

## Round 3

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### Tossups

(1) **This man painted himself into the skin of Saint Bartholomew in *The Last Judgment*, an entry in a series of frescoes this man painted in a Vatican chapel. This man's sculpted (\*) *Pietà*, a statue of Mary cradling the body of Jesus, and created a statue of a slingshot-holding marble *David*.** For ten points, name this Italian who painted the Sistine Chapel ceiling.

ANSWER: Michelangelo di Lodovico Buonarroti Simoni

(2) **This event was covered by Herbert Morrison, a Chicago reporter whose voice was accidentally sped up as he described the “falling on the mooring-mast” during this event. The LZ 129's arrival at the Lakehurst Naval (\*) Air Station preceded the cry “Oh, the humanity!” during this disaster.** For ten points, name this 1937 tragedy in New Jersey, in which thirty-five people died aboard a German zeppelin that caught fire.

ANSWER: LZ 129 Hindenburg disaster

(3) **In this type of motion, reference frames experience the fictitious Coriolis force. Precession is a change in the orientation of objects experiencing this type of motion. Forces that take effect when objects are moving in this way include (\*) torque and centrifugal force, which is experienced by gyroscopes.** For ten points, name this type of movement in which an object spins around an axis.

ANSWER: rotation (accept word forms like rotating; prompt on descriptions like “spinning” or “turning” before “spins” is read)

(4) **This player caused Mike Breen to add a second “bang” to his catchphrase by hitting a near half-court shot to defeat Oklahoma City. This player struck a fan with his (\*) mouthguard during a 14-point loss in Game 6 of the 2016 NBA Finals. The Splash Brothers are Klay Thompson and, for ten points, what Under Armour spokesman and long-range point guard, the currently reigning NBA MVP for the Golden State Warriors?**

ANSWER: Stephen “Steph” Curry

(5) **This author wrote about Brigid, who “wrecks her life” by washing herself invisible and then uses “super-indelible” markers to fix the problem in *Purple Green and Yellow*. This author of (\*) *Thomas' Snowsuit* wrote books in which Princess Elizabeth befriends a dragon and a mother pledges “as long as I'm living / my baby you'll be.” For ten points, name this Canadian children's author of *The Paper Bag Princess* and *Love You Forever*.**

ANSWER: Robert Norman Munsch

(6) **This god was accompanied into battle by Geri and Freki, since he gave them all his food. This god will attack Fenrir with his spear, Gungnir, at Ragnarok, and he kept Huginn and Muninn, a pair of messenger (\*) ravens. This god gained wisdom from the Well of Mimir by losing an eye. For ten points, identify this chief Norse god, the father of Thor.**

ANSWER: Odin (accept Wotann)

(7) **The size of these natural phenomena is determined by the “fetch” behind them. When these things “break,” they release kinetic energy as matter falls from its maximum amplitude. These phenomena may “shoal” in (\*) shallow water, and they do not occur when there is no wind. For ten points, name this physical phenomenon, a rippling motion on the surface of a body of water.**

ANSWER: surface waves (accept ocean waves; accept descriptions like waves on the surface of water)

(8) **In a novel by this author, Edward Ferrars and Colonel Brandon marry Elinor and Marianne Dashwood, who represent the title concepts. In another work by this author, Mr Darcy falls in love with (\*) Elizabeth Bennett despite their preconceived ideas about each other. For ten points, name this English author of “sentimental novels” like *Emma*, *Sense and Sensibility*, and *Pride and Prejudice*.**

ANSWER: Jane Austen

(9) **To celebrate the opening of the Panama Canal, this city held a 1915 exposition in its Balboa Park. This city’s namesake bay, which opens between Point Loma and (\*) Coronado, is home to the United States Navy’s Pacific fleet. Mission Bay is home to Sea World in this city, where Balboa Park houses a large open-air zoo. For ten points, name this city in southern California directly across the border from Tijuana.**

ANSWER: San Diego, California

(10) **This country owned a colony that expanded as far south as Fort Ross in modern-day Sonoma. In 1848, St. Michael’s Cathedral was built in this country’s colonial town of (\*) Sitka. In 1867, this country received \$7.2 million in a land deal orchestrated by Secretary of State William Seward, labeled a “folly” by his opponents. For ten points, name this country whose American colonies, including Alaska, were founded in the name of the tsars.**

ANSWER: Russian Empire (do not accept “USSR” or “Soviet Russia”)

