

## Round 7

Michael Etzkorn • Brad Fischer • Clare Keenan • Mike Laudermith • Lauren Onel  
Noah Prince • Jacob Simmons • Kristin Strey • Tyler Vaughan

### Tossups

(1) **The Gospel of James lists this figure's parents as Joachim and Anne, who presented this *Theotokos* at the Temple in Jerusalem. When Elizabeth saw this figure, her baby jumped in her womb, foretelling (\*)** John the Baptist's relationship with this immaculately-conceived woman's son. For ten points, name this biblical woman, who traveled to Bethlehem with Joseph and gave birth to Jesus.

ANSWER: Mary (accept Mother Mary; accept Blessed Virgin Mary)

(2) **Employees of this organization included secretary Helen Gandy, associate director Clyde Tolson, and W. Mark Felt, who leaked information during the Watergate scandal as Deep Throat. A personal feud led the first head of this organization to (\*)** wiretap John F Kennedy's house. For ten points, name this governmental agency, once led by J. Edgar Hoover, that is the primary law enforcement agency of the US.

ANSWER: Federal Bureau of Investigation (accept FBI)

(3) **Two of these devices with unequal radius are connected in the "differential" type of this device. Counting sections of rope will find the mechanical advantage of a compound system of these devices known as a (\*)** block and tackle. Fixed and movable are two types of, for ten points, what simple machine, a wheel that can change the direction of a rope or cable?

ANSWER: pulley

(4) **This country is the setting of a novel about professor David Lurie, called *Disgrace*. An author from this country wrote a novel in which Absalom is accused of killing Arthur Jarvis, and Stephen (\*)** Kumalo is unable to prevent his execution. *Cry, the Beloved Country* is a novel set during Apartheid in, for ten points, what home country of JM Coetzee and Alan Paton?

ANSWER: Republic of South Africa

(5) **In March 2017, this country's Supreme Tribunal of Justice controversially took legislative power from the National Assembly. In June, actor Oscar Pérez stole a military helicopter and threw grenades at this country's (\*)** Supreme Court building. For ten points, name this South American country where protests against president Nicolás Maduro have flooded the streets of Caracas.

ANSWER: Bolivarian Republic of Venezuela

(6) **This sculpture, once nicknamed “The Poet,” was designed to sit below *The Three Shades*. This bronze sculpture is part of a large sculpture group that includes *The Kiss*, and represents (\*) Dante resting on a rock and contemplating sinners in Hell. For ten points, name this sculpture by Rodin [roh-DAN] of a pensive man who sits hunched over, resting his head on his hand.**

ANSWER: The Thinker (accept Le Penseur)

(7) **The protagonist of this play is envious of Charley because his son Bernard is arguing a case in front of the Supreme Court. Linda insists that “attention must be paid” to this play’s title man, who is pitied by his sons (\*) Happy and Biff for his many suicide attempts. For ten points, name this Arthur Miller play about the demise of Willy Loman.**

ANSWER: Death of a Salesman

(8) **An ebulliometer determines the alcohol content of wine by accurately measuring this quantity. Azeotropic mixtures have a constant value for it, making separation by distillation impossible. The energy needed to reach this value is called the (\*) heat of vaporization. Vapor pressure equals atmospheric pressure at, for ten points, what temperature at which a liquid changes into a gas, equal to 100 degrees for water?**

ANSWER: boiling point (accept boiling temperature)

(9) **This adjective describes functions that satisfy  $f$  of  $x$  equals  $f$  of negative  $x$ ; an example is the absolute value function, which is symmetric over the  $y$ -axis. All known perfect numbers have this property, as does exactly (\*) one prime number. For ten points, name this property held by half of the integers, including 2, 4, 6, and 8.**

ANSWER: even (accept even degree, even function, even number, etc.)

