

Round 4

First Half

(1) **One type of this device contains graphite intercalated with lithium. The Daniell cell was a precursor to these devices. A basic one of these devices can be made by sticking a nail and a penny into a lemon. The first of these devices to be invented was a stack of (*) copper and zinc discs separated by brine soaked cloth, as invented by Alessandro Volta. For ten points, name these devices that use chemical reactions to generate electrical energy, which can come in AAA [triple A] or AA [double A] varieties.**

ANSWER: battery (prompt on electrochemical cell)

(1) Some objects may look like normal rocks but are actually hollow bodies filled with crystalline deposits. For ten points each,

Name these small geological structures that are spherical or oblong masses of mineral deposits, usually quartz.

ANSWER: geodes

Unlike geodes, nodules are solid mineral rocks. One example is this multi-colored stone of chalcedony silicon dioxide that is often sliced and polished.

ANSWER: agate

Geodes like to form in this type of igneous rock, formed when lava cools quickly at the surface, though not necessarily as quickly as obsidian. This type of rock is particularly common on the ocean floor.

ANSWER: basalt

(2) **The second movement of this composer's final symphony is a "limping waltz" in five-four time. He called for a carillon in a piece written for the commemoration of the Cathedral of Christ the Savior; that piece quotes "La Marseillaise" and "God Save the Tsar," even though neither song would have been heard during (*) Napoleon's invasion of Russia. For ten points, name this composer who died in Saint Petersburg shortly after premiering his *Pathétique* Symphony and whose most popular piece in America is probably the *1812 Overture*.**

ANSWER: Pytor Tchaikovsky

(2) George Bellows painted some “Dwellers” of this geographical feature. For ten points each, Name this steep geographical feature, examples of which Claude Monet painted near the town of Etretat as well as along the Normandy coast of Dieppe.

ANSWER: cliff

Keystone Cliffs was one of the names given to Mount Rushmore before a prospecting expedition by Charles Rushmore. Mount Rushmore features four presidents on it sculpted by this Danish-American sculptor.

ANSWER: Gutzon (de la Mothe) Borglum

A cliff named for a thousand of these figures is located near Libu Village and was sculpted mostly during the Tang Dynasty. The Tang Dynasty’s encouragement to convert to Taoism made carving statues of these figures a political risk.

ANSWER: buddha (accept Buddharupa)

(3) **The title character of this work shows himself as a beast, a lovely lady, a ball of fire, and a giant head on a marble throne. The Soldier with the Green Whiskers tells the protagonist of this work that (*)** Glenda may be able to help her return home. The protagonist discovers the Winged Monkeys sent by an evil witch, cannot leave the Emerald City. A cyclone takes the protagonist away from Kansas in, for ten points, what children’s book by L. Frank Baum, detailing Dorothy Gale’s adventures in the land of the Munchkins?

ANSWER: The Wonderful Wizard of Oz

(3) Palamedes tricks this man by placing his infant son in front of a plough. For ten points each, Name this hero who returns to his son, Telemachus, and his wife, Penelope, after a long journey home from the Trojan war in a namesake epic by Homer.

ANSWER: Odysseus (accept Ulysses)

After returning from his journey, Odysseus finds that Penelope has not remarried because she cleverly delayed finishing making Odysseus’s burial shroud on one of these structures.

ANSWER: weaving loom

While on his journey, Odysseus tricks the Cyclops Polyphemus by claiming that this word is his name.

ANSWER: nobody (or outis)

(4) **This mythological figure wept red-gold tears in the absence of Odr, and transformed the mortal Ottar into a “battle-boar” called Hildisvini. This goddess slept with four dwarves to gain her most famous belonging, and she appeared at Baldr’s funeral in a chariot pulled by (*)** cats. She lent her cloak of feathers to Loki to allow him to fly, and lent Thor her famed necklace, Brisingamen, so he could impersonate this powerful Vanir goddess. For ten points, name this Norse goddess of love and beauty.

