

Round 2

First Half

(Tossup 1) **This ruler created a secret law code called the Yassa to govern his empire. Upon his death, this man was succeeded by his third son Ogedei. This man's grandson, (*)** Kublai, established the Yuan Dynasty after conquering China. This man used skilled archers mounted on horseback to create a massive Eurasian empire. For ten points, name this Great Khan who created the Mongol Empire.

ANSWER: Genghis Khan (accept Temujin)

(Bonus 1) This country was led by Saddam Hussein until he was overthrown in 2003. For ten points each, [Part A] Name this Middle Eastern country that was invaded by a UN coalition in 1990 after it invaded Kuwait.

ANSWER: Iraq

[Part B] Iraq invaded Kuwait after a dispute over this resource. After the intervention of the United Nations, Iraq burned hundreds of wells dedicated to drilling for this resource while retreating.

ANSWER: oil (accept petroleum; prompt on fuel)

[Part C] The United Nation coalition's invasion of Iraq started a war named for this body of water. In 1988, Iran and Iraq repeatedly attacked each others oil tankers in this body of water.

ANSWER: Persian Gulf (accept Gulf of Fars; accept Xalij-e Fars)

(Tossup 2) **A character created by this author debuted alongside her nephew, Raymond West, in the story "The Tuesday Night Club." In a novel by this author, a man investigates Emily Inglethorp's poisoning by (*)** strychnine. Arthur Hastings narrates this writer's novel *The Mysterious Affair at Styles*. Jane Marple and Hercule Poirot are creations of, for ten points, what British dame and author of mystery fiction?

ANSWER: Dame Agatha Christie (or Agatha Mary Clarissa Christie; accept Lady Mallowan)

(Bonus 2) For ten points each, answer the following about works of literature in the *Harry Potter* universe.

[Part A] This woman created Harry Potter and wrote the seven books that comprise the primary series.

ANSWER: J.K. Rowling (or Joanne Rowling)

[Part B] Rowling created this guide book to the magical creatures that appear in the Harry Potter series while writing under the pen name Newt Scamander.

ANSWER: Fantastic Beasts and Where to Find Them

[Part C] This play by J.K. Rowling and Jack Thorne opened in 2015, and is sometimes considered to be the eighth Harry Potter story. It describes an adventure during the school lives of the children of Harry and his friends.

ANSWER: Harry Potter and the Cursed Child

(Tossup 3) **This philosopher argued that all unjust actions are motivated by pleonexia, or greed and avarice. This philosopher defined mankind as the political animal and discussed the nature of the soul in the tract (*) *De Anima*. This philosopher's works on logic are collected in the *Organon*. This philosopher wrote a book on ethics named for his son, the *Nicomachean Ethics*. For ten points, name this student of Plato.**

ANSWER: Aristotle

(Bonus 3) Answer some questions about the 2020 Democratic nominees for President. For ten points each,

[Part A] This former vice president under Barack Obama was widely considered the frontrunner after declaring his candidacy. This man was widely ridiculed for suggesting coal miners should just learn to code.

ANSWER: Joseph "Joe" Biden

[Part B] This senator from Massachusetts has gained a large following behind the slogan "I have a plan for that." In January, this politician became embroiled in a feud with fellow candidate Bernie Sanders.

ANSWER: Elizabeth Warren

[Part C] This entrepreneur centered his campaign around his "Freedom Dividend", a form of basic universal income.

ANSWER: Andrew Yang

(Tossup 4) **Plato proposed two forms of this goddess, the Ourania and the Pandemos, to reconcile conflicting accounts of her parentage; Homer claimed this goddess was the daughter of Dione and Hesiod claimed she was born from (*) sea foam. This goddess was the lover of Ares, the wife of Hephaestus, and the mother of Eros, the personification of physical affection. For ten points, name this Greek goddess of love and beauty.**

ANSWER: Aphrodite (prompt on Venus)

(Bonus 4) This god tricked his brother into lying in a box that he threw into the Nile. When his murder attempt failed, he dismembered his brother and scattered his body parts across Egypt. For ten points each,

[Part A] Name this Egyptian trickster god, the brother of Osiris.

ANSWER: Set (accept Seth)

[Part B] After Set dismembered Osiris, this goddess, Osiris's wife and sister, traveled through Egypt to reassemble his body.

