

Round 3

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Tossups

(1) **The 1610 observation of this body's phases was the first solid proof of heliocentrism. This body, which was called Hesperus when it appeared as the Evening Star, has surface features called Maxwell Montes, Lakshmi Planum, and Ishtar Terra that are (*) obscured by a permanent cover of sulfuric acid clouds. A 96% carbon dioxide atmosphere led to a runaway greenhouse effect on, for ten points, what second planet in the Solar System?**

ANSWER: Venus

(2) **A holder of this title controversially pushed his people away from polytheism in favor of a solar god worshiped at Amarna. Lord Carnavon funded Howard Carter's 1922 expedition to discover the burial grounds of one of these people at (*) Luxor; that mission found a sarcophagus containing a solid gold funerary mask and mummified remains. For ten points, name this title given to Akenhaten, King Tut, and other ancient Egyptian rulers.**

ANSWER: Egyptian pharaohs

(3) **In a melodrama from this country, the servant Ninetta is accused of stealing a silver spoon that was actually stolen by the *Thieving Magpie*. A composer from this country included a "cavalry charge" galop in his overture to (*) *William Tell*. In an opera set in this country, Baron Scarpia lies about saving the painter Cavaradossi. For ten points, name this home country of Gioachino Rossini as well as Giacomo Puccini, who set his opera *Tosca* in Rome.**

ANSWER: Italy (accept Italia; accept Italian Republic or Repubblica italiana)

(4) **The Rydberg formula inspired one model of these objects, though it only fits the simplest of them. The first subparts of these objects were detected by deflection of cathode rays observed by J. J. (*) Thomson. A gold foil experiment determined that they possess a dense central mass, disproving their plum pudding model. Bohr and Rutherford name models of, for ten points, what objects that, according to Dalton's theory, make up all matter?**

ANSWER: atoms (accept hydrogen atom before "cathode" is read)

(5) **Rock climbers flock to this country's Grampians National Park at the southern terminus of the Great Dividing Range. Gulf Saint Vincent on the southern shores of this country is home to the port of Adelaide, and the (*) Coral Sea on this country's northeast is home to the endangered Great Barrier Reef. A sacred sandstone formation called Uluru is in the "outback" of, for ten points, what country whose cities include Melbourne and Sydney?**

ANSWER: Commonwealth of Australia

(6) **In 2009, Patrick Kane was arrested in this city, his hometown, for punching a taxi driver. Scott Norwood’s “wide right” kick is one focus of a documentary about the four consecutive Super Bowl losses by this city’s NFL team. This city’s Anchor Bar is the birthplace of a recipe for a (*) deep-fried snack covered in Frank’s RedHot sauce and usually dipped in blue cheese. For ten points, name this home city of the NFL’s Bills and a spicy form of chicken wings.**

ANSWER: Buffalo

(7) **A character in this story earns \$20 from Madame Sofronie, which she then combines with the \$1.87 she had been saving. In this story, a woman assures her husband, Mr Young, that she will soon be able to use the (*) tortoiseshell combs he purchased for her even though, in order to buy a platinum fob chain, she sold her hair. For ten points, name this short story in which Jim and Della exchange ironic Christmas presents, written by O. Henry.**

ANSWER: The Gift of the Magi

(8) **Two years before his death, this man purchased Bofors and turned it into an arms manufacturer. The death of this man’s older brother Ludvig confused a French newspaper into printing this man’s obituary instead, calling him the “merchant of (*) death” for his work designing explosives like dynamite. For ten points, name this Swedish inventor who, after he actually died in 1896, funded a series of prizes for the sciences, literature, and peace.**

ANSWER: Alfred Nobel

(9) **This literary character follows pepper gatherers to an island where he escapes being buried alive with his dead wife. While in Serendib, this man rafts down a river of ambergris lined with rubies, allowing him to bring treasure home to (*) Baghdad. On his second adventure, this sailor is carried out of a diamond-lined valley by an enormous Roc bird. For ten points, name this sailor, who made seven voyages in *The Arabian Nights*.**