ANSWER: Freyja [FRAY-yah] (do not accept “Frey” or “Freyr” or “Frigga”)

(4) Answer some questions about figures who were told by divinities that they would have children, for ten points each.

The Gospel of Luke begins with the Annunciation, in which the angel Gabriel tells this woman that she would conceive the Son of God.

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

The angel Gabriel also told the elderly Zechariah that his wife, Elizabeth, would give birth to this man, who was eventually beheaded at the request of Salome.

ANSWER: John the Baptist

God appeared in the form of three men to tell this woman that she would have a baby in her old age, and rebuked her for laughing at the idea.

ANSWER: Sarah (or Sarai)

(5) **This man is believed to have ordered the assassination of Sergey Kirov; either way, he reacted to it by ordering Nikolai Yezhov of the NKVD to purge hundreds of thousands of people. This man's successor gave a speech attacking the (*) NKVD and denouncing the personality cult that had developed around this man; that "Secret Speech" was delivered by Nikita Khrushchev. For ten points, name this Russian dictator who led the Soviet Union during World War II.**

ANSWER: Joseph Stalin

(5) American involvement in this war began with the defensive Operation Desert Shield and progressed to the offensive Desert Storm. For ten points each,

Name this 1990-91 war in which an American-led coalition defeated the forces of Saddam Hussein.

ANSWER: Persian Gulf War (or First Gulf War; accept First Iraq War; do not accept or prompt on "Iraq War" alone)

The Persian Gulf War targeted this country, which had gained international condemnation after invading Kuwait.

ANSWER: Iraq

During the Persian Gulf War, Iraqi Highway 80 was given this nickname due to heavy bombing attacks on retreating Iraqi forces.

ANSWER: Highway of Death

(6) **In metaphase I, homologous versions of these structures cross over. These structures condense from replicated DNA wrapped around histones during prophase. These structures' identical halves are separated by spindle fibers connected to the kinetochores by the (*) centromere in anaphase. For ten points, name these gene-containing structures distributed between daughter cells during mitosis and meiosis, of which humans have 46, including X and Y.**

ANSWER: chromosomes

(6) This man legendarily ran naked through the streets of Syracuse after solving a puzzle regarding a possibly-golden crown. For ten points each,

Name this ancient Greek scientist who also supposedly invented a heat ray and a screw that lifts water.

ANSWER: Archimedes of Syracuse

The aforementioned crown puzzle was solved by Archimedes' observation of this type of force exerted on an object that is submerged in a fluid. This force keeps floating objects afloat.

ANSWER: buoyancy (accept word forms like buoyant force)

After making that observation, Archimedes is said to have shouted this Greek word, which translates to "I have found it!"

ANSWER: Eureka!

(7) This singer used "Scrambled Eggs" as placeholder text in one song. Though this man wasn't sure, his bandmate approved of this man's lyric "the movement you need is on your shoulder." Twitter exploded over this artist's 2015 "debut" with Kanye West and (*) Rihanna, "FourFiveSeconds," though he topped 27 times with his first band. "Yesterday" and "Hey Jude" were sung by, for ten points, what bass guitarist who was a member of the Beatles with Ringo, George, and John?

ANSWER: Paul **McCartney** (prompt on "Paul" after the tossup as finished, as it makes it sound like we might accept just the first name this time; we aren't, though)

(7) Netflix "Original" series are original...sometimes. For ten points each,

The first Netflix original series was this political thriller, a remake of a British series in which Kevin Spacey plays Frank Underwood, who uses his charisma to work his way from representative to President of the United States.

ANSWER: House of Cards

Netflix produced a fourth season of this prematurely-cancelled cult comedy series starring Jason Bateman and Michael Cera. It centers around the antics of a wealthy family who lost everything and the one son who had no choice but to keep them all together.