ANSWER: Isis (accept Ase or Ast; accept Use or Uset)

[Part C] Because of his struggle with Set and reassembly by Isis, Osiris became the god of the dead and resurrection. As a result, this falcon-headed son of Osiris became the primary enemy of Set in the realm of the living.

ANSWER: Horus (accept Hor; accept Heru)

(Tossup 5) **The Queen Alexandra's birdwing is the largest known type of these animals. One of these animals gains a foul taste from eating milkweed as a larva. That one of these animals is mimicked by the (*) viceroy one of these animals. The monarch form of these animals makes a yearly migration from the United States to Mexico. For ten points, name these insects that, like moths, develop from caterpillars.**

ANSWER: butterfly (accept butterflies)

(Bonus 5) Leon Foucault used one of these devices to demonstrate the rotation of the earth. For ten points each,

[Part A] Name these devices, the simplest of which is a mass on a string. Their consistent motion makes them a useful device for timekeeping.

ANSWER: pendulums

[Part B] This adjective describes a pendulum used to measure the velocity of a projectile. This word is also refers to the field of studying the motion of projectiles.

ANSWER: ballistics

[Part C] A pendulum can be approximated as one of these ideal systems which experience a restoring force proportional to their displacement. A spring also behaves as one of these systems.

ANSWER: simple harmonic oscillator (prompt on oscillator)

(Tossup 6) **This ruler wrote the *Defense of the Seven Sacraments* which led to Leo X [the tenth] granting him the title “defender of the faith.” Mary I [the first] rose to the throne due to a power vacuum caused by the death of Edward VI [the sixth], this man’s son with (*) Jane Seymour. The Church of England was established by this ruler after the Pope refused to allow him to annul his marriage to Catherine of Aragon. For ten points, name this English king who had six wives.**

ANSWER: Henry VIII (prompt on Henry)

(Bonus 6) This state’s panhandle is home to cities such as Lubbock and Amarillo. For ten points each, [Part A] Name this state, which names a “Triangle” formed by the cities of Houston, San Antonio, and the Dallas-Fort Worth metroplex.

ANSWER: Texas

[Part B] Despite the name, the Texas Triangle also includes this 4th largest city in Texas. This city serves as the capital of Texas and is expected to reach 1 million residents in 2020.

ANSWER: Austin

[Part C] This is the largest Texan city not included in the Texas Triangle. This home town of Beto O’Rourke lies across the Mexico border from Ciudad Juarez.

ANSWER: El Paso

(Tossup 7) **A trapezoid divided three ways is central to James Garfield’s proof of this statement. Calculations of the distance formula take the same form as this statement, which is a specific case of the law of cosines. Sets of numbers like (*) “5, 12, and 13” are “triples” that satisfy, for ten points, what theorem relates a right triangle’s side lengths as “a squared plus b squared equals c squared?”**

ANSWER: Pythagorean Theorem

(Bonus 7) An Art of Problem Solving forum post from 2003 led a “trick” for this process on polynomials of the form $x^2 + y^2 + xy + 1$ to be named after Simon Rubinstein-Salzedo. For ten points each,

[Part A] Name this process which, for a polynomial, reduces it to the product of irreducible polynomials.

ANSWER: factoring or factorization

[Part B] According to this statement, any integer greater than 1 is either prime or has a unique prime factorization.

ANSWER: Fundamental Theorem of Arithmetic (prompt on partial answers)

[Part C] Any polynomial of the form $x^2 - y^2$ [x squared minus y squared] may be factored into this convenient form. Give you answer in terms of x and y.

ANSWER: (x+y)(x-y) (accept the quantity x plus y, close quantity, times the quantity x minus y; the two quantities may be given in either order; “y plus x” is ok, but “y minus x” is not)

(Tossup 8) **The expression of this painting’s central figure may have been inspired by a Peruvian mummy. The sighting of nacreous clouds or the eruption of Krakatoa may have inspired this painting’s red sky. Two figures walk away from the viewer along a (*) railing in the background of this painting, behind an anguished central figure. For ten points, name this painting of a bald human holding his face and performing the title action, created by Edvard Munch.**

ANSWER: The Scream of Nature (accept Der Schrei der Natur; accept Skrik or Shriek)

(Bonus 8) Answer the following questions about paintings of women created by Leonardo da Vinci. For ten points each,

[Part A] This painting housed in the Louvre, frequently described as having an “enigmatic smile,” is likely a portrait of the wife of Francesco del Giocondo.