(10) **Rulers of this city included Nabopolassar, who allied with the Medes to fight the Assyrians in the 7th century BCE. A terraced building in this city was legendarily built on the orders of (\*) Nebuchadnezzar II, whose wife was homesick for greenery. “An eye for an eye” inspired many of Hammurabi’s laws in, for ten points, what ancient Mesopotamian city that was home to the Hanging Gardens?**

ANSWER: Babylon

(11) **This team’s current head coach is Luke Walton, who won titles off this team’s bench in 2009 and 2010. In 2017, this team acquired Brook (\*) Lopez by trading away Timofey Mozgov and D’Angelo Russell. Lonzo Ball was drafted by, for ten points, what NBA team that shares the Staples Center with the Clippers and won five titles with Kobe Bryant?**

ANSWER: Los Angeles Lakers (prompt on “LA” or “Los Angeles”)

(12) **This woman was falsely accused of defrauding Parisian jewelers in the Affair of the Diamond Necklace. This woman tried to flee her country in the Flight to Varennes before a revolutionary council charged her with treason. This woman walked to the (\*) guillotine months after the execution of her husband, Louis XVI [16th]. For ten points, name this French queen who did not actually say “let them eat cake.”**

ANSWER: Marie Antoinette (accept Maria Antonia Josepha Johanna; prompt on partial answer)

(13) **This novel's title character is introduced to immortal struldbrugs in Luggnagg, and scorns humanoid Yahoos after meeting a race of horse-people called Houyhnhnms [HWIN-hums]. In this novel, a war between (\*) Big Endians and Little Endians is fought over the right way to crack an egg. The title man visits the giants of Brobdingnag and the tiny people of Lilliput in, for ten points, what satirical Jonathan Swift novel?**

ANSWER: Gulliver's Travels

(14) **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

(15) **In one myth, Loki traveled to Jötunheim with this deity's feathered cape. This Vanir was the wife of Odr, and accepted half of the warriors slain in battle at (\*) Folkvangr. This goddess's chariot was pulled by two cats, and she convinced four dwarves to give her the necklace Brisingamen. The twin sister of Frey was, for ten points, what Norse goddess of love and beauty?**

ANSWER: Freyja (do not accept Frey, Freyr, Frigg, or Frigga)

(16) **Henry Clinton predicted doom after this battle, which killed or wounded over 100 British officers. In this battle, William Howe ordered cannons on Copp's Hill to fire on the Americans. The order (\*) "don't fire until you see the whites of their eyes" was given during this battle, which was fought outside Boston. For ten points, name this early Revolutionary War battle that, despite its name, was fought mostly on Breed's Hill.**

ANSWER: Battle of Bunker Hill (accept Battle of Breed's Hill before it is read)

(17) **A work in C minor by this composer ends with 29 bars of loud C major chords. This composer ripped apart the dedication to an earlier work when Napoleon named himself Emperor; that piece, (\*) *Eroica*, was this man's third symphony. For ten points, name this composer whose fifth symphony opens with a famous "short-short-short-long" motif and was written before he became completely deaf.**

ANSWER: Ludwig van Beethoven

(18) **This country's city of Tacloban was devastated in 2013 by Typhoon Haiyan. This country is divided into island groups of Visayas, Mindanao, and Luzon. In 2016, a tribunal sided with this country, denying (\*) China's Nine-Dash Line claims to the South China Sea on this country's west. Tagalog is spoken in, for ten points, what Asian island country with capital Manila?**

ANSWER: Republic of the Philippines

(19) **The existence of this area, which notably did not include Cathaysia, explains the widespread distribution of *Lystrosaurus* fossils. This landmass formed when Laurasia and (\*) Gondwana collided, and was first proposed by Alfred Wegener as a result of continental drift. The global ocean Panthalassa surrounded, for ten points, what most-recent supercontinent that broke up 200 million years ago?**

ANSWER: Pangaea (accept Gondwanaland before "early" is read)

(20) **This novel's protagonist steals a Bible from a woman who lights herself ablaze. In this novel, Mildred's request to buy a fourth wall-sized television discourages her husband, who is encouraged by (\*) Clarisse McClellan until she is hit by a car. Professor Faber helps a fireman escape from the Mechanical Hound in, for ten points, what Ray Bradbury novel about the book-burning Guy Montag?**

ANSWER: **Fahrenheit 451**

## Bonuses

(1) This novel's title character tilts at windmills, believing them to be giants. For ten points each,

Name this novel by Miguel de Cervantes about an imaginative man who convinces himself he is a knight and rides out to seek adventure on an old farmhouse.

ANSWER: The Ingenious Gentleman Don Quijote of La Mancha (accept El ingenioso hidalgo don Quijote de La Mancha)

Don Quijote gives this name to the elderly workhorse that rides on his adventures.

