

# Round 1

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## Tossups

(1) **One example of this type of process is a cycloaddition named for Diels and Alder. Substances that increase the rate of these processes without being consumed by them are known as (\*) catalysts.** When these processes take place, a change in color or temperature may be observed, unlike physical changes. For ten points, give this term for a process that creates new chemical substances.

ANSWER: chemical reaction

(2) **In a poem by this author, a man asks “is there balm in Gilead?” This man wrote a short story whose narrator hears a sound like a “watch enveloped in cotton” after hiding his neighbor’s (\*) body under his floorboards. The title animal repeats the word “Nevermore” in a poem by, for ten points, what author of “The Raven” and “The Tell-Tale Heart?”**

ANSWER: Edgar Allan Poe

(3) **Examples of this musical genre include Sir Edward Elgar’s *Pomp and Circumstance* and a somber piano sonata by Chopin intended for a funeral. This genre includes the lively “Washington Post” and the (\*) “Liberty Bell” by John Philip Sousa.** For ten points, name this type of music often performed by military bands, especially when on the move.

ANSWER: marches (accept additional information like military march; accept funeral march after “Chopin” is read)

(4) **This woman was the first president of the Ninety-Nines. With funding from Purdue, where she served as a technical adviser, this woman constructed a modified Model 10 Electra. A breakdown of communication between the *Itasca* and Fred (\*) Noonan caused this woman’s failure to find Howland Island.** For ten points, name this first woman to fly solo across the Atlantic Ocean, who disappeared over the Pacific in 1937.

ANSWER: Amelia Earhart

(5) **In Byblos, this goddess discovered a sealed box in the trunk of a cedar tree, and she used saliva to make Ra reveal his secret name. With the help of her sister (\*) Nephyths, this goddess retrieved thirteen of the fourteen parts of her husband after he was dismembered by Set.** For ten points, name this Egyptian goddess, the wife of Osiris.

ANSWER: Isis (accept Aset; accept Iset; accept Ase)

(6) **Some animals in this class of vertebrates have gills that persist into adulthood, as in the mudpuppy and the axolotl. Chytrid [KYE-trid] fungus endangers tropical members of this class, including several (\*) poison dart species. Young water-dwelling animals in this animal class undergo metamorphosis to live on land. For ten points, name this class that includes salamanders and frogs.**

ANSWER: Amphibians (prompt on specific examples like “frogs” or “newts”)

(7) **This singer is introduced as a “Miley Cyrus impersonator” in a music video for a song that claims that “karma’s not a liar / she keeps receipts.” In another song, this singer says, “You (\*) held me down, but I got up” before proclaiming that she has the “eye of the tiger / dancing through the fire.” For ten points, name this artist behind “Swish Swish” and “Roar.”**

ANSWER: Katy Perry (accept Katy Hudson)

(8) **In 1956, this country built the artificial Lake Tharthar. This country is home to the cities of Kirkuk and Tikrit, the birthplace of a dictator who ruled this country for 34 years. This country’s city of Basra lies south of the junction between the (\*) Tigris and Euphrates Rivers. For ten points, name this Middle Eastern country where, in 2003, US forces invaded and captured its capital, Baghdad.**

ANSWER: Republic of Iraq

(9) **An example of this object is the *candida*, which was used by politicians to demonstrate honesty. The *pulla* type of this garment was worn in mourning, and the *picta* was dyed purple to be worn by (\*) Emperors. For ten points, name this large, woolen garment that was draped and folded over ancient Roman men.**

ANSWER: togas (accept toga candida, toga pulla, or toga picta)

(10) **In this novel, Old Sally tends to a woman who dies in childbirth and steals her locket and ring, which Mr Monks throws into the river Thames [temz] to conceal the title character’s identity. This novel’s protagonist joins a (\*) pickpocket organization led by Fagin after a run-in with the Artful Dodger. For ten points, name this Charles Dickens novel about a title orphan who says “please, sir, I want some more.”**

ANSWER: Oliver Twist

(11) **This artist sculpted *Zuccone* [zoo-koh-nay] and designed a distorted *St Mark* for the Orsanmichele [or-sahn-mee-kay-lay]. This man sculpted a biblical king in (\*) bronze, wearing only a hat and boots and standing over the severed head of the giant Goliath. For ten points, name this Italian sculptor of a bronze *David*.**

ANSWER: Donatello (accept either underlined part of Donato di Niccoló di Betto Bardi)

