

Round 1

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Tossups

(1) **Moseley’s law disproved a theory arguing that these things have randomly distributed corpuscles. John Dalton coined the name of these things and used them to explain his law of definite proportions. The Greek philosopher (*) Democritus is credited as the inventor of the “theory” of these things, whose name means “indivisible” in Greek. Niels Bohr and Ernest Rutherford theorized that a nucleus is at the center of, for ten points, what small building blocks of matter?**

ANSWER: atoms (accept atomic theory)

(2) **In this country, a protected dirt road out of Morondava is known as the Avenue of the Baobabs. The islands of Mayotte and Comoros lie northwest of this country, and the islands of Réunion and Mauritius are off its east coast. (*) Malagasy is the official language of this country, which is separated by the Mozambique Channel from the mainland. For ten points, name this southern African country with capital Antananarivo that controls the fourth largest island in the world.**

ANSWER: Madagascar (accept Republic of Madagascar)

(3) **This man lamented a “total and unmitigated defeat” in the House of Commons shortly before a vote to approve the Munich Agreement. This man rued that Soviet influence extended to a (*) line “from Stettin in the Baltic to Trieste in the Adriatic,” which he called the “iron curtain.” The “Finest Hour” and “Blood, Toil, Tears, and Sweat” speeches were also delivered by, for ten points, what Prime Minister of the UK during World War II?**

ANSWER: Winston Churchill (accept Sir Winston Leonard Spencer Churchill)

(4) **This religion’s central philosophy includes reciting the Shahada, a statement of faith, and performing prompt and sincere alms-giving called Zakat. The (*) Hadith of Jibreel summarizes this religion’s Five Pillars, which include fasting that is performed during this religion’s holy month of Ramadan and five daily prayers. For ten points, name this Abrahamic religion whose founding prophet is Muhammad.**

ANSWER: Islam (accept equivalents like Muslims)

(5) **This author wrote about a “Rafter of Satin and Roof of Stone” that cover “the meek members of the Resurrection” in one poem, and described “Mourners to and fro” in the poem “I felt a (*) Funeral, in my Brain.” This poet of “Safe in their Alabaster Chambers” described being Somebody in the poem “I’m Nobody! Who are you?” For ten points, name this “Belle of Amherst,” the American poet who wrote about a “blue - uncertain - stumbling Buzz” in the poem “I heard a Fly buzz - when I died.”**

ANSWER: Emily Dickinson (accept Emily Elizabeth Dickinson)

(6) A parody of this painting is titled *L.H.O.O.Q.*, which is a pun in French, and was created by Marcel Duchamp by adding a moustache to this painting. A French nickname for this painting refers to its subject, who may be the wife of Francesco del (*) Giocondo, and to her smile. Some analysts think this painting once had fine eyebrows, which have worn away over time. For ten points, name this painting held in the Louvre art museum, a portrait of a woman made by Leonardo Da Vinci.

ANSWER: Mona Lisa (accept La Giocondo; accept La Joconde)

(7) The coefficient of this non-conservative force equals the tangent of the angle of repose and is symbolized μ_k [mew sub k] or μ_s [mew sub s]. This force exerts the only torque on a spinning bicycle wheel, and it is directed (*) up the incline for a block on a hill. Lubricants minimize this force, which releases heat and causes electrostatic buildup when two objects rub against each other. Braking relies on, for ten points, what force that resists motion?

ANSWER: friction force

(8) This song's music video opens with a red title card that reads "me and my friends visit my ex's house (smiley face)." This song loses its first chorus and adds harder guitars in its (*) "angrier" version. Another version of this song says that, except for "your dog, / you can all get lost." For ten points, name this 2022 song by Gayle whose "nicer" version says "forget you / and your mom and your sister and your job" after listing the first letters of the alphabet.

ANSWER: abcdefu [A-B-C-D-E-F-U] (accept abcdefu (angrier); accept abcdefu (nicer); accept abc, which is a radio publication variant of the title; do not accept "forget you," which is not part of the title of any version of the song)

(9) The use of mercury amalgamations to do this work has, to this day, contaminated the Siskiyou Trail and other areas. A sluice [sloos] box, a rocker, or a (*) pan are typically used in the "placer" type of this activity, which was common along the American River after James Marshall's discovery there in 1848. A find at Sutter's Mill inspired hundreds of thousands of "forty-niners" to try their luck with, for ten points, what work, the harvesting of a certain precious metal, in California?