ANSWER: Rocinante

This man, who rides the donkey Dapple, acts as Don Quijote's squire and guardian on his imaginary adventures.

ANSWER: Sancho Panza (accept either underlined name)

(2) For ten points each, give the following about perpetual motion machines.

Because perpetual motion machines are physically impossible, the US government requires that applicants provide a working model when trying to gain this status for their "invention" of a perpetual motion machine. Realistic inventions can more easily apply for this legal protection.

ANSWER: patent rights

True perpetual motion machines are impossible because, according to the Second Law of Thermodynamics, this quantity, a measure of disorder, must always increase in a closed system.

ANSWER: entropy

One attempted perpetual motion machine is a bowl named for this type of liquid motion that flows against gravity up a small tube. This type of motion is used by plants for water uptake.

ANSWER: capillary action (accept capillary motion or capillarity)

(3) When describing keys, the difference between these two adjectives is the position of half steps in the scales, most importantly the interval to the third note. For ten points each,

Give these two terms. Music written in one style is often described as bright or cheery, while the other is often described as dark or sad.

ANSWER: major and minor (accept in either order; prompt if only one answer is given)

A minor third can also be described as this type of third, because it is one note lower than the major third. Notes may be described by this term if lowered by half a step, or by "sharp" if raised half a step.

ANSWER: flat (accept flatted third; accept flat note)

Many composers have written collections of pieces written for all 24 major and minor keys: one such work, *The Well-Tempered Clavier*, was written by this German composer.

ANSWER: Johann Sebastian Bach

(4) This man's presidency lasted less than 900 days, the shortest term for any US president who didn't die in office. For ten points each,

Name this Republican politician, who lost his only Presidential election to Jimmy Carter.

ANSWER: Gerald **Ford** (accept Leslie **King**)

A month after taking office, Ford controversially carried out this presidential action, noting that "someone must write the end to" a national tragedy.

ANSWER: **pardoning** Richard **Nixon** (prompt on "pardon" and other partial answers; do not prompt on descriptive answers like "forgiving Nixon" that don't use the term "pardon")

Gerald Ford became President because he was Vice President when Nixon resigned; he had become Vice President in accordance with this Constitutional amendment, which clarified presidential succession and was adopted in 1967.

ANSWER: **25th** Amendment to the US Constitution

(5) For ten points each, give the following about the many faces of Andy Serkis.

Andy Serkis plays the mysterious Supreme Leader Snoke in this franchise, whose next film is subtitled "The Last Jedi" and will focus on Rey's relationship with Luke Skywalker.

ANSWER: **Star Wars**

Andy Serkis also played this corrupted hobbit whose only goal is to reclaim his "precious." At the end of the *Lord of the Rings* film trilogy, this character smiles as he falls into the fires of Mt. Doom, having achieved his goal.

ANSWER: **Gollum** (accept **Smeagol**)

In his most recent film, Andy Serkis reprised his role as this leader of the "planet of the apes." This character was originally the pet of Will Rodman, who likely named him after a Roman leader.

ANSWER: **Caesar** (do not accept Julius Caesar)

(6) Because it is non-polar, toluene has this property in hexane but not in water. For ten points each,

Name this property, the ability of one substance, like silver chloride, to dissolve in another substance, like ammonia.

ANSWER: **solubility** (accept word forms like **soluble**; accept **miscibility** and word forms like **miscible**)

Differences in solubility are the basis for this lab technique, which separates mixtures by passing the components through a stationary phase like glass beads or silica gel.

ANSWER: **chromatography**

Many chromatography procedures first call for this technique, in which the mixture is poured through a piece of paper whose tiny pores screen out undissolved particles.

ANSWER: **filtration** (accept word forms like **filtering**)

(7) This goddess had an affair with Ares, which was revealed when her husband captured them together in a fine net and dragged them to Olympus in shame. For ten points each,

Name this Greek goddess of love and beauty.

ANSWER: **Aphrodite**

Aphrodite's jealous husband was this god, who in some stories fell from Olympus after Hera created him by herself.

ANSWER: **Hephaestus**

Aphrodite was also the lover of this extraordinarily beautiful mortal man, and became so distraught at this man's death during a hunt that she caused anemone flowers to bloom where his blood fell.

ANSWER: **Adonis**

(8) One section of this river separates the neighborhoods of Foggy Bottom and Georgetown from Rosslyn in Arlington County. For ten points each,

Name this river, which flows past Ronald Reagan National Airport south of the Lincoln Memorial.