ANSWER: Arrested Development

Candace Cameron Bure [buh-ray] reprises her role as D.J., but neither Mary-Kate nor Ashley Olsen return to play Michelle Tanner, in a 2016 sequel to a family-friendly sitcom set in San Francisco. We'll accept either the original or the revival title.

ANSWER: Fuller House

Sixty Second Rounds

The categories are ...

1. The Sounds of Poetry
2. The Roman Empire
3. Halogens
4. Richard Wagner

THE SOUNDS OF POETRY

The sounds of poetry can be as important as the message. Name the poetry term that...

(1) Describes a pair of words that sound alike, such as “rain” and “Spain.”

ANSWER: rhyme (accept word forms)

(2) Is used to represent or imitate a sound such as “Pow!” or “Boom!”

ANSWER: onomatopoeia [ON-oh-MAH-toh-pee-ah] (be lenient with pronunciation)

(3) Is a repeated line or phrase used throughout a poem.

ANSWER: refrain

(4) Is the occurrence of the same sound or letter in closely connected words.

ANSWER: alliteration

(5) Is the repetition of identical vowel sounds in nearby words.

ANSWER: assonance

(6) Is a mixture of harsh and inharmonious sounds such as “I detest war because cause of war is always trivial.”

ANSWER: cacophony

THE ROMAN EMPIRE

Name the...

(1) Modern country in which Rome is the capital.

ANSWER: **Italy**

(2) Sea it controlled, which separates Europe from Africa.

ANSWER: **Mediterranean** Sea (or Mare **Nostrum**)

(3) High-status social class, contrasted with the plebeians.

ANSWER: **patricians**

(4) The region of modern France that was conquered by Julius Caesar.

ANSWER: **Gaul** or **Gallia**

(5) The third of the Five Good Emperors, who names a wall in northern England.

ANSWER: **Hadrian** (or Publius Aelius **Hadrianus** Augustus; accept **Hadrian's** Wall)

(6) The number of emperors who ruled during 69 AD, the last of whom was Vespasian. Diocletian separated the empire in this many parts.

ANSWER: **four** (accept Year of the **Four** Emperors)

HALOGENS

Name the...

(1) Halogen element with atomic symbol Cl.

ANSWER: chlorine (do not accept chloride)

(2) Group of elements to the right of the halogens on the periodic table.

ANSWER: Noble Gases (or Inert Gases; accept Group 18)

(3) Number of valence electrons that each halogen has.

ANSWER: 7

(4) Phase of matter in which bromine exists at STP.

ANSWER: liquid

(5) Property, defined as an atom's tendency to attract electrons, for which fluorine has the highest value.

ANSWER: electronegativity

(6) Heaviest halogen, the last naturally occurring element to be discovered.

ANSWER: Astatine (accept At)

RICHARD WAGNER

In the career of composer Richard Wagner [vahg-ner], name the...

(1) Language in which he wrote the libretto for *Lohengrin*.

ANSWER: **German**

(2) Song from *Lohengrin* whose four-note opening motif traditionally signals that a wedding is to begin.

ANSWER: **Bridal Chorus** (or **Here Comes the Bride** or **Treulich geführt**)

(3) Title creatures of part 3 of the *Ring* cycle, which “Ride” in a famous instrumental.

ANSWER: **Valkyries** (accept **Ride of the Valykries**; accept Die **Walkure** [vall-koor])

(4) River whose gold is used to forge the Ring of the Nibelung in part one of the cycle.

ANSWER: **Rhine** River (accept Das **Rheingold**)

(5) Man loved by Isolde in an 1865 Wagner opera.

ANSWER: **Tristan** (accept **Tristan and Isolde**)

(6) Opera that ends with the title singer’s death with Elizabeth and a priest’s staff growing leaves.

ANSWER: **Tannhauser**

Second Half

(8) Residents of this country were evacuated following the Runaway Scrape, which was partially driven by the Goliad Massacre. Mirabeau Lamar fought for this country during the Battle of San Jacinto. Jim Bowie and Davy Crockett were killed after a building here was besieged. James (*) K. Polk annexed this state in 1845, nine years after Santa Anna attacked the Alamo. For ten points, name this state whose major figures include Stephen F. Austin and Sam Houston.