ANSWER: Sinbad the Sailor (accept Sindbad)

(10) **In the Odyssey, this woman’s husband described how she imitated other women’s voices during a night raid. This sister of Clytemnestra was born from an egg because her mother, Leda, was seduced by Zeus in swan form. This wife of (*) Menelaus had the “face that launched a thousand ships.” For ten points, name this beautiful woman whose kidnapping by Paris started the Trojan War.**

ANSWER: Helen of Troy

(11) **In the southern hemisphere, one ecosystem of this type contains steep koppies surrounded by veld. Fescue is a common plant of this biome that has been severely degraded in the Sahel. Aardvarks and anteaters specialize in feeding from giant termite mounds in this biome. The Eurasian (*) steppe, Pampas, and Serengeti are examples of, for ten points, what type of ecosystem, home to wildebeest, bison, and zebras, but very few trees?**

ANSWER: grassland (accept savanna; accept prairie)

(12) **Gottfried Helnwein parodied this painting in *Boulevard of Broken Dreams*, which replaces this painting's figures with Marilyn Monroe and Elvis Presley. Two coffee canisters in this painting sit to the left of a yellow door without a knob. Five cent (*)** Phillies Cigars are advertised on a sign above the main scene of this painting where a woman dressed in red sits next to one of the two men dressed in Fedoras. For ten points, name this diner scene painted by Edward Hopper.

ANSWER: Nighthawks

(13) **While holding this position, Alexander Haig incorrectly claimed that he was “in control here” after the shooting of Ronald Reagan. In the aftermath of the sinking of the *Lusitania*, William Jennings Bryan left this position. (*)** Madeleine Albright, the first woman to hold this post, urged future holder Colin Powell to intervene in Bosnia. Rex Tillerson currently holds, for ten points, what US Cabinet post in charge of foreign affairs?

ANSWER: Secretary of State (prompt on “State” alone; prompt on descriptions of “the leader of the US State Department” or similar)

(14) **During World War I, this scientist established mobile X-ray trucks for use on battlefields. Tumor cells were killed faster than healthy cells in one of this scientist's radiation experiments. Another experiment separated pitchblende to yield a (*)** new element named for this scientist's homeland, polonium. The becquerel replaced a unit in the SI system named for, for ten points, what co-discoverer of radium with her husband Pierre, the first woman to win a Nobel Prize?

ANSWER: Marie Sklodowska Curie (accept either or both names)

(15) **Amnesty International has demanded the closure of this country's Yodok prison camp. An unconfirmed 2014 story claimed that this country's leader executed his uncle by feeding him to starving dogs. This country operates the Punggye-ri (*)** test site, where a 5.7 magnitude earthquake was detected in September 2017, a week after this country launched a missile over Japan. For ten points, name this country where nuclear testing is overseen by Kim Jong-un.

ANSWER: North Korea (accept the Democratic People's Republic of Korea or DPRK; prompt on Korea; do not accept or prompt on “Republic of Korea”)

(16) **This poem's speaker notes that “the passing there” had left his options “really about the same,” since they are “grassy and [want] wear.” This poem's speaker walks on “leaves no step had trodden black” after finding himself in a (*)** “yellow wood” at a divergence. This poem concludes “I took the one less traveled by, / and that has made all the difference.” For ten points, name this poem about a choice between two paths, written by Robert Frost.

ANSWER: The Road Not Taken

(17) **The biblical Daniel predicted that Nebuchadnezzar would live outside human society for this number of “periods of time” after interpreting his dream. This number each of healthy and sick (*)** cows appeared in dreams that Joseph interpreted for Pharaoh. Two pairs of each unclean animal and this many pairs of each clean animal were on Noah's ark, and it took the Abrahamic God this many days to create the world and rest. For ten points, give this number of Deadly Sins.