ANSWER: gold mining (accept descriptions of collecting gold, finding gold, etc.; accept harvesting gold until "harvesting" is said; prompt on "gold" alone; prompt on "mining" alone)

(10) This novel's protagonist declares, "by a toll of a billion deaths man has bought his birthright of the earth" while looking at fifty bodies in St Edmund's Terrace. This novel's antagonists change the landscape by spreading a (*) "red weed" and command tripods equipped with heat rays to destroy humanity, but are killed because they have no immune resistance to Earth viruses. For ten points, name this novel by H.G. Wells in which Martians invade England.

ANSWER: The War of the Worlds

(11) **This scientist legendarily quipped “And yet it moves” while under house arrest for writing *Dialogue Concerning the Two Chief World Systems*. This scientist first described the phases of Venus and sunspots using the (*) refracting telescope, which he invented. This man also discovered Callisto, Io, Ganymede, and Europa, four moons of Jupiter named for him. For ten points, name this Italian physicist who agreed with Copernicus’ heliocentric model of the solar system.**

ANSWER: Galileo Galilei (accept either or both underlined names)

(12) **To memorialize his lover Leuce, this deity either turned her into a poplar tree or created the Elysian Fields. This deity’s affair with Minthe angered his wife, who turned her into a mint plant. This god this first-born son of (*) Cronus and Rhea, and after the Titanomachy, he divided the world with his two brothers. This god uses Cerberus to protect his realm, where he sometimes keeps his wife, Persephone. For ten points, name this Greek god of the underworld.**

ANSWER: Hades

(13) **Owen Roberts chaired the commission that investigated this event, finding that Husband Kimmel was derelict in his duty. Because translation of the (*) Fourteen-Part Message was slow, this event officially took place without a formal declaration of war, against the wishes of Admiral Yamamoto. The “day of infamy” speech to Congress followed, for ten points, what December 7th, 1941 sneak attack by Japan against a naval base in Hawaii?**

ANSWER: Pearl Harbor (accept attack on Pearl Harbor)

(14) **This instrument was played by James Johnson, Fats Waller, and Art Tatum, who all popularized its stride style. The composer of “Round Midnight” and “Straight, No Chaser,” Thelonious Monk, played this instrument, as did (*) Duke Ellington. In jazz, players of this instrument will often support a soloist by “comping” with the left hand. The drums and bass in a jazz rhythm section are often joined by, for ten points, what keyboard instrument?**

ANSWER: piano (accept pianoforte; accept fortepiano)

(15) **Literature in this genre can be cataloged in the Perry Index and was collected by Jean de La Fontaine. One of these works contrasts the simplicity of the country with the dangers of the city in the lives of two (*) mice, and is often collected with two of these works commonly called “The Ant and the Grasshopper” and “The Tortoise and the Hare.” For ten points, name these short stories, many of which are credited to Aesop, that tell a simple story and try to teach a moral.**

ANSWER: fables (accept Aesop’s fables or fables by Aesop)

(16) **The investigation into this man’s death found pellet damage at a Nara parking garage, which was revealed to be the result of a test of the murder weapon the previous day. The motive for this man’s murder was his supposed link to the (*) Unification Church, which bankrupted the murderer’s mother. In July 2022, two rounds were fired from a homemade, shotgun-like device at this man. Tetsuya Yamagami assassinated, for ten points, what former Prime Minister of Japan?**

ANSWER: Shinzo Abe [ah-bay] (accept Abe Shinzo)

(17) **This is the surface area of Gabriel’s horn. The cardinality of an uncountable set is some form of this concept, while “aleph null”, the cardinality of the natural numbers, is the smallest type of this concept. Hilbert’s (*) Grand Hotel thought experiment involves this many hotel rooms and this many customers. A lemniscate is the symbol for, for ten points, what mathematical concept of limitlessness, a value greater than any given whole number?**

ANSWER: infinity (accept word forms like infinite)