(12) **Forms of this branch of math that choose not to use Playfair’s postulate may be called “elliptic” or “hyperbolic.” A student of this branch of math may use Thales’s [thay-lees’s] theorem to construct a (\*) tangent line. For ten points, name this branch of math studied in Euclid’s [yoo-klid’s] *Elements*, which defines objects like points, lines, and angles.**

ANSWER: geometry

(13) **William Plumer stopped this man from becoming the second unanimously elected president in 1820. The Roosevelt Corollary modified this man’s namesake doctrine, and his goodwill tour of America was described as the “Era of (\*) Good Feelings.”** For ten points, name this fifth President of the United States whose namesake doctrine limited European involvement in North America.

ANSWER: James Monroe

(14) **People who live on this body of water carry out the kula exchange ring, according to Bronislaw Malinowski’s book *Argonauts of this body of water*. Teenagers on the island of T’au in this body of water were studied by Margaret Mead. Thor Heyerdahl’s raft (\*) *Kon-Tiki* crossed this ocean in a test of Polynesian technology. *Coming of Age in Samoa* studied island residents of, for ten points, what ocean?**

ANSWER: Pacific Ocean (accept (Argonauts of the) Western Pacific; accept South Pacific; prompt on “Solomon Sea” until “T’au” is read)

(15) **In the MK system, stellar objects of this type occupy luminosity classes one through four. This adjective describes stars above the main sequence on the H-R diagram. Planets with this description include (\*) “ice” ones like Uranus and Neptune, and “gas” ones like Jupiter and Saturn.** For ten points, give this adjective that describes the large size of the red star that our Sun will eventually become.

ANSWER: giant (accept supergiant or hypergiant before “four” is read)

(16) **In a novel by this man, Titorelli sells three identical landscapes to Josef K. This author of *The Trial* wrote a novella in which Grete is sent to study the violin after a rotting apple lodged in her brother’s (\*) carapace kills him.** For ten points, name this author, who wrote about Gregor Samsa transforming into a giant insect in *The Metamorphosis*.

ANSWER: Franz Kafka

(17) **This religious figure struck a rock to create a spring at Rephidim and rescued Zipporah in Midian. This man had a miraculous encounter on Mount Horeb, and his brother, (\*) Aaron, made a golden calf when this man vanished on Mount Sinai.** For ten points, name this Abrahamic religious leader who led the Israelites out of slavery in Egypt and recorded the Ten Commandments.

ANSWER: Moses (accept Moshe; accept Musa)

(18) **A platinum wire around a ceramic core forms the highly accurate resistance type of this device. One of these objects is used to collect data from a calorimeter. An ammonium chloride mixture will register zero on the (\*) mercury type of this device invented by Gabriel Fahrenheit.** For ten points, name this device that may use the Celsius scale to measure temperature.

ANSWER: thermometer

(19) **Human-created types of this crop include the resilient IR8 strain and a strain that is genetically modified to contain beta-carotene, the “golden” type.** (\*) India and Thailand are the largest exporters of this crop, whose varieties include Japonica, Jasmine, and Basmati. For ten points, name this important cereal crop in many Asian cultures that is grown in paddies.

ANSWER: rice (accept Oryza sativa and/or Oryza glaberrima; accept golden rice)

(20) **This character, the grandson of Autolycus, successfully fires an arrow through twelve axes before killing his wife’s suitors. The dog Argus recognizes this man, who is held captive by** (\*) Calypso and tricks Polyphemus, a cyclops, by claiming to be “no one.” For ten points, name this title character of a epic poem by Homer, who has a ten-year journey home to Ithaca.

ANSWER: Odysseus (accept Ulysses)

## Bonuses

(1) During this war, the submarine *H.L. Hunley* sank twice during testing and once more in a real attack. For ten points each,

Name this war in which the *Monitor* and *Merrimack*, two ironclads, clashed at Hampton Roads.

ANSWER: American Civil War

In an attempt to end the Civil War, Winfield Scott developed this plan to economically “strangle” the South. This plan, commonly depicted in newspapers as a snake, was a massive blockade of every Southern port.

ANSWER: Anaconda Plan

A key aspect of the Anaconda Plan was to take complete control of the Mississippi River by seizing this city. David Farragut captured this city without a fight; as a result, historic buildings in its French Quarter survived the war.