ANSWER: seven

(18) **The goal of this policy was supported in Horace Greeley’s “The Prayer of Twenty Million.” New Orleans and recently-occupied Tennessee were excluded from this policy, as it only applied to territory in rebellion. This war measure was announced after the Union victory at (*) Antietam, and it was bolstered by the Thirteenth Amendment after the Civil War. Abraham Lincoln issued, for ten points, what executive order that freed slaves in the South?**

ANSWER: Emancipation Proclamation (prompt on “Emancipation” and descriptive answers relating to freeing slaves)

(19) **This type of mathematical behavior is modeled by the differential equation $\frac{dx}{dt} = kx$. The parent graph of this type of function has a horizontal asymptote along the x -axis and, thus, cannot go negative. Logarithmic functions are the (*) inverse of this type of function, which is subject to the shortcut “rule of 70.” For ten points, give this adjective that describes expressions of the form e to the x , which often indicate very fast growth.**

ANSWER: exponential (accept exponential function; accept exponential growth and/or decay)

(20) **After this novel’s protagonist watches the “feelin’” *Three Weeks in a Helicopter*, he is reminded of his mother’s relationship with the mescal-loving Popé. This novel opens with a description of the Bokanovsky process, which creates a (*) caste society that includes alphas and deltas. The recreational drug soma is used by the citizens of this novel. For ten points, name this dystopian novel about Bernard Marx and John the Savage, written by Aldous Huxley.**

ANSWER: Brave New World

Bonuses

(1) This poet wrote “Life for me ain’t been no crystal stair” in his poem, “Mother to Son.” For ten points each, Name this African-American poet of “I, Too” and “Theme for English B.” This author asked “What happens to a dream deferred?” in his poem *Harlem*.

ANSWER: (James Mercer) Langston **Hughes**

In another poem, Hughes wrote that the “The Negro Speaks of” these geographical features. While listing examples of these things, the speaker notes he has “bathed in the Euphrates” and “looked up the Nile.”

ANSWER: **rivers**

Hughes also wrote about the “Weary” variety of this type of music. This genre was originated by African-Americans in the South and is described as a “drowsy syncopated tune.”

ANSWER: **blues** music

(2) For ten points each, give the following about recent developments in the Sci-Fi world.

This BBC series cast Jodie Whittaker as the thirteenth actor, and first woman, to play the title time lord, taking over from Peter Capaldi. Other stars of this show have included David Tennant and Matt Smith.

ANSWER: **Doctor Who**

This Fox show’s 2017 reboot was given another season in 2018. It follows the supernatural investigations carried out by FBI agents Mulder and Scully.

ANSWER: The **X-Files**

This Canadian TV series wrapped up its fifth and final season in 2017. Tatiana Maslany won an Emmy in 2016 for playing Sarah Manning, Beth Childs, and numerous other clones in this show.

ANSWER: **Orphan Black**

(3) The ruler of this religion’s underworld is often depicted in a black suit and a top hat. For ten points each,

Name this religion, primarily based in Haiti, that developed after West African slaves were forced to convert to Christianity. Contrary to popular belief, members of this religion do not create namesake dolls to stab with pins.

ANSWER: Haitian **Voodoo** (accept **Vaudou**; accept **Vodun**; accept **Vodoun**)

In Voodoo, Catholic saints were syncretized with these spirits, such as Papa Legba, who serve the creator god. These spirits can be summoned by Voodoo priests and can endow people with gifts.

ANSWER: **Loa** (accept **Lwa**)

Loa [loh-ah] serve this creator god, whose name is derived from Haitian creole for “good god.”

ANSWER: **Bondye**

(4) For ten points each, give the following about the end of the Cold War and fall of Communism in Europe.

In 1989, this physical barrier dividing the east and west halves of a German city was opened after 28 years.