(11) **On the day before this holiday, some believers practice kapparot, the swinging of a chicken. This holiday includes readings from the Book of Jonah and ends with the ne’ila prayer. The Kol Nidre [kohl nee-dray] prayer is recited on this last of the High Holy Days that follow (\*) Rosh Hashanah. This holiday includes a day of fasting and vidui [vee-dwee], the confession of sins. For ten points, name this Jewish “Day of Atonement.”**

ANSWER: Yom Kippur (accept Day of Atonement before it is read)

(12) **This country’s first prime minister, Count Cavour, made a secret alliance with Napoleon. This modern country unified under King Victor Emmanuel II in the Risorgimento. The Redshirts under (\*) Giuseppe Garibaldi fought for, for ten points, what European country that includes land held by the former kingdoms of Sardinia, Naples, Sicily, and Rome?**

ANSWER: Italy (accept Italia)

(13) **An ion of this element forms the hydrophilic “heads” of the molecules in the cell membrane’s bilayer. One allotrope of this element will, on exposure to oxygen, faintly glow in the dark. Three atoms of this element are present in the end product of (\*) cellular respiration, ATP.** For ten points, name this Group 15 chemical element, found just below nitrogen on the periodic table, with symbol P.

ANSWER: phosphorus (accept P before it is read)

(14) **In this play, Thomas Danforth reveals that a doll made by Mary Warren has been found in the protagonist’s home, skewered on a pin. In this play, Elizabeth’s husband, John, has an affair with (\*) Abigail Williams. Giles Corey demands “more weight” until he is crushed to death, and the slave Tituba is accused of casting curses in, for ten points, what play by Arthur Miller about the Salem witch trials?**

ANSWER: The Crucible

(15) **After this event, critics complained that no “official notice” was given that Article 50 would be invoked. In this event’s aftermath, Theresa May replaced David Cameron as (\*) Prime Minister. Stock markets plunged after news broke of, for ten points, what June 2016 public referendum that decided to end a namesake country’s participation in the European Union?**

ANSWER: Brexit (accept descriptions of the United Kingdom’s June 2016 referendum to leave the European Union; accept equivalents, like Britain’s vote to leave the EU; prompt on partial answers)

(16) **This composer played his 26th piano concerto at the coronation of Leopold II, even though he had not written out much of the left hand part. This composer’s 13th serenade for string quartet, listed as number 525 in the (\*) Köchel catalogue, is nicknamed “Eine Kleine Nachtmusik” [”eye”-nuh kl”eye”-nuh nahkt moo-zeek] or “A Little Night Music.”** For ten points, name this Austrian composer, a child prodigy who wrote *Don Giovanni*.

ANSWER: Wolfgang Amadeus Mozart

(17) **After a 1982 assassination attempt in Dujail, this man ordered the executions of over 140 Shiites believed to be involved. This leader, who was found in 2003 near Tikrit in a (\*) “spider hole,” was hanged for crimes against humanity in 2006. This dictator’s 1991 invasion of Kuwait sparked the first Gulf War, and he was deposed by US forces in the second Gulf War.** For ten points, name this former leader of Iraq.

ANSWER: Saddam Hussein (prompt on “Saddam” alone)

(18) **These systems cannot be formed from immiscible fluids. In chemistry, these substances can become supersaturated under certain conditions, then shocked to make a precipitate. Water is considered a (\*) “universal” part of these substances, since it can combine evenly with many other chemicals.** For ten points, give this term for a homogeneous mixture of a solute in a solvent.

ANSWER: solutions

(19) **In the *Arabian Nights*, Sinbad collects diamonds from an island inhabited by enormous ones of these animals called rocs [”rocks”], and later steals one of their (\*) eggs.** Chanticleer is one of these creatures in French folklore, and a mythical animal of this type is a phoenix. For ten points, name this family of animals, exemplified by Chicken Little.

ANSWER: birds (accept aves or avians)

(20) A square with the same area as one of these shapes can't be drawn with compass and straightedge alone. You cannot draw one of these shapes through a non-square rhombus's four vertices; as a result, those rhombuses are not (\*) cyclic. An ellipse with both focuses at the same point is essentially, for ten points, what shape, defined as all points an equal distance away from a center, through which a diameter can be drawn?

ANSWER: circle

## Bonuses

(1) Roughly 2.5 hours of EVA walking took place at this location, which was abandoned on July 21, 1969 after about 21 hours. For ten points each,

Name this site that, like five further sites, is now home to preserved footprints and a plaque reading “We came in peace for all mankind.” You can name either the *mare* or the base name, which was granted after the *Eagle* landed.