ANSWER: Republic of Texas

(8) This emperor was buried with a terracotta army that was probably surrounded by a moat made of mercury. For ten points each,

Name this leader who established imperial rule out of the chaos of the Warring States period.

ANSWER: Qin Shi Huangdi

Qin Shi Huangdi was responsible for standardizing this language into seal script. The Oracle Bones show ancient examples of this language, whose most common modern variant is Mandarin.

ANSWER: Chinese

Qin Shi Huangdi's reign ended the Hundred Schools of thought by destroying many books in this manner. Savonarola destroyed the "Vanities" in a similar fashion.

ANSWER: burning (accept descriptions; accept Bonfire of the Vanities)

(9) This is the minimum number of points that are not coplanar. This is the largest number of intersections of two ellipses. There are this many distinct powers of the constant i , and a tesseract has this many dimensions. An integer is divisible by this number exactly when its last (*) two digits are also divisible by this number. The x - and y -axes split a plane into this many quadrants. For ten points, name this smallest positive composite number, the square of two.

ANSWER: four

(9) Answer the following about the quadratic formula, as usually stated for equations of the form y equals $a x$ squared plus $b x$ plus c , for ten points each.

The formula sets x equal to an expression that, when evaluated, finds these values for the quadratic equation. These values tell where the function intersects a certain feature when graphed.

ANSWER: x-intercept (or roots or solutions to the equation, function, etc.)

In the quadratic formula, this name is applied to the b squared minus $4ac$ term. The sign of this quantity allows you to tell whether the equation has real solutions.

ANSWER: discriminant

The formula sets x equal to negative b plus or minus the square root of the discriminant, all divided by this expression in the denominator of the formula. This doesn't have a name; we're looking for the actual expression in the denominator of the formula.

ANSWER: 2 times a

(10) **After this work's title event, the protagonist discovers he no longer enjoys bread and milk, and he protests the removal of a picture of a woman in a fur hat and muff from his bedroom. In this work, three full-bearded boarders listen to violin music played by (*) Greta, but leave when they are horrified by the protagonist, who develops the habit of crawling on the walls and ceiling. Gregor Samsa is transformed into an insect-like monster in, for ten points, what novella by Franz Kafka?**

ANSWER: The Metamorphosis (or Die Verwandlung)

(10) Francis Cugat designed this novel's cover, which may have inspired its author to write about the eyes of Doctor T.J. Eckleburg. For ten points each,

Name this novel in which the title character moves to West Egg to pursue his love, Daisy Buchanan.

ANSWER: The Great Gatsby

The Great Gatsby was written by this Lost Generation writer, who also wrote *This Side of Paradise*.

ANSWER: Francis Scott Key Fitzgerald

The Great Gatsby is narrated by this character Gatsby's neighbor, who declares that he is one of the "few honest people" that he has ever known.

ANSWER: Nick Carraway (accept either underlined name)

(11) **Islands in this body of water include Gotland and Oland, the latter of which is a short drive away from Kalmar. In the late Middle Ages, the Hanseatic League dominated trade in this body of water from port cities like (*) Konigsberg and Danzig. Arms of this sea include the Gulf of Bothnia and the Gulf of Finland. For ten points, name this sea that borders Estonia, Latvia, and Lithuania in northern Europe.**

ANSWER: Baltic Sea

(11) This system was explained in a “Critique of Political Economy” published two decades after its author criticized how this system creates a class struggle between the proletariat and bourgeoisie. For ten points each,

Name this economic system that generally encourages private economic development in a free market.

ANSWER: capitalism

This German philosopher explained capitalism in *Das Kapital* and collaborated with Friedrich Engels on *The Communist Manifesto*.