ANSWER: Mona Lisa (accept La Gioconda)

[Part B] Leonardo created two paintings of this woman sitting with her toddler son in a rocky landscape as he accepts the recognition of a toddler John the Baptist.

ANSWER: Mother Mary (accept Madonna of the Rocks or Virgin of the Rocks; accept Virgin Mary)

[Part C] A portrait of Cecilia Gallerani created by Leonardo shows her holding one of these small mammals, whose white fur may have symbolized purity.

ANSWER: ermine (accept Lady with an Ermine)

Sixty-Second Rounds

The categories are ...

1. Narnia
2. American Slavery
3. Cells

NARNIA

Name the...

(1) Type of animal, like Aslan, that titles the first Chronicle of Narnia along with a witch and a wardrobe.

ANSWER: lion (accept The **Lion**, the Witch and the Wardrobe)

(2) Author of *The Chronicles of Narnia*.

ANSWER: C.S. Lewis (or Clive Staples **Lewis**)

(3) Type of talking animal who take the Pevensie children to Aslan.

ANSWER: Beaver (accept Mr or Mrs **Beaver**)

(4) Season that the White Witch permanently maintains to keep control over the land of Narnia.

ANSWER: winter

(5) Youngest of the Pevensie children, a girl who is the first to enter Narnia.

ANSWER: Lucy Pevensie

(6) Ship whose 'Voyage' titles the third chronicle of Narnia.

ANSWER: Dawn Treader (accept The Voyage of the **Dawn Treader**)

AMERICAN SLAVERY

Name the...

(1) Capital of the United States that abolished its slave trade as part of the Compromise of 1850.

ANSWER: Washington, DC

(2) Cash crop grown in the South that was commonly picked by slaves.

ANSWER: cotton

(3) Amendment, passed in 1865, that made slavery illegal except as punishment for a crime.

ANSWER: 13th Amendment

(4) 1863 decree by Abraham Lincoln that freed slaves in rebellious territories.

ANSWER: Emancipation Proclamation

(5) Midwestern state, the subject of a namesake compromise, that was allowed to join the Union in 1820 with Maine.

ANSWER: Missouri

(6) 1787 compromise made at the Constitutional Convention that determined slaves would only partially count towards a state's population.

ANSWER: Three-Fifths Compromise

CELLS

Name the...

(1) Tool used by Robert Hooke, and countless students since, to observe cells

ANSWER: microscopes

(2) Organelle that stores a eukaryotic [yoo-carry-ot-ik] cell's genome; it shares its name with the center of an atom.

ANSWER: nucleus

(3) Outer boundary of animal cells; plant cells feature a cell wall surrounding this region.

ANSWER: cell membrane (accept plasma membrane)

(4) "Powerhouse" of the cell, an organelle that generates ATP to provide energy for the cell.

ANSWER: mitochondria (or mitochondrion)

(5) Single-cell organisms that are one of the three domains of life, with Archaea [ar-KAY-uh] and Eukaryotes [you-carry-otes]

ANSWER: Bacteria

(6) Sites of protein synthesis, found floating in the cytoplasm or on the rough E.R.

ANSWER: ribosomes

Second Half

(Tossup 9) **The triboelectric effect occurs when this force transfers charge. This force is proportional to the load according to Amonton's laws. This force equals mu times the (*) normal force. Increases in this force cause increases in the drag force. This force comes in static, and kinetic varieties. Lubricants are used to reduce this force. For ten points, name this force that resists motion between two surfaces.**

ANSWER: friction

(Bonus 9) Plumes in this region are the proposed origin of islands such as Hawaii and Iceland. For ten points each,

[Part A] Name this thickest layer of the earth, which sits directly below the crust.

ANSWER: mantle

[Part B] The top layer of the mantle, the asthenosphere, is highly fluid, allowing for these subunits of the crust to move, causing earthquakes.

ANSWER: tectonic plates (accept continental plates)

[Part C] The movements of plates can sometimes result in this process, where one plate is forced beneath another and into the asthenosphere and mantle.

