views of its primary spokesman, this American aviator. In 1927, this man became the first solo pilot to cross the Atlantic non-stop.

ANSWER: Charles Lindbergh

Critics of the AFC included this author, whose political cartoon “Adolf the Wolf” satirized the AFC’s opinion that “Foreign Children...really didn’t matter.” In 1984, this author’s *Butter Battle Book* ends with warring sides threatening to use the Bitsy Big-Boy Boomeroo.

ANSWER: Dr. Seuss (accept Theodor Seuss Geisel)

(8) In the early 20th century, a school of composers based in this city developed around Arnold Schoenberg and innovated in atonal music. For ten points each,

Name this Austrian capital city, where Beethoven and Haydn had worked a century earlier.

ANSWER: Vienna

Schoenberg’s innovation moved away from the use of keys, instead keeping a balance between every note in the chromatic scale; thus, Schoenberg’s technique is often named for this number of tones.

ANSWER: twelve-tone (accept twelve-note; accept other answers including the number 12)

In 1913, Viennese listeners rioted at Schoenberg’s “Skandalkonzert” [scandal concert]; a witness testified in court that the smack of a thrown punch was the most “harmonious” sound of the evening. That riot came just two months before a more famous classical music riot, at the Paris premiere of this Stravinsky ballet.

ANSWER: The Rite of Spring (accept La Sacre du Printemps or Vesna svyashchennaya)

(9) The protagonist of this novel muses about where ducks go in the winter after visiting Central Park. For ten points each,

Name this novel, in which Holden Caulfield wanders around New York City after being expelled from Pencey Prep.

ANSWER: The Catcher in the Rye

The Catcher in the Rye is by this American author who also created Franny and Zooey, members of the Glass family.

ANSWER: JD Salinger (accept Jerome David Salinger)

Holden purchases the record “Little Shirley Beans” for this character. At the end of the novel, Holden watches as this character, his sister, rides a carousel in the rain.

ANSWER: Phoebe Caulfield

(10) For ten points each, give the following about colorful symbols throughout history.

During the American Revolution, soldiers in the British army were known as “lobsters” and as this colorful term, based on their uniforms.

ANSWER: redcoats

The Redshirts were loyal supporters of this Italian unifier who led the Expedition of a Thousand and fought in the Uruguayan Civil War.

ANSWER: Giuseppe Garibaldi

Red Phrygian caps were used as an anti-nobility symbol during this country’s violent 18th century revolution, which began with the storming of the Bastille.

ANSWER: France (accept French Revolution)

(11) This novel’s protagonist is raised by the Reeds, and goes to stay with the St John family after discovering that her husband-to-be was already married. For ten points each,

Name this Charlotte Brontë novel whose title character attends Lowood School and enters into a romantic relationship with Edward Rochester.

ANSWER: Jane Eyre

Edward Rochester’s relationship with Jane is complicated by his previous marriage to this woman. At the end of the novel, this “madwoman in the attic” kills herself by jumping off the roof of Thornfield Hall.

ANSWER: Bertha Mason (accept either name; accept either name of Antoinette Cosway)

Before jumping off of the roof, Bertha Mason destroys Thornfield Hall in this manner. Bertha had started one of these events earlier in the novel but was foiled when Jane doused Rochester with water.

ANSWER: fire

(12) A sclerometer is normally used to find a mineral’s rank on this scale, though the Vickers scale has largely replaced it. For ten points each,

Name this traditional scale of mineral hardness. Diamond ranks a 10 on this scale because it can scratch all common materials.

ANSWER: Mohs scale of hardness

At the opposite end of the Mohs scale from diamond is this very soft mineral, used as a coating on rubber gloves and sometimes found in baby powder.

ANSWER: talcum (powder)

Hydroxyapatite [hide-rox-ee-ap-ah-tite] ranks halfway between talc and diamond and, in the body, acts as a storage bank for this element.

ANSWER: calcium (accept Ca)

(13) This mythical figure was the sister of Stheno and Euryale, and became the mother of Chrysaor and Pegasus after her death. For ten points each,

Name this snake-haired Gorgon woman, whose gaze turned all who saw her into stone.

ANSWER: Medusa

This Greek hero, the son of Zeus and Danae, slew Medusa and later married Andromeda.

ANSWER: Perseus

Perseus returned Medusa's head to Athena, who affixed it to this legendary shield.

ANSWER: Aegis (accept Gorgoneion)

(14) The Strait of Hormuz is the only route for ships to leave this body of water and enter the Indian Ocean. For ten points each,

Name this body of water, in which the island country of Bahrain lies.