ANSWER: **Potomac** River

The Potomac forms much of the southern border of this district, home of the nation's capital.

ANSWER: **Washington**, D.C. (accept the District of **Columbia**; accept **DC**)

The Potomac ultimately flows into this bay, bounded on the east by the Delmarva Peninsula. Cities on its northern shores include Annapolis and Baltimore.

ANSWER: **Chesapeake** Bay

(9) This English author collected some of his poetry in *Wessex Poems*, named for the fictional region of England where this author's novels are set. For ten points each,

Name this English author of *Far from the Madding Crowd* and *Jude the Obscure*.

ANSWER: Thomas **Hardy**

In this Thomas Hardy novel, the title woman marries Angel Clare, kills Alec years after he rapes her, and mistakenly believes she is a distant relative of a wealthy family.

ANSWER: **Tess of the d'Urbervilles**

In another Hardy novel, Michael Henchard sells his daughter and wife, Susan, and his daughter, Elizabeth-Jane, before rising to this political position as the leader of Casterbridge.

ANSWER: The **Mayor** of Casterbridge

(10) This dynasty took power after the Red Turban Rebellion. For ten points each,

Name this Chinese dynasty that succeeded the Yuan. Artisans during this dynasty's reign produced remarkably popular blue-and-white pottery.

ANSWER: Ming Dynasty

During the Ming Dynasty, this admiral helped bring the Yongle Emperor to power. This eunuch [yoo-nuk] also led seven treasure voyages, exploring Southeast Asia and Africa.

ANSWER: Zheng He (accept Ma He; accept Cheng Ho)

The Ming navy was less successful in its attempts to deal with these criminals. The most successful of these criminals, Ching Shih, unified her fleet of 3,000 ships with a law code that required the group inspection of plundered booty.

ANSWER: pirates (accept wokou)

(11) For ten points each, give the following about the literature surrounding America's deadliest war.

Name this novel about Henry Fleming's experience as a Union soldier in the Civil War. In this work, Henry talks to the Tattered Soldier moments before the latter's death.

ANSWER: The Red Badge of Courage

The aftermath of the Civil War is explored in this Toni Morrison novel which focuses on the haunting of 124 Bluestone Road by Sethe's murdered child.

ANSWER: Beloved

According to legend, Abraham Lincoln called this author the "little woman who started the big war," because she exposed the horrors of slavery in *Uncle Tom's Cabin*.

ANSWER: Harriet Beecher Stowe

(12) All circles share this relationship with each other, but not all ellipses do. For ten points each,

Name this geometric relationship that is preserved after translation, reflection, and rotation. Unlike another relationship, it is also preserved after scaling one of the shapes to be larger or smaller.

ANSWER: similarity (accept word forms)

This other relationship is stronger than similarity because it requires the shapes to be the same size. While the angle-angle-angle theorem can only prove the similarity of two triangles, this relationship can be proven by the side-angle-side and side-side-side theorems.

ANSWER: congruence

Two ellipses will be similar if and only if they have the same value for this quantity, a measure of how non-circular the ellipse is.

ANSWER: eccentricity

(13) Answer the following about revolutionary bronze sculptures, such as Donatello's *Gattamelata*, for ten points each.

*Gattamelata* commemorates Erasmo da Narni's military prowess by showing him riding one of these animals. The statue inspired a trend of depicting military leaders riding these animals.

ANSWER: horses

This virtuosic French sculptor's *The Age of Bronze* was so realistic that he was accused of making the cast for it from a live model. To prove the claim false, this artist cast his statue of *John the Baptist* to be seven feet tall.

ANSWER: (François) Auguste (René) Rodin

Constantin Brancusi inspired a lawsuit over the nature of art when he tried to transport a sculpture depicting this animal *in Space* through customs, and was ordered to pay a tax for a "manufactured metal object."

ANSWER: Bird in Space

(14) In 415 BCE, an expedition of over 100 triremes [tri-reems] sailed to this island to attack the city of Syracuse. For ten points each,

Name this island off the coast of Italy.

ANSWER: Sicily

The Sicilian Expedition was launched by this ancient Greek city-state which, at the time, was in an unsteady "peace" with its rival Sparta.