ANSWER: subduction

(Tossup 10) **This ritual includes the collection of pebbles at Muzdalifah for the stoning of the devil, and must be carried out during the month of Dhu al-Hijjah, unlike the shorter Umrah. This journey includes a run between (*) Safa and Marwa and a walk seven times around the Ka'aba. For ten points, name this journey to Mecca that all able-bodied Muslims must make.**

ANSWER: Hajj (accept Umrah until "Dhu al-Hijjah" is read; prompt on descriptions like "pilgrimage to Mecca")

(Bonus 10) This biblical figure led the Israelites through the desert for forty years as a punishment for their refusal to enter the land of Canaan. For ten points each,

[Part A] Name this man who called down ten plagues before leading the exodus from Egypt.

ANSWER: Moses (accept Moshe; accept Musa)

[Part B] Moses was succeeded as leader of the Hebrews by this man, who led the conquest of Canaan after the death of Moses.

ANSWER: Joshua (accept Jehoshua; accept Yeshua or Yehoshua)

[Part C] Joshua began the conquest of the promised land of Canaan by defeating this city. This city's walls fell when the Israelites blew rams' horns after walking around this city for seven days.

ANSWER: Jericho

(Tossup 11) **This state contains Moose Flats, a seasonal pond on Isle Royale. The Straits of Mackinac [mack-eh-naw] divide the two main regions of this state. Lake St. Clair separates this city from (*) Ontario. The city of Sault Ste. Marie [soo saint marie] is found in this state's Upper Peninsula. Ann Arbor and Grand Rapids are located in, for ten points, what mitten-shaped Midwestern state home to Detroit?**

ANSWER: Michigan

(Bonus 11) This man was assassinated by Gavrilo Princip. For ten points each,

[Part A] Name this Austro-Hungarian Archduke who was killed, along with his wife Sophie, while in Sarajevo.

ANSWER: Archduke Franz Ferdinand

[Part B] The assassination of Archduke Franz Ferdinand resulted in the July Ultimatum being presented to this Kingdom. In this Kingdom, military officers formed the secretive Black Hand.

ANSWER: Kingdom of Serbia

[Part C] The assassination of Archduke Franz Ferdinand sparked this global conflict that was ended by the Treaty of Versailles.

ANSWER: World War I (accept The Great War)

(Tossup 12) **At the beginning of this novel, the narrator claims that her brother's broken arm was ultimately caused by their Methodist ancestor Simon, or by the Ewell family. This novel's narrator and her brother (*) Jem find strange gifts left for them in the knot of a tree near the Radleys House. Characters in this book include the lawyer Atticus and his daughter, Scout Finch. For ten points, name this novel by Harper Lee.**

ANSWER: To Kill a Mockingbird

(Bonus 12) This novel's narrator is upset to discover that he's the title man's only friend, and tells him he's "worth the whole damn bunch put together." For ten points each,

[Part A] Name this novel whose title character throws lavish parties at his mansion in West Egg in the hopes of meeting Daisy Buchanan.

ANSWER: The Great Gatsby

[Part B] This American author wrote Jazz Age novels like *The Great Gatsby* and *Tender is the Night*.

ANSWER: F. Scott Fitzgerald (accept Francis Scott Key Fitzgerald)

[Part C] After discovering Gatsby's attraction to Daisy, this man, Daisy's husband, accuses Gatsby of acquiring his wealth through bootlegging.

ANSWER: Tom Buchanan (prompt on Buchanan)

(Tossup 13) **This piece begins with cellos and violas playing the hymn “O Lord, Save Thy People.” A cacophonous carillon section in this work is often replaced in concert by tube bells to produce the sound of frantically ringing bells. In this work, (*)** “La Marseillaise” is drowned out by “God Save the Tsar” and the firing of cannons. For ten points, name this overture by Tchaikovsky that commemorates the successful defense against Napoleon’s invasion of Russia.

ANSWER: 1812 Overture (accept The Year 1812)

(Bonus 13) This instrument is played in a transverse form, unlike end-blown instruments like the pan pipes, and it is closed at one end. For ten points each,

[Part A] Name this woodwind instrument that is commonly found in orchestras and concert bands. In *Peter and the Wolf*, an oboe represents a duck and this instrument represents a bird.

ANSWER: flute

[Part B] This smaller relative of the flute sounds an octave higher than a flute.

ANSWER: piccolo

[Part C] A piccolo is prominently heard in the trio section of this American composer’s *The Stars and Stripes Forever*. This man became known as the “March King” for works like *The Liberty Bell March*.