(18) **In this short novel, Belle rejects the protagonist because he has replaced her with “a golden idol,” and a shape-shifting creature visits a dance at Mr Fezziwig’s shop. After confronting a specter who shows him his own (*) grave, this novel’s protagonist orders a turkey to be taken to Bob Cratchit and his son, Tiny Tim. For ten points, name this short novel by Charles Dickens in which Ebenezer Scrooge learns to be kind and generous during a winter holiday.**

ANSWER: A Christmas Carol

(19) **This person’s political rise began after protesting the 1919 Rowlett Act with a *hartal*, a form of striking. After this person’s letter to Lord Irwin was ignored, he led a march to Dandi, where his followers illegally made (*) salt. Nathuram Godse, angry over this man’s apparent support for Muslims over Hindus, assassinated him in 1948. *Satyagraha* was the political philosophy of, for ten points, what non-violent activist who advocated for Indian independence?**

ANSWER: Mohandas Gandhi (both underlined parts required; accept Mohandas Karamchand Gandhi; accept Mahatma Gandhi; prompt on “Gandhi” alone)

(20) **These organisms are conventionally classified as being spherical, comma-shaped, rod-shaped, or spiral-shaped. These organisms are also classified by how they react with crystal violet, a dye that binds tightly to their peptidoglycan cell (*) walls in a Gram stain. These organisms and Archaea make up the two prokaryotic domains of life. Antibiotics target, for ten points, what single-celled organisms, examples of which include Salmonella and E. coli?**

ANSWER: bacteria (accept bacterium; prompt on “Monera”)

Bonuses

(1) Bob Woodward secretly met in an underground parking garage in Rosslyn, Virginia with this man, whose family acknowledged his identity in 2005. For ten points each,

Identify this former deputy Director of the FBI, whose leaks helped Woodward and his partner at the *Washington Post*, Carl Bernstein, uncover a Presidential conspiracy. His real name and his nickname are both acceptable.

ANSWER: W. Mark Felt (accept Deep Throat; accept William Mark Felt, Senior)

Deep Throat helped Woodward and Bernstein untangle this scandal, which stemmed from a burglary at a Washington, D.C. office complex.

ANSWER: Watergate scandal

The Watergate scandal forced this US President to resign in 1974. His successor, Gerald Ford, controversially pardoned him a month later.

ANSWER: Richard Milhous Nixon

(2) The Wikipedia article for this substance compares its viscosity to ketchup, but geologists probably haven't tested that by pouring it out of a glass bottle. For ten points each,

Give this term for molten rock that has emerged onto or above the surface of the crust.

ANSWER: lava

Among the types of lava are *pahoehoe* [pa-ho-ay-ho-ay], whose surface is billowing and smooth, and this type, with a craggy surface of "clinkers". This name also has a Hawaiian derivation.

ANSWER: a'a [ah-ah]

Lava that cools very rapidly without growing crystals may form this rock, often described as volcanic glass because it can break apart into sheets with sharp edges.

ANSWER: obsidian

(3) The highest mountain in Western Europe, Mont Blanc, is in the western part of this range. For ten points each,

Name this European mountain range. Mont Blanc lies on the border between Italy and France, before this range stretches to Switzerland.

ANSWER: the Alps

This major European river has its source in the Swiss Alps; it then flows north, creates much of the border between France and Germany, and empties into the North Sea in the Netherlands.

ANSWER: Rhine River

This iconic, pyramid-shaped Alpine peak lies on the border between Switzerland and Italy. Hundreds of climbers have died on this peak, including four members of the first team to summit it in 1911.

ANSWER: Matterhorn

(4) The superstitious composer Gustav Mahler steadfastly refused to give his *Song of the Earth* its rightful status as a numbered symphony because, having seen what happened to men like Anton Bruckner and Franz Schubert, he was afraid of this number. For ten points each,

Name this number, the subject of a supposed “curse” on the composers of symphonies.

ANSWER: **nine** (accept **ninth**; accept additional information like **ninth** symphony)

The “curse of the ninth” is said to have started with this German composer, who was totally deaf when he conducted the premier of his *Choral* ninth symphony.