ANSWER: New Orleans

(2) Identify these common subjects of ancient Greek and Roman sculptures, for ten points each.

An armless sculpture of this figure “of Milos” and a Praxiteles [prak-SIH-tah-leez] statue of this figure “of Knidos” [NYE-dohs] both depict this Greco-Roman love goddess.

ANSWER: Aphrodite (accept Venus)

Praxiteles is also thought to be the creator of a marble sculpture of this Greek god *and the Infant Dionysus*. In other classical sculptures, this god wears a round-topped, winged cap.

ANSWER: Hermes (accept Mercury)

Gods were not the only common subject of classical sculpture; a highly-regarded sculpture by the Greek artist Myron shows a nude athlete bending at an odd angle to perform this title action.

ANSWER: throwing a discus (accept discus thrower or discobolus)

(3) For ten points each, give the following about the year 1905 in physics.

In 1905, the special form of this theory was published, dealing with time dilation and arguing that the speed of light is constant for all observers. Ten years later, the general form of this theory, which concerns the curvature of spacetime around mass, was announced.

ANSWER: relativity (accept special relativity; accept general relativity)

Both the special and general theories of relativity were developed by this physicist, whose multiple breakthroughs in 1905 led to that year being called his Annus Mirabilis.

ANSWER: Albert Einstein

Albert Einstein’s 1921 Nobel Prize cited his 1905 explanation of the effect in which shining light on metals causes them to emit these subatomic particles.

ANSWER: electrons

(4) Karel Čapek's [cha-pek's] play *R.U.R.* describes a rebellion of "Rossum's Universal" ones of these machines. For ten points each,

Name these autonomous, humanoid machines from science fiction, which are governed by "Three Laws" that dictate that these things cannot injure a human or allow a human to come to harm.

ANSWER: robots (do not accept "android")

This author's Three Laws of Robotics appear in his short story collection *I, Robot*. This prolific author also wrote the *Foundation* series.

ANSWER: Isaac Asimov (accept Isaak Yudovich Ozimov)

This robot from *The Hitchhiker's Guide to the Galaxy* does not follow Asimov's Three Laws very well, possibly because of his extreme depression, which causes a bridge on Squornshellous Zeta to destroy itself and take an entire crowd of people with it.

ANSWER: Marvin the Paranoid Android (accept Marvin the Paranoid Robot)

(5) For ten points each, give the following about the geographic history of Sri Lanka.

Centuries ago, Adam's Bridge was a land connection linking Sri Lanka to this subcontinent, now the second-most populous country in the world.

ANSWER: Indian subcontinent (accept Republic of India)

When Adam's Bridge was entirely above water, it served as this type of narrow land connection between two larger landmasses. Panama is a prominent example of this type of landform.

ANSWER: isthmus

Now that Adam's Bridge is mostly submerged, one of these narrow strips of water separates Sri Lanka and India.

ANSWER: strait (accept Palk Strait)

(6) The distinctive pyramidal peak of the Matterhorn resulted from many of these objects moving simultaneously. For ten points each,

Name these heavy, slow-moving masses that can carve sharp ridges called cirques into mountains. Some, but not all, of these masses disappeared at the end of the last ice age.

ANSWER: glaciers

Besides the Matterhorn, evidence for the last ice age includes these low, egg-shaped hills found across Iceland, Ireland, and upstate New York.

ANSWER: drumlins

Glaciers can cut these narrow inlets with steep cliffs, common on the coasts of Norway.

ANSWER: fjords [fyords]

(7) The Pali Canon collects the teachings and sayings of this man, who developed the philosophy of the “Middle Way.” For ten points each,

Name this man, who founded a namesake Indian religion and achieved enlightenment under the Bodhi tree.

ANSWER: Gautama Buddha (accept either name; accept either name of Siddhartha Gautama)

The Pali Canon are the core texts of this branch of Buddhism, which is derogatorily called the “lesser vehicle,” and is contrasted with Mahayana, the “greater vehicle.”

ANSWER: Theravada Buddhism

Some passages of the Pali Canon are memorized and recited as a form of this spiritual practice, which is often done to promote relaxation. The Buddha achieved enlightenment by doing this under the Bodhi tree.

ANSWER: meditation (accept word forms)

(8) This symbol appears with pi in the exponent of the  $e$  in Euler’s [oy-ler’s] formula. For ten points each,

Name this letter that symbolizes the basic unit of imaginary numbers, the square root of negative 1.