ANSWER: **Berlin Wall** (accept the **Anti-Fascist Protection Rampart**)

The Berlin Wall fell two years after Ronald Reagan demanded that this Soviet leader “tear down this wall.” Two years after the Berlin Wall fell, the Soviet Union collapsed and this man gave power to Boris Yeltsin.

ANSWER: Mikhail **Gorbachev**

Also in 1989, an anti-Communist revolution overthrew Nicolae Ceausescu [cho-shess-koo] in this Eastern European country. Ceausescu and his wife were executed on Christmas Day, and this country abolished the death penalty shortly thereafter.

ANSWER: **Romania**

(5) A statue of this story’s title character sits on a coastal rock in Copenhagen. For ten points each,

Name this short story in which the youngest daughter of the Sea King bargains with a witch to get legs so that she can fall in love with a human prince.

ANSWER: The **Little Mermaid** (accept Den **lille havfrue**)

“The Little Mermaid” is a fairy tale by this Danish author of “The Ugly Duckling” and “The Emperor’s New Clothes.”

ANSWER: Hans Christian **Andersen**

In this other Andersen tale, a tiny girl escapes from a toad, a beetle, and a mole, and eventually marries a flower-fairy prince, who gives her wings.

ANSWER: **Thumbelina** (accept **Tommelise**)

(6) At its first showings, this painting was nicknamed “an Iowa farmer and his wife,” which irritated the artist’s sister, Nan, who in real life was much younger than the dentist who had posed as her “husband.” For ten points each,

Name this painting of a solemn-looking woman in a print dress and a man holding a pitchfork in front of a farmhouse with an ornate window.

ANSWER: **American Gothic**

This artist created *American Gothic*, the satirical painting *Daughters of Revolution*, and *Parson Weems’ Fable*.

ANSWER: Grant DeVolson **Wood**

In *Parson Weems’ Fable*, the title storyteller pulls back a curtain to reveal a man in a red jacket holding a young tree and this child holding an ax.

ANSWER: George **Washington**

(7) Answer these questions about key properties of seawater, for ten points each.

The ability for organisms to live in seawater is highly dependent on this quantity, which is higher in brackish water than fresh water. The Dead Sea has a value over 30% for this quantity, and ocean water is usually 3.5%.

ANSWER: **salinity** (prompt on descriptive answers related to “how much salt is in the water”)

The dissolved salts in the ocean give seawater a higher value for this property of mass per unit volume, making it easier to float in seawater compared to freshwater.

ANSWER: **density**

Both the salinity and density of seawater are greatly affected by this quantity, which rapidly decreases in the thermocline.

ANSWER: **temperature**

(8) For ten points each, give the following about the American “Triple Crown of Hiking.”

The eastern leg of the Triple Crown is a 2,200 mile long trail along this mountain range between Georgia and Maine.

ANSWER: **Appalachian** Mountains (accept **Appalachian** Trail)

The western leg, the Pacific Crest Trail, goes through the Sierra Nevada mountains in California and this mountain range in the Pacific Northwest. Its highest peak is Mount Rainier.

ANSWER: **Cascade** Mountains (accept the **Cascades**)

Hikers on the Continental Divide Trail can visit Mount Elbert, the highest point of this western mountain range that begins in British Columbia and extends through Wyoming and Colorado.

ANSWER: **Rocky** Mountains (accept the **Rockies**)

(9) Plants in this group have parallel leaf veins and flower parts arranged in multiples of three. For ten points each,

Name this subdivision of the flowering plants whose seeds contain just one embryonic leaf, unlike dicots.

ANSWER: **monocots** (accept **monocotyledons**)

Monocots all possess the adventitious type of these plant organs that also contain the Casparian strip and many namesake hairs.

ANSWER: **roots**

This fastest growing plant on Earth is a monocot. This woody grass, prevalent in Asia, may increase in height by more than 30 inches per day.