ANSWER: Sea of Tranquility or Tranquility Base (accept Mare Tranquillitatis; prompt on the Moon)

Tranquility Base was established during this NASA mission.

ANSWER: Apollo 11

The announcement “Tranquility Base here. The *Eagle* has landed.” was made by this commander of *Apollo 11*. He exited the Lunar Module shortly before his crewmate, Buzz Aldrin.

ANSWER: Neil Armstrong

(2) Visual aspects of performances by some of these groups include baton twirling and color guard work, as seen in drum and bugle corps. For ten points each,

Name this style of band that commonly provides entertainment in high school and college football halftime shows.

ANSWER: marching band (accept elaborations, like military-style or corps-style marching bands; prompt on military band)

This American “March King” composed many famous and popular marches like “The Liberty Bell March” and “Stars and Stripes Forever.”

ANSWER: John Philip Sousa

Sousa created the “sousaphone,” a version of this instrument designed to be easier to march with than this deep brass instrument usually is.

ANSWER: tuba

(3) This author wrote a novel that declares that “each unhappy family is unhappy in its own way.” For ten points each,

Name this Russian author who wrote *The Death of Ivan Ilyich*, *War and Peace*, and a novel about Stiva, Dolly, and Count Vronsky.

ANSWER: Leo Nikolayevich Tolstoy (accept Lev Nikolayevich Tolstoy)

This novel by Tolstoy is named for Stiva’s sister, the wife of Konstantin Levin and lover of Count Vronsky, who kills herself at the end of this novel.

ANSWER: Anna Karenina

Anna Karenina commits suicide by throwing herself under one of these machines, after witnessing a guard fall underneath one of these passenger vehicles when it backs up at a station.

ANSWER: steam train (accept train carriage or train car; prompt on “carriage” or “car”)

(4) This man’s mother ran between the hills of Safa and Marwah until Allah provided a spring to save this man’s life. For ten points each,

Name this prophet of Islam, the son of Hajar, who built the Ka’aba with his father.

ANSWER: Ismail (accept Ishmael; accept Yishma’el)

This half-brother of Ismail was the son of Sarah, who gave birth to this Jewish patriarch in her old age. This man became the father of Esau and Jacob after marrying Rebecca.

ANSWER: Isaac (accept Yishak)

Ismail and Isaac were both sons of this man, for whom the class of religions including Islam, Judaism, and Christianity is named.

ANSWER: Ibrahim (accept Abraham; accept Abram; accept Abrahamic religions)

(5) After this speech was televised, millions of supportive telegrams were sent to RNC headquarters and its speaker was retained on the Republican presidential ticket. For ten points each,

Identify this 1952 speech, named for the cocker spaniel given as a gift to the speaker’s children – a gift that, despite claims he had received improper financial reimbursement, he would *not* be giving back.

ANSWER: Checkers speech

This politician gave the Checkers speech, vindicating his good name to the American people. In 1973, he told the American people “I am not a crook,” and in 1974, he resigned as U.S. President.

ANSWER: Richard Nixon

Nixon resigned in the wake of this political scandal involving a coverup of his administration’s involvement in a break-in at DNC headquarters.

ANSWER: Watergate scandal

(6) Some literary characters find reason to run away with young children in tow. For ten points each,

Eliza Harris holds her young son while fleeing from slave-hunters across the semi-frozen Ohio River in this novel by Harriet Beecher Stowe, in which the title slave befriends little Eva St Clare.

ANSWER: Uncle Tom's Cabin

In this author's short story "Desiree's Baby," a young mother walks off into a swamp with her child after her husband incorrectly accuses her of having black ancestry. This author also wrote *The Awakening*.

ANSWER: Kate Chopin [show-PAN] (accept Katherine O'Flaherty)

This author wrote the comic play *The Ransom of Red Chief*, in which a pair of kidnappers pay to return a child they kidnapped. This author also wrote twist-ending stories like "The Gift of the Magi."

ANSWER: O. Henry (accept William Sidney Porter)

(7) In 2016, this organization and its related bodies declined to answer whether communist China's economy was a "market-based" economy. For ten points each,

Name this organization, whose Brussels-based Parliament includes 751 seats, 96 of which are held by Germany. This organization was established via the Treaty of Maastricht in 1993.

ANSWER: European Union (accept EU)

China's massive overproduction of this commodity, used in skyscraper frames, helped delay its "market economy" status determination.

ANSWER: steel

The question of market economy status is important because a set of current trade rules will expire in December, 15 years after China joined this global commerce group led by Roberto Azevedo.