ANSWER: i

The imaginary numbers combine with the real numbers to form this class of numbers, usually written in  $a + bi$  [“a” plus “b” “i”] form.

ANSWER: complex numbers

If both  $a$  and  $b$  in a complex number are integers, the number belongs to a class named for this German mathematician who proved the fundamental theorem of algebra in 1799.

ANSWER: Carl Friedrich Gauss (accept Gaussian integers)

(9) Disney is planning to remake seemingly all of their animated films in live-action form. For ten points each,

Disney controversially struggled to find Middle Eastern or Indian actors for this film’s lead roles, and critics are doubting whether Will Smith can live up to Robin Williams’ original 1992 performance as the Genie.

ANSWER: Aladdin

Donald Glover and James Earl Jones will play a father and son pair in this remake, slated for 2019. Beyonce is in talks to join this film, both in the cast as Nala and on the soundtrack.

ANSWER: The Lion King

Disney is also planning a sequel to this 2014 film, whose title character is played by Angelina Jolie in her biggest-selling film ever.

ANSWER: Maleficent

(10) In the late 17th century, this ruler went on a Grand Embassy of Europe, exploring methods to Westernize his country. For ten points each,

Name this “Great” member of the Romanov dynasty.

ANSWER: Peter the Great (accept Peter I)

Peter ruled as Tsar of this country, which he led into the Great Northern War with Sweden.

ANSWER: Russia

Among Peter’s methods of Westernizing his people was placing a tax on this fashion choice. The tax was unpopular, as many men felt that this fashion choice was a religious duty.

ANSWER: wearing a **beard** (accept wearing any specific type of facial hair; accept going unshaven or similar descriptions; do not prompt on “not cutting hair”)

(11) This man is rumored to have stabbed his father with a pair of scissors. For ten points each,

Name this character who hides trinkets in a tree outside his house and who carries Jem home after he is attacked.

ANSWER: Arthur “Boo” Radley (accept either first name; prompt on “Radley”)

Boo Radley appears in this author’s novel *To Kill a Mockingbird*. *Go Set a Watchman* is this author’s only other published novel.

ANSWER: (Nelle) Harper Lee

This daughter of Atticus is the narrator of *To Kill a Mockingbird* and the protagonist of *Go Set a Watchman*. This character maintains her tomboy nature despite Aunt Alexandra’s efforts.

ANSWER: Jean Louise “Scout” Finch (accept either; prompt on “Finch”)

(12) The oldest of the legendary “Big Five” symphony orchestras in the US is this city’s Philharmonic, which was founded in 1842. For ten points each,

Name this city. From 1937 to 1954, Arturo Toscanini conducted the NBC Symphony Orchestra, which played radio concerts recorded in this city’s Radio City Studios at 30 Rockefeller Plaza.

ANSWER: New York City (accept NYC)

After NBC converted the orchestra’s primary recording studio into a TV studio, the orchestra moved their concerts to this famed New York concert venue, named for the steel tycoon and philanthropist who funded it.

ANSWER: Carnegie Hall

The NBC Symphony Orchestra disbanded in 1954 when Toscanini retired, but many of its members came together as the “Symphony of the Air,” conducted by this composer of *West Side Story*. This man also led the New York Philharmonic for over a decade.

ANSWER: Leonard Bernstein

(13) For ten points each, give the following about common lab techniques.

To correctly identify metals in a flame test, you can heat a sample with one of these devices, named for a German chemist, that uses a valve to adjust the gas-air mixture for a hotter flame.

ANSWER: **Bunsen burner** (prompt on partial answer)

Solutions are often prepared in one of these glass containers with a narrow neck and wide bottom. These containers come in volumetric and Erlenmeyer types.

ANSWER: (volumetric and/or Erlenmeyer) **flasks**

These long, calibrated glass tubes have a stopcock valve at the bottom to dispense liquids one drop at a time. They're commonly used in acid-base titrations.

ANSWER: **burette**

(14) The protagonist of this work is described as a “prince of yesterday” and a “fools’ pope.” For ten points each, Name this Victor Hugo novel about Quasimodo, the title deformed bell-ringer of a Paris cathedral.

ANSWER: **Hunchback of Notre Dame** (accept **Notre-Dame de Paris**)

Quasimodo falls deeply in love with this young girl who was switched with him at birth by the Romani. This woman is arrested for witchcraft while performing with her goat, Djali.