ANSWER: Persian Gulf (prompt on partial answers)

In 1990, this small country was annexed and invaded for its oil reserves, triggering the first Persian Gulf War.

ANSWER: State of Kuwait

Kuwait was invaded on the orders of this Iraqi dictator. A decade later, US forces invaded Iraq, took Baghdad, and captured this man.

ANSWER: Saddam Hussein

(15) While he lived in the French city of Arles, Vincent van Gogh painted many local scenes, including depictions of his living quarters and a local eaterie. For ten points each,

Name this van Gogh painting of the interior of a restaurant with red walls and a green ceiling. A man in white stands near the center of this painting, next to a pool table in the center of the room.

ANSWER: The Night Café (accept Le Café de la nuit)

Van Gogh painted blue walls and yellow furniture in his depictions of this room of the "Yellow House," where he lived. Two portraits and a landscape hang on the right-hand walls in van Gogh's three paintings of this room *in Arles*.

ANSWER: Bedroom in Arles

After leaving Arles, van Gogh moved to an asylum in the village of Saint Rémy de Provence [son ray-MEE duh proh-VONSS], where he created this painting. Behind a cypress tree in this painting, the village lies in a dark valley in the mountains, under a sky illuminated by enormous, swirling balls of light.

ANSWER: The Starry Night (accept De Sterrennacht)

(16) To predict the results of a trihybrid cross, one of these diagrams would need 64 individual boxes. For ten points each,

Name this diagram used to determine the genotypes of offspring produced by parents with known alleles.

ANSWER: Punnett square

If a breeding experiment results in 75% of the offspring showing the dominant phenotype, it is likely both parents have this genotype containing both a dominant and recessive allele.

ANSWER: heterozygous

Punnett squares are used to model the rules of inheritance as proposed by this 19th century Austrian friar, whose work on pea plants inspired the development of genetics.

ANSWER: Gregor Mendel

(17) For ten points each, give the following about ways to lose an argument.

This term, from the Latin for “deceptive” or “false,” describes a form of reasoning that is either logically unsound or argumentatively questionable.

ANSWER: logical fallacy (accept word forms like fallacies; accept additional information)

In this type of logical fallacy, the conclusion itself is used as evidence in the argument. While the logic itself isn’t faulty, the argument is flimsy because you must assume what you wish to prove.

ANSWER: circular reasoning (accept word forms like circle logic; accept begging the question and word forms; do not accept tautology)

An *ad hominem* fallacy is committed when you refuse to critique the substance of the argument itself and, instead, focus your criticisms on this.

ANSWER: the other person in the argument (accept descriptions of “your opponent,” accept elaborations, such as “your opponent’s character” or “your opponent’s motive;” prompt on partial answers, like “character” or “motive”)

(18) As a Congressman from Tennessee, this man opposed the Indian Removal Act; that stance cost him re-election in 1831. For ten points each,

Name this politician who later fought in the Texas War for Independence. This figure became known later as the “King of the Wild Frontier.”

ANSWER: David “Davy” Crockett

Davy Crockett died while defending this San Antonio mission during the Texas War for Independence. William Travis and James Bowie also died at this fort.

ANSWER: The Alamo

This leader of the Mexican forces during the Battle of the Alamo had all of its surviving defenders executed. This general was later defeated by Sam Houston at the Battle of San Jacinto.

ANSWER: Antonio López de Santa Anna

(19) After spending almost six months in a secluded, iron-gated abbey, a group of nobles in this story fearfully pursue a man through a series of seven, brightly-colored rooms. For ten points each,

Name this Edgar Allan Poe short story in which Prince Prospero's costume ball is interrupted by a guest dressed as a diseased corpse.

ANSWER: The Masque of the Red Death

In "The Masque of the Red Death," Prospero pursues the mysterious guest from the easternmost blue room to the red-windowed, westernmost room of the abbey, which is decorated primarily with this color.

ANSWER: black

The black room is dominated by an ebony one of these objects, which chimes so loudly and strangely that it stops Prince Prospero's party once every hour.

ANSWER: clock

(20) A Fundamental Theorem notes that this operation and integration are inverses of each other. For ten points each,

Name this important tool from calculus. Numerous shortcut formulas, including the chain rule and product rule, can find this for a function.

ANSWER: derivatives (accept word forms like differentiation)

The derivative can be used to calculate this quantity for a function at a given point. This quantity can be found between two points by a difference quotient-based formula often described as "rise over run."

ANSWER: slope (accept gradient)

This fourth letter of the Greek alphabet indicates a change in a variable, as seen in many formulas related to derivatives and slope.

ANSWER: delta