ANSWER: Karl Marx

This other German philosopher discussed how capitalism grew out of the Protestant work ethic in northern Europe in *The Protestant Ethic and the Spirit of Capitalism*.

ANSWER: Max Weber

(12) **In 1932, farmers in this country requested soldiers with Lewis machine guns to hunt birds that were eating crops. Two months after Pearl Harbor, the Japanese fleet raided this country’s city of Darwin. In 1770, James Cook landed at Botany Bay, the first (*) European contact with what is now this country. The Emu Wars took place in, for ten points, what country whose forces fought at Gallipoli in ANZAC with armies from neighboring New Zealand?**

ANSWER: Australia

(12) These people were defended by England during the Siege of La Rochelle. For ten points each,

Name these people whose religious liberty was upheld in the Edict of Nantes.

ANSWER: **Huguenots** (prompt on French people; prompt on, but do *not* otherwise reveal, “Protestants” or “French Protestants”)

The Huguenots were followers of John Calvin, a member of this movement that caused people to split from the Catholic Church in the 16th and 17th centuries.

ANSWER: Protestantism

The rights of the Huguenots were revoked in the Edict of Fontainebleau, which was issued by this king. This “Sun King” was the first to rule primarily from Versailles [VAIR-sigh].

ANSWER: Louis XIV [the fourteenth]

(13) **Early in this novel, a move to Netherfield Park sparks discussions of marriage. Charlotte Lucas marries the clergyman Mr. Collins, who works for Lady Catherine de Bourgh in this novel. Mr Wickham makes advances on one character’s niece and runs away with (*) Lydia, and Mr. Bingley ends up marrying the protagonist’s sister Jane. The protagonist of this work initially rejects, but ends up accepting, the proposal of Mr. Darcy. For ten points, name this novel about Elizabeth Bennet, written by Jane Austen.**

ANSWER: Pride and Prejudice

(13) This character disappears in *The Lost Hero*. For ten points each,

Name this oft-expelled kid, the son of Sally and Poseidon in a series of young-adult novels.

ANSWER: Perseus “Percy” Jackson (accept any combination of one or more names)

This author created the Percy Jackson series.

ANSWER: Rick Riordan

This third five-part series of the Percy Jackson saga is currently in production. It began with *The Hidden Oracle*, released earlier this month, and focuses on an Olympian who was made mortal by Zeus.

ANSWER: The Trials of Apollo

(14) **This planet has the coldest atmosphere in the solar system. Water, ammonia, and methane ices make up this cyan-blue ice giant, which has a tilted magnetosphere and a sideways axis of rotation surrounded by vertical rings. This planet’s 27 moons are named for (*)** characters from Alexander Pope and Shakespeare works. William Herschel discovered, for ten points, what planet that is orbited by Titania, the third-largest and seventh-farthest planet from the Sun?

ANSWER: Uranus

(14) When these organisms “bloom,” their population rapidly increases, causing red tides and asphyxiating marine life. For ten points each,

Give this term for small marine organisms that use photosynthesis, including diatoms, kelp, and chlorophyta.

ANSWER: algae

Some algae are classified as the phyto- type of these organisms, which can’t swim against the current and serve as a food source for many fish and whales.

ANSWER: phytoplankton

Algae blooms are blamed on, among other factors, the overuse of this agricultural aid, whose nitrogen and phosphorus fuels the bloom. Manure is used as a natural form of this material.

ANSWER: fertilizer

Extra Question

Only read if you need a backup or tiebreaker!

(15) **The 1908 Olympics were moved after a disaster at this location required recovery funding. Spartacus opened the Third Servile War at this location by flanking Gaius Claudius Glaber near its cliffs. The city of Stabiae lies southeast of this mountain, and (*) Herculaneum lies southwest of it; both were destroyed in an event that killed Pliny the Elder. For ten points, name this Italian volcano whose 79 AD eruption buried the city of Pompeii.**

ANSWER: Mount Vesuvius

QUESTION ewline