ANSWER: John Philip Sousa

(Tossup 14) **The one of these objects with the shortest orbit is believed to be the origin of Taurids and was first observed by Pierre Méchain. One of these objects named Shoemaker-Levy 9 (*)** collided with Jupiter. The dirty snowball hypothesis predicts the composition of these objects. These objects form tails due to solar wind. For ten points, name these balls of ice and dust that orbit the sun, exemplified by one named for Edmond Halley.

ANSWER: comets

(Bonus 14) This man’s experiments led him to posit the Law of Segregation and the Law of Independent Assortment. For ten points each,

[Part A] Name this Austrian friar whose botany experiments led him to becoming the father of modern genetics.

ANSWER: Gregor Johann Mendel

[Part B] Mendel’s experiments primary focused on these plants of species *pisum sativum*, studying features such as seed shape and pod shape.

ANSWER: peas

[Part C] Later investigations into the nature of heredity were performed by Thomas Hunt Morgan on this common model organism whose scientific name is *Drosophila melanogaster*

ANSWER: fruit fly (prompt on fly or flies)

(Tossup 15) **The ancient region of Kosala in this country is the setting of an epic poem supposedly written by the sage Valmiki. In a poem set in this country, a monkey god helps the title character rescue his kidnapped wife, Sita. The religious texts called the (*) Vedas** from this country were written in its ancient language, Sanskrit. For ten points, name this country where the *Ramayana* is partly set in present-day Uttar Pradesh.

ANSWER: India

(Bonus 15) At the end of this novel, Thomas Marvel tries to decipher the notes left behind by the deceased scientist Griffin, who conducted a series of optical experiments on himself. For ten points each,

[Part A] Name this 1897 novel that shares most of its title with the otherwise unrelated magnum opus of Ralph Ellison.

ANSWER: The Invisible Man (accept Invisible Man)

[Part B] This author of *The Island of Doctor Moreau* wrote *The Invisible Man*.

ANSWER: H.G. Wells (or Herbert George Wells)

[Part C] With Jules Verne, Wells is considered to be one of the pioneers of this literary genre. Along with fantasy, this genre with a two-word name is awarded the Hugo and the Nebula Awards.

ANSWER: science fiction (or sci-fi)

(Tossup 16) **Troops at this battle under Joshua Chamberlain carried out a downhill bayonet charge to defend the Little Round Top. George Meade was criticized for his failure to pursue the losing army at this battle. During this battle, an ill-advised charge on (*) Cemetery Hill** became the “high-water mark of the Confederacy.” Pickett’s Charge occurred during, for ten points, what July 1863 battle in Pennsylvania, the turning point of the Civil War?

ANSWER: Battle of Gettysburg

(Bonus 16) Leaders in what is now this country met at the Charlottetown Conference. For ten points each,

[Part A] Name this country, that upon gaining independence from the United Kingdom in 1867, was divided into the provinces of Quebec and Ontario.

ANSWER: Canada

[Part B] Canada was granted independence by this queen whose namesake era lasted 67 years. During the reign of this queen, she was also named the Empress of India.

ANSWER: Queen Victoria

[Part C] Key in securing the independence of Canada, was this first Prime Minister. This man, who was succeeded by Alexander Mackenzie, dealt with Louis Riel’s Red River Rebellion.

ANSWER: John A. Macdonald

Tiebreakers

(Tossup 17) **This country's region of Palawan is separated from the rest of this country by the Wallace Line. The Moro people of this country are heavily based on this country's island of Mindanao. This country's largest island is home to (*)** Quezon City and is named Luzon. Tagalog is the main language spoken in this country. For ten points, name this southeast Asian archipelago with capital Manilla.

ANSWER: Philippines

(Bonus 17) Six atoms of this element were combined with xenon to form the first discovered noble gas compound. For ten points each,

[Part A] Name this most highly electronegative element, which is also the lightest halogen. Ions of this element are added to drinking water to reduce tooth decay.

ANSWER: fluorine (accept fluoride)

[Part B] After xenon was found to be able to form compounds, this was the next noble gas to have its compounds synthesized. This element is symbolized Kr and its fluoride can be used in laser mediums.

ANSWER: krypton

[Part C] This is the only discovered radioactive noble gas. This gas is produced from the decay of radium and uranium and can contaminate homes in some cases.

ANSWER: radon