ANSWER: World Trade Organization (accept WTO)

(8) For ten points each, give the following about US Highway 40.

Highway 40 follows a number of historically important roads and trails, including this wagon trail used by tens of thousands of settlers to travel from Independence, Missouri to the Willamette Valley in the Pacific Northwest.

ANSWER: Oregon Trail

In California, Highway 40 passes through this mountain pass, named after an infamous traveling party that was unable to cross it in winter 1846 and resorted to cannibalism to survive.

ANSWER: Donner Pass (accept Donner Party)

Highway 40 was largely replaced in the west by Interstate 80, as originally designed by this U.S. President's Interstate Highway System.

ANSWER: Dwight D. Eisenhower

(9) This organelle is named for the Italian scientist who discovered it in the 19th century. For ten points each, Name this endomembrane pathway organelle, which packages macromolecules into vesicles and tags them for transport.

ANSWER: **Golgi** bodies (accept apparatus, complex, etc.)

Golgi bodies are made of these flattened, membranous sacs that fuse with vesicles.

ANSWER: **cisternae**

The exit face of a stack of cisternae is this type of Golgi network. This term is also used to describe stereoisomers, based on the orientation of their functional groups, and is the opposite of *cis*.

ANSWER: **trans** Golgi network (accept **trans**isomers)

(10) This character started out as a small time criminal called Red Hood, before he had one bad day and fell into a vat of chemicals. For ten points each,

Name this member of Batman's rogues gallery, who emerged from the chemicals with green hair and bleached skin.

ANSWER: The **Joker**

This character, Joker's on-again off-again girlfriend, first appeared in *Batman: The Animated Series* and is a featured character in 2016's *Suicide Squad*.

ANSWER: **Harley Quinn** (accept **Harleen Quinzel**; accept either name in each case)

In this controversial 1988 comic written by Alan Moore, the Joker shoots and paralyzes Batgirl, almost as an afterthought to the rest of the plot, in which he tortures her father, Commissioner Gordon.

ANSWER: Batman: The **Killing Joke**

(11) For ten points each, answer the following about levers.

Like the wheel and axle, screw, and pulley, levers are one of these classical devices that can alter a force.

ANSWER: **simple machine**

A lever pivots at this hinge in the system, whose name derives from the Latin for "support."

ANSWER: **fulcrum**

If the components of a lever are in this position, the mechanical advantage of a lever can be equal to one, meaning that there's no trade-off between effort made and distance required to move a load, just a change in the force's direction. You can either give this class of the lever, or you can describe the position of the lever's fulcrum.

ANSWER: **first** class lever (accept Class **1**; accept descriptions of "the **fulcrum is in the middle**, between the effort and the load", "the lever looks like a **seesaw** or **teeter-totter**", and equivalents)



(12) The mirror-written notes above this picture give a series of unit conversions important in Roman building design. For ten points each,

Name this drawing by Leonardo da Vinci, featuring a man in two overlapping poses with outstretched arms.

ANSWER: **Vitruvian Man**

Leonardo's notes above and below the drawing of *Vitruvian Man* discuss Vitruvius' thoughts on human proportions as they apply to this study of the aesthetic design of buildings. Vitruvius wrote a ten-book treatise on this subject.

ANSWER: **architecture** (accept **De architectura** or **On Architecture**)

*Vitruvian Man* is depicted inscribed in these two geometric shapes; Leonardo cleverly drew them with different centers, preserving the desired proportions.

ANSWER: **circle and square** (accept in either order; do not prompt on partial answer)

(13) For ten points each, name the following countries that border Italy.

Italy shares the Brenner Pass with this nation. In 2016, officials from Vienna lobbied for tighter border controls between Italy and this nation but were denied by the European Union.

ANSWER: **Austria**

Mont Blanc rises above the Italian border with this Alpine country.

ANSWER: **Switzerland**

Italy's east is largely a coast on the Adriatic Sea, but its northeast region, including the city of Trieste, borders this country's Karst Plateau.

ANSWER: **Slovenia**

(14) The 1989 Round Table negotiations took place in this city and legalized the existence of the Solidarity trade union. For ten points each,

Name this European capital city, which also names a defensive pact agreed to by Soviet allies.

ANSWER: **Warsaw** (accept **Warsaw** Pact)

The Solidarity union was initially allowed after a 1980 agreement made in this port city, in whose shipyards the union was founded by Lech Walesa [lek vah-weh-sah].

ANSWER: **Gdansk** (accept **Danzig**)

Warsaw and Gdansk are cities in this European country, which was led by Walesa after the fall of communism.