ANSWER: Ludwig von **Beethoven**

Before he succumbed to the curse of the ninth, Beethoven gave a massive concert in December 1808 where he premiered his *Pastoral* Symphony and this piece. This symphony doesn’t have a nickname, but it does feature Beethoven’s famous “short-short-short-long” motif.

ANSWER: **Fifth** Symphony (accept Symphony Number **5** in C minor)

(5) The animals in class Chordata [**kor-DAH-tuh**] are mostly grouped into the tunicates and these animals. For ten points each,

Name this subphylum whose animals, including fish, mammals, and birds, all have backbones.

ANSWER: **vertebrates** (accept **Vertebrata**)

Almost all vertebrates are members of Gnathostomata [**NATH-oh-sto-MAH-ta**] because they have this body part, but some fish - such as hagfish, lampreys, and many long-extinct fish - don’t have one.

ANSWER: **jaws**

Most - but not all! - fish lack these body parts, instead using gills to filter oxygen out of water. Pneumonia is a condition affecting the alveoli in this organ.

ANSWER: **lungs**

(6) Answer the following about murderous short stories by Edgar Allan Poe, for ten points each.

In one Poe short story, Montresor bricks Fortunato into a cellar wall after luring him in by promising him a “Cask of” this title wine.

ANSWER: **Amontillado** (accept The **Cask of Amontillado**)

This short story’s narrator plots to kill his housemate to rid himself of the man’s vulture-like eye, only to give himself away by tearing up his floorboards to reveal his dismembered victim to the police.

ANSWER: The **Tell-Tale Heart**

In this short story, Prospero tries desperately to avoid death, but is nonetheless killed in front of an ebony clock by a supernatural embodiment of this story’s title sickness.

ANSWER: The **Masque of the Red Death**

(7) This empire's religion worshipped the creator god Viracocha and revered its legendary founder, Manco Cápac. For ten points each,

Name this pre-Columbian empire in South America, where Manco Cápac was credited with founding the capital city of Cuzco.

ANSWER: Inca (accept Incan Empire)

In some stories, Manco Cápac was the son of Inti, the Incan sun god, who was worshipped in this Incan city high in the Andes Mountains in modern Peru.

ANSWER: Machu Picchu

As the son of Inti, Manco Cápac is said to have arisen from this major lake in the Andes, shared by modern Peru and Bolivia.

ANSWER: Lake Titicaca

(8) A nineteenth-century poem about this ancient author describes the emotions felt “On first looking into” this man's works, as translated by George Chapman. For ten points each,

Name this Greek poet, whose attributed works include an epic poem about the Trojan War, the *Iliad*.

ANSWER: Homer (accept Homeros)

“On First Looking into Chapman's Homer” is by a poet who also wrote an “Ode on a Grecian” object of this type. In the poem, this object is held up as the proof that “beauty is truth, truth beauty.”

ANSWER: urn (accept Ode on a Grecian Urn)

“On First Looking into Chapman's Homer” and “Ode on a Grecian Urn” are poems by this English Romantic poet who had a rivalry with Lord Byron.

ANSWER: John Keats

(9) A player in this game, “KleinTsuboi,” became known as “Let Me Solo Her” for joining games to fight Malenia, Blade of Miquella for other players while wearing a pot on his head. For ten points each,

Name this 2022 open-world R.P.G. FromSoftware game distributed by Bandai Namco.

ANSWER: Elden Ring

To commemorate his popularity among *Elden Ring* fans, Bandai sent Klein one of these bladed weapons inscribed with “Rise,Tarnished.” Klein fights Malenia with two katanas, which are a type of this weapon.

ANSWER: sword

The worldbuilding behind Malenia and other characters in *Elden Ring* was done with the help of this American author of *A Song of Ice and Fire*.

ANSWER: George R.R. Martin (accept George Raymond Richard Martin; prompt on “GRRM”)

(10) The 643 Edict of Rothari forbids killing those believed to be this type of person, because “Christian minds” should not believe that this type of person exists. For ten points each,

Name this type of supernatural person. Medieval “hunts” for these people were often just excuses to harass and kill unpopular women.