ANSWER: **bamboo** (accept any specific type of **bamboo**)

(10) One section of this amendment is praised in an 1802 reply to the Danbury Baptists for “building a wall of separation between Church and State.” For ten points each,

Name this Constitutional amendment that guarantees freedom of religion, as well as four other fundamental freedoms.

ANSWER: **First** Amendment to the US Constitution

This founding father wrote the letter to the Danbury Baptists. This man cut and pasted select sections of the New Testament, omitting the miracles, into a work he called *The Life and Morals of Jesus of Nazareth*.

ANSWER: Thomas **Jefferson** (accept **Jefferson Bible**)

The Danbury Baptists wrote to Jefferson out of concern that this state, their home, maintained a different official state religion and may rescind rights of the minority. In 1818, this state disestablished its state church and ratified a new Constitution at a convention in Hartford.

ANSWER: **Connecticut**

(11) For ten points each, give the following about military theory.

Sun Tzu, a general during China’s ancient Spring and Autumn Period, wrote this influential treatise on military tactics. Its 13 chapters include entries on using spies and moving armies.

ANSWER: The **Art of War**

In his treatise *On War*, 19th century Prussian general Carl von Clausewitz described this concept, the uncertainty that shrouds war. Applications of this idea may include a lack of intelligence about the enemy forces or, in a more literal sense, about the terrain of a battlefield.

ANSWER: **fog** of war

Von Clausewitz’s understanding of war was developed while he fought with the Russians in the Seventh Coalition against this French emperor. Clausewitz wasn’t able to stop him from winning at Ligny [**li-NEE**], but the Prussians did help beat this man at Waterloo.

ANSWER: **Napoleon** Bonaparte (accept **Napoleon I**; do not accept “Napoleon III” or “Louis-Napoleon”)

(12) This term, which names groups made of equivalence classes from larger groups, inspired the choice of a capital Q for the symbol of the set of rational numbers. For ten points each,

Give this term for the result of a division problem.

ANSWER: **quotient** (accept **quotient** group)

You can get a quotient out of almost all division problems, but not when dividing by this number. A group cannot have this many elements, because there must be an identity element.

ANSWER: **zero**

A common example of a quotient group is made by classifying all integers by their remainder when divided by a certain number, a process described as this type of arithmetic.

ANSWER: **modular** arithmetic (accept word forms like **modulo** or **modulus**; prompt on clock arithmetic)

(13) In this novel, Katerina's testimony convicts the wrong man for a murder committed by Smerdyakov. For ten points each,

Name this novel about the murdered Fyodor Pavlovich and his children Dmitri, Ivan, and Alyosha.

ANSWER: The **Brothers Karamazov** (accept **Brat'ya Karamazovy**)

This novel by the author of *The Brothers Karamazov* follows the student Raskolnikov as he kills the pawnbroker Alyona Ivanovna and her sister and is sent to Siberia as a consequence.

ANSWER: **Crime and Punishment** (accept **Prestupleniye i nakazaniye**)

The Brothers Karamazov and *Crime and Punishment* are by this Russian author of *The Idiot* and *Notes from the Underground*.

ANSWER: Fyodor Mikhailovich **Dostoevsky**

(14) After this god's mother, Semele, died at the sight of Zeus in his full glory, this god was reborn from Zeus's thigh and spread the cultivation of grapes for wine throughout Greece. For ten points each,

Name this Greek god of wine, merrymaking, and divine inspiration.

ANSWER: **Dionysus**

This Greek goddess governed the harvest. This goddess made summer when her daughter lived with her, but let the plants die into winter during the parts of the year her daughter lived in Hades.

ANSWER: **Demeter**

This first-born daughter of Cronus and Rhea oversaw the preparation of food from the plants that Demeter made grow. In some stories, this goddess kept the peace by giving up her seat in Olympus to Dionysus.