ANSWER: **Poland**

(15) This man's sister, Dorothy may have inspired his "Lucy" poems, and accompanied him on a walk through an ancient Welsh abbey on the banks of the River Wye. For ten points each,

Name this English writer who included a poem about "Tintern Abbey" in the collection *Lyrical Ballads*, on which he collaborated with Samuel Taylor Coleridge.

ANSWER: William **Wordsworth**

"Lake Poets" like Wordsworth and Coleridge were members of this nineteenth-century poetic movement, which favored dreamy fantasy settings and natural imagery. Members of this movement reacted to neoclassicism by emphasizing intuition and emotion, rather than reason, in their work.

ANSWER: English **Romanticism** (accept word forms like **Romantics** or **Romance**)

Wordsworth wrote that he "saw a crowd, / a host, of golden daffodils" in a poem that begins, "I wandered lonely as" one of these meteorological objects. Another Romantic poet, Percy Shelley, wrote that these things "bring fresh showers for the thirsting flowers" and "laugh as [they] pass in thunder."

ANSWER: **clouds** (accept I Wandered Lonely as a **Cloud**; accept The **Cloud**)

(16) The Madelung rule dictates the order in which these entities are filled, and the Aufbau principle notes that lower-energy ones must be filled before higher-energy ones. For ten points each,

Name these regions surrounding an atom that are occupied by electrons.

ANSWER: atomic **orbitals** (accept electron **shells**)

The orbital with the lowest energy level holds up to two electrons and is labeled by this letter; larger orbitals are labeled p, d, and f.

ANSWER: **s** (accept **1s**, **1s<sup>1</sup>**, or **1s<sup>2</sup>**)

This element has the simplest electron configuration,  $1s^1$ ; accordingly, it also has the lowest atomic number.

ANSWER: **hydrogen** (accept **H**)

(17) The religion of ancient Egypt changed dramatically over time, leading to some complicated relationships between the gods. For ten points each,

Name this sister-wife of the undead god Osiris, who put her husband back together after Set cut him into pieces.

ANSWER: **Isis** (accept **Aset**)

This god was usually the son of Isis and Osiris, but in other myths, he was Isis's husband instead. This falcon-headed god was sometimes syncretized with Ra as "Ra-Horakhty," and his eye was symbolically known as the Wedjat.

ANSWER: **Horus**

Horus's sons are described either as the children of Isis or of this goddess of motherhood and the sky, who is often depicted with the horns or head of a cow.

ANSWER: **Hathor**

(18) This novel's protagonist is sent to Room 101 to face his worst fear after becoming a dissident. For ten points each,

Name this novel, in which Winston Smith is seduced by Julia and eventually proclaims his love for the ever-present Big Brother.

ANSWER: **Nineteen Eighty-Four**

*Nineteen Eighty Four* was written by this British author of *Animal Farm*.

ANSWER: George **Orwell** (accept Eric Arthur **Blair**)

Orwell's short story collection *Burmese Days* includes a short story about "Shooting [one of these animals]." In a short story by Hemingway, hills near the Ebro River in Spain are compared to white ones of these animals.

ANSWER: **elephants**

(19) For ten points each, answer the following about the equation  $y$  equals the square root of the quantity  $x$  minus 4.

If  $x=3$ , then  $y$  equals the square root of negative 1, a number often symbolized  $i$ . Thus,  $y$  is this type of non-real number.

ANSWER: **imaginary** number (accept **complex** number)

Treating the equation as a function, this set will be "all real numbers greater than or equal to 4," because any numbers less than 4 don't provide real outputs. A corresponding set, called the range, will be "all real numbers greater than or equal to 0," because those are the real outputs that can be delivered by the function.

ANSWER: **domain**

The graph of this equation passes through which quadrant or quadrants of the Cartesian plane? The line  $y$  equals  $x$  passes through the third quadrant and this quadrant.

ANSWER: **first** quadrant only (accept Quadrant **I** **[one]** only)

(20) Nine years after this event, Saigo Takamori led a rebellion of unemployed warriors from Satsuma against the new government. For ten points each,

Name this 1868 event in which an imperial system was restored to power, replacing the Tokugawa Shogunate.

ANSWER: **Meiji** Restoration

The Meiji Restoration revamped political power in this Asian country, where shoguns had ruled for several centuries.

ANSWER: **Japan**

This class of noble Japanese warriors was gradually stripped of power and privileges after the Meiji Restoration. Saigo Takamori is often considered the "last" of these warriors for his leadership in the Satsuma Rebellion.

ANSWER: **samurai**