ANSWER: witches (accept witchcraft and similar elaborations; accept sorcerers or sorceresses; accept warlocks)

German Heinrich Kramer wrote this 15th century text, which argues that witchcraft is a heresy that needs to be punished via burning at the stake. This book’s Latin name indicates that this work’s knowledge is a weapon that can be used to fight witches.

ANSWER: Malleus Maleficarum (accept The Witch Hammer; accept The Hammer of Witches)

Malleus Maleficarum heavily cites this Scholastic thinker, a 13th century saint of the Catholic Church. This author’s *Summa Theologica* is a massive guide to Catholic theology.

ANSWER: Saint Thomas Aquinas

(11) This novel’s title character reads too many romantic novels, convinces himself that he’s a knight, and rides around on his elderly horse, Rocinante, getting into trouble. For ten points each,

Name this Spanish novel by Miguel de Cervantes [ser-VON-tays] about a man who attacks windmills because he imagines they’re giants.

ANSWER: Don Quijote [kee-HOH-tay] (accept The Ingenious Gentleman Don Quijote of La Mancha; accept El Ingenioso hidalgo Don Quixote de la Mancha)

Don Quijote [don kee-HOH-tay] is accompanied on his misguided adventures by this man, his long-suffering servant.

ANSWER: Sancho Panza (accept Sancho Panza)

While traveling with Don Quijote, Sancho Panza rides Dapple, a gray-brown one of these long-eared, horse-like animals.

ANSWER: donkey (accept ass)

(12) This god is the father of Kartikeya and Ganesha, whose head he cut off in order to reach Parvati. For ten points each,

Name this destroyer god often depicted with a blue throat he got from drinking the halahala poison.

ANSWER: Shiva (accept Siva)

Shiva is revered in Shaivism, a major denomination of this Indian religion.

ANSWER: Hinduism (accept sanatana dharma)

With Brahma and Vishnu, Shiva forms this group of three gods in Hinduism.

ANSWER: Trimurti

(13) According to folklore, this event was “signalled” by the coded announcement “this meeting can do nothing further to save the country.” For ten points each,

Name this 1773 riot in which protestors boarded the *Eleanor*, the *Dartmouth*, and the *Beaver* and dumped their cargo into a harbor.

ANSWER: **Boston Tea Party**

This patriot and cousin of a future President gave the supposedly coded message at the meeting that preceded the Tea Party.

ANSWER: **Samuel Adams** (prompt on “Adams”)

The British responded to the Boston Tea Party by closing the Port of Boston and revoking the charter of Massachusetts, each of which was part of this set of acts. These acts sought to punish all Bostonians, not just the perpetrators.

ANSWER: **Intolerable** Acts (accept **Coercive** Acts)

(14) Dutch painter Piet Mondrian [**PEET MON-dree-yon**] created *Broadway Boogie-Woogie* with these colors among thick black lines and white squares. For ten points each,

Give the term that refers to the pigments red, yellow, and blue.

ANSWER: **primary** colors

Mondrian’s late works, like *Broadway Boogie-Woogie*, are the geometric form of this type of work, contrasted with realistic art. Mondrian represented ideas instead of images of reality.

ANSWER: **abstract** art (accept word forms like **abstraction**; accept geometric **abstract** art)

In the 1960s, Mondrian’s work was adapted by Yves Saint Laurent [**EEV sawn lah-RAWN**] into this art form. The adaptation transformed Mondrian’s geometric designs into A-line works in this art form.

ANSWER: **fashion** (accept **clothes**; accept descriptions like **wearable** art; accept **dresses**)

(15) This man suffered from indigestion, lust-driven insomnia, and a general distaste for how downright informal Americans were during this 1909 trip to the United States. For ten points each,

Name this Austrian thinker whose theories of psychoanalysis became decidedly more popular in the US than in Europe.

ANSWER: Sigmund **Freud** [**froyd**] (accept Sigismund Schlomo **Freud**)

Freud was one of several thinkers invited by Clark University to speak in America; another was this colleague, who coined the theory of the “collective unconscious” and recommended that Freud cheat on his wife in order to get some sound sleep. Freud declined.

ANSWER: Carl Gustav **Jung**

Freud’s lectures in America were largely based on his 1899 work on *The Interpretation of* these unconscious events, which mainly occur during REM sleep. Freud complained of having awful examples of these events during his American trip.