ANSWER: La **Esmeralda** (accept **Agnès**)

Esmeralda is considered a demoness by this Archdeacon of Notre Dame. This character adopts Quasimodo and orders him to kidnap Esmeralda.

ANSWER: Claude **Frollo**

(15) This goddess neglected to ask the mistletoe plant not to harm her son, which ultimately led to his death. For ten points each,

Name this Norse goddess, the wife of Odin, whose blind son Hodr was tricked into killing her other son with a spear of mistletoe.

ANSWER: **Frigga** (do not accept Freyja)

Frigg made everything in the world except mistletoe promise not to harm this god after he had prophetic dreams of his own death. This son of Frigg was killed by his brother, Hodr.

ANSWER: **Baldr**

Hodr was convinced to throw the mistletoe at Baldr by this Norse trickster god.

ANSWER: **Loki**

(16) This company was sued by the US government for illegally competing with Netscape by bundling Internet Explorer with its operating system. For ten points each,

Name this tech company whose founder, Bill Gates, gave controversially evasive testimony in that trial.

ANSWER: Microsoft Corporation

The Microsoft lawsuit claimed it abused this economic status of being the only seller in its market and destroying competition.

ANSWER: monopoly (accept word forms)

The US government's lawsuit cited this 1890 law against anti-competitive practices. As with other cases involving this law, the suit initially sought the breakup of Microsoft into separate companies.

ANSWER: Sherman Antitrust Act (accept "Bill" or "Law" in place of "Act")

(17) The renin-angiotensin axis controls blood pressure as one of many hormone pathways in this body system. For ten points each,

Name this body system that relies on the circulatory system to transport the hormones secreted by glands like the pituitary, pancreas, and thyroid.

ANSWER: endocrine system

Negative feedback loops are key to this property of the endocrine system in which factors like body temperature, glucose level, and blood pressure are maintained at stable values.

ANSWER: homeostasis

Homeostatic regulation of this process is controlled by melatonin produced by the pineal gland, setting circadian rhythms. This process goes through REM and non-REM phases over the course of, optimally, eight hours per night.

ANSWER: sleep cycle

(18) The frequency of this action increased during the Obama administration to roughly 400,000 people per year. For ten points each,

Name this process of expelling foreign nationals, commonly illegal immigrants, from a country.

ANSWER: deportation (do not accept or prompt on other terms, such as exile, banish, etc.)

The executive branch can indefinitely delay deportation proceedings for certain illegal immigrants; this is the two word term for that process. It appears in the name of an Obama administration program that applied to non-citizens who arrived in the US as children, but was rescinded by President Trump in September 2017.

ANSWER: deferred action (accept Deferred Action for Childhood Arrivals; prompt on DACA)

DACA applies to some 800,000 people often known by this term, derived from an acronym from a 2001 bill. To meet this classification, one must have a high school diploma or equivalent, have a clean criminal record, and meet other requirements.

ANSWER: DREAMers (accept the Development, Relief, and Education for Alien Minors Act or Bill)

(19) This man's poetry features recurring monsters like the Jubjub bird and the "frumious" Bandersnatch. For ten points each,

Name this English author of *Alice's Adventures in Wonderland*, whose poem "Jabberwocky" includes a warning about the Jubjub bird and the Bandersnatch.

ANSWER: Lewis Carroll (accept Charles Lutwidge Dodgson)

Alice uses a reflection to read the poem "Jabberwocky" in this sequel to *Alice's Adventures in Wonderland*.

ANSWER: Through the Looking-Glass and What Alice Found There

In another Carroll poem, the Jubjub bird and the Bandersnatch terrorize the Butcher and Beaver, who become friends while hunting for this elusive animal. The Baker disappears when this animal turns out to be a Boojum.

ANSWER: the Snark

(20) A splinter faction of this civilization sacked Baghdad in 1258. For ten points each,

Name these Asian people, known for their mounted archers. These people established the Golden Horde in the 13th century.

ANSWER: Mongols (accept Ilkhanate; accept Mongol Empire; accept Mongolians)

The Mongol Empire was founded by this man. After the death of this khan, his son Ogedei succeeded him and pressed onward into Europe.

ANSWER: Genghis Khan (accept Temujin)

The greatest of Genghis' grandchildren was this leader of the Yuan dynasty. This man, who was visited by Marco Polo, ordered multiple failed invasions of Japan.

ANSWER: Kublai Khan