ANSWER: **Hestia**

(15) An opera based on this legendary story was inspired by an experience fleeing Latvia through stormy seas. For ten points each,

Name this legendary doomed ghost ship that is, in most stories, cursed to sail the oceans forever unless its captain can convince a faithful woman to marry him.

ANSWER: The **Flying Dutchman** (accept Der **Fliegende Hollander**)

The Flying Dutchman was written by this composer, whose later dramatic works include the Ring Cycle, a set of four operas based on Norse myth.

ANSWER: Richard **Wagner** [ree-kard VAHG-ner]

Thanks to his political activism, Wagner spent over a decade exiled from his homeland, this modern country. Late in life, he built a festival house in this country's town of Bayreuth [bye-ROYT] to host his operas.

ANSWER: **Germany**

(16) With a steady hand and some help from this force, nearly 50 drops of water can fit on a penny. For ten points each,

Name this interaction between fluid molecules that allows insects to walk across the surface of a pond.

ANSWER: surface tension

One drop of detergent in the water will ruin your penny experiment because soap is one of these compounds that reduce surface tension.

ANSWER: surfactants

Water has a much higher surface tension than most liquids because of these intermolecular bonds, named for the first element on the periodic table.

ANSWER: hydrogen bonds (accept H-bonds)

(17) When the Olympics leave town, stadiums often become abandoned. When the World's Fair leaves town, many cities still have tourist landmarks! For ten points each,

This iron structure was built for the 1889 World's Fair. It remains the world's most visited monument and the tallest structure in Paris.

ANSWER: Eiffel Tower

When Seattle hosted the 1962 World's Fair, they commissioned this 600 foot tall observation tower, painted in "Astronaut White."

ANSWER: Space Needle

For the 1967 World's Fair, this city built a Biosphere and a model housing complex called Habitat 67; the latter was designed by Moshe Safdie, a student at this city's McGill University.

ANSWER: Montreal

(18) In an epistolary novel by this author, the demons Screwtape and Wormwood discuss how they can direct a human known as the "Patient" to a life of sin. For ten points each,

Name this author of Christian allegorical novels like *The Screwtape Letters*.

ANSWER: C(live) S(taples) Lewis

C.S. Lewis included many minor Christian allegories in his novels about this fantasy kingdom, which the Pevensie children visit in *The Lion, the Witch, and the Wardrobe*.

ANSWER: Narnia (accept The Chronicles of Narnia)

In *The Chronicles of Narnia*, this character represents Jesus; in *The Lion, the Witch, and the Wardrobe*, this lion sacrifices himself for Edmund, and is resurrected by a "Deeper Magic from Before the Dawn of Time."

ANSWER: Aslan

(19) For ten points each, give the following about conservation laws in physics.

This quantity's classical form is computed as mass times velocity. The conservation of this quantity can be used to calculate trajectories of objects following a collision.

ANSWER: linear **momentum** (do not accept or prompt "angular momentum")

By itself, mass is not conserved, but there is a conservation law that pairs mass with this quantity. This quantity was related to mass in Albert Einstein's famous equation " E equals $m c$ squared".

ANSWER: **energy** (do not accept speed of light)

The angular momentum of a system is conserved unless it is acted on by this type of rotational force.

ANSWER: **torque**

(20) Christa McAuliffe was killed in the failure of this vehicle, which was launched in unusually cold conditions. For ten points each,

Name this Space Shuttle that broke apart during liftoff in 1986.

ANSWER: Space Shuttle **Challenger**

Christa McAuliffe was to become the first person with this job to travel in space. The *Challenger* disaster was witnessed live on television by millions of people because of McAuliffe's role in the mission.

ANSWER: **teacher** (accept **educator** and other equivalents; prompt on civilian)

The *Challenger* disaster was the second fatal mission for NASA, after a 1967 test killed three astronauts in this program. The 13th mission in this program averted disaster after an explosion en route to the Moon.

ANSWER: **Apollo** program (accept **Apollo** 1 and/or 13)