ANSWER: Athens

Athens and Sparta feuded in this series of 5th century BCE wars. This conflict ended with Athens' navy getting destroyed at Aegospotami and Sparta installing the Thirty Tyrants to control Athens.

ANSWER: Peloponnesian War(s)

(15) In early Judeo-Christian tradition, female slaves and foreign women were often taken as wives and concubines by wealthy householders. For ten points each,

Name the Judeo-Christian patriarch whose wives, Leah and Rachel, escalated a war of child production by offering this man their handmaids Zilpah and Bilhah, making this man the father of twelve sons, including Judah and Joseph.

ANSWER: Jacob (accept Yakov; accept Israel)

When Abraham's wife Sarah could not have children, she gave Abraham this Egyptian woman as a concubine, though she became jealous after this woman gave birth to Ishmael.

ANSWER: Hagar (accept Hajar)

In this tradition of taking many wives, this wise king of Israel and builder of the First Temple in Jerusalem reportedly had 700 wives and 300 concubines.

ANSWER: Solomon (accept Shlomo; accept Suleiman; accept Jedediah)

(16) The now discredited Titius Bode Law predicted that a missing planet should exist where this region was eventually discovered. For ten points each,

Name this region located between the orbits of Mars and Jupiter. It contains relatively little mass but more than one million objects with a diameter of one kilometer or greater.

ANSWER: main asteroid belt

The largest object in the asteroid belt is this body, the closest dwarf planet to Earth. It is named after the Roman goddess of agriculture and was discovered in 1801.

ANSWER: 1 Ceres

Companies like Kepler Energy and Planetary Resources are currently searching the belt for promising targets for this industry, since many asteroids are rich in zinc, silver, and lead.

ANSWER: mining industry (accept additional information, like astromining or space mining)

(17) Methods for judging the outcome of this process include the Condorcet criterion, which asks who would win if each pair of candidates were to face each other individually. For ten points each,

Name this civic process in which a democratic society chooses its leaders.

ANSWER: voting (accept elections; accept word forms for either answer, like vote or elect)

This phrase describes voting systems in which the candidate who receives the most votes wins. This method of determining the winner of a vote is used in most American election systems, and it fails the Condorcet criterion.

ANSWER: first past the post (prompt on “FPTP” or “FPP”)

Candidates who earn more than 50% of the votes in an election win a majority, while this term is used instead for the winning candidate if they earn less than 50% of the votes.

ANSWER: plurality

(18) The stories “Araby” and “The Dead” are included in a short story collection set in this city. For ten points each,

Name this Irish capital city.

ANSWER: Dublin (accept Dubliners)

This author of *Dubliners* also wrote about Stephen Dedalus in *A Portrait of the Artist as a Young Man*.

ANSWER: James Augustine Aloysius Joyce

This James Joyce novel uses stream-of-consciousness to follow a day in the life of Leopold Bloom. This novel’s title and plot evoke a legendary hero’s long journey home from the Trojan War.

ANSWER: Ulysses

(19) For ten points each, give the following about “Buffalo Bill” Cody.

As a teenager, Cody worked as a rider for this service that, despite only operating for 1.5 years, transmitted tens of thousands of messages between Missouri and California in the pre-telegraph era.

ANSWER: **Pony Express**

Buffalo Bill Cody worked with this sharpshooting woman to help popularize his show; that history inspired an Irving Berlin musical about this woman “[getting] her gun.”

ANSWER: Annie **Oakley** (prompt on “Annie” and/or “Annie Get Your Gun”)

Another member of *Buffalo Bill’s Wild West* show was this Lakota chief who, with Crazy Horse, defeated General Custer at the Battle of Little Bighorn.

ANSWER: **Sitting Bull** (accept Thathanka **Iyotake**)

(20) There’s no rule in nature that skeletons must be made of bone. Answer these questions about alternative support materials for ten points each.

The class Chondrichthyes [**kon-drik-thee-iz**], containing sharks and rays, has skeletons made of this flexible tissue also found in the human nose and outer ear.

ANSWER: **cartilage**

Arthropods like insects and crustaceans have exoskeletons made of this tough polysaccharide that also makes up fungus cell walls.

ANSWER: **chitin**

Hardened spines called spicules form the internal supports of this animal phylum, whose anatomy also features the osculum and mesohyl layer.

ANSWER: **Porifera** (accept **sponges**)