ANSWER: **dreams** (accept The Interpretation of **Dreams**; accept Die **Traumdeutung**)

(16) These substances are classified as “strong” or “weak” based on whether it completely dissociates into its ions, not - as commonly misunderstood by beginning chemistry students - on how good it is at reacting with bases. For ten points each,

Give this term for solutions with a pH value less than 7.

ANSWER: **acids**

The concentration of an unknown acid can be judged by this lab technique, in which drops of a known base are slowly added to the solution. An indicator is then used to determine changes in pH.

ANSWER: acid-base **titration**

This strong acid is commonly used in high school titration labwork because it is relatively safe to handle. The extremely low pH of gastric juices is due to this acid.

ANSWER: **hydrochloric** acid (accept **HCl**; prompt on “stomach acid”)

(17) Give the following about the traditional order of operations in arithmetic, for ten points each.

Multiplication comes before addition in the order of operations because multiplication is repeated addition; similarly, this operation of repeated multiplication comes before multiplication and division.

ANSWER: **exponentiation** (accept word forms like **exponents**; accept “raising to a **power**”; prompt on “squaring”, “cubing”, or other specific examples of an exponent)

These symbols are used to escape the normal order of operations; that is, “3 plus 4 minus 5” will be different if these symbols are placed around the “4 minus 5”.

ANSWER: **parentheses** (or **parenthesis**; accept **brackets**; accept **braces**)

With that said - addition has this property, so “3 plus 4 plus 5” gives the same result even if you do put parentheses around two of the numbers. Multiplication also has this property, but subtraction does not.

ANSWER: **associative** property (accept word forms, like **associate**)

(18) American author Ambrose Bierce frequently wrote about this conflict, during which he fought in the 9th Indiana Infantry. For ten points each,

Name this war. In Bierce’s short story “Chickamauga,” a small deaf boy unknowingly sleeps through an 1863 battle that was one of this war’s bloodiest.

ANSWER: **Civil War** (accept American **Civil War**)

Bierce also wrote “What I Saw of” this 1862 battle of the Civil War, during which he actually fought. The short story gives a soldier’s view of Grant’s victory at this Tennessee battle, which was also called Pittsburg Landing.

ANSWER: **Shiloh** (accept Battle of **Shiloh**; accept What I Saw of **Shiloh**)

In a short story titled “An Occurrence at” this place, Confederate civilian Payton Farquhar [FAR-kwar], who is executed by the Union for trying to sabotage the title structure.

ANSWER: **Owl Creek Bridge** (accept An **Occurrence at Owl Creek Bridge**; do not accept or prompt on partial answers or on answers that are out of order)

(19) Give the following about the myriad ways that western colonization of Australia ruined things, for ten points each.

Most obviously, colonizers sought to assimilate or remove these indigenous people of mainland Australia.

ANSWER: **Aboriginal** Australians (accept Australian **Aborigines**)

In 1859, Thomas Austin released 24 of these animals into Australia, assuming they could do little harm; they had no predators and bred very quickly. Within 50 years, Western Australia started building a 2,000-mile-long fence meant to keep these creatures out.

ANSWER: **rabbits** (accept **rabbit**-proof fence)

In 1932, Western Australia deployed machine gunners to deal with these flightless birds. The attempts didn't really prevent farm losses, so Australia infamously lost the "War" against these birds.

ANSWER: Great **Emu** War

(20) This type of wave is audible if its frequency is between 20 and 20,000 Hertz. For ten points each,

Name this phenomenon whose vibrations travel through room temperature air at roughly 344.3 meters per second.

ANSWER: **sound** wave(s)

The intensity of a sound wave is measured in this logarithmic unit, which also has several applications in electronics. A jet engine's noise commonly registers 140 of these units.

ANSWER: **decibel** (accept **dB**; accept **bel** or **B**)

While moving through air, sound waves are classified as this type of wave, because the medium moves perpendicular to the motion of the wave. In the main alternative, a transverse wave, the medium moves in parallel.

ANSWER: **longitudinal** wave(s) (accept **compression** wave(s))