

Round 4

First Half

(1) **These particles are the lightest charged leptons, and have a half integer spin. Two of these particles cannot exist in the same orbital with the same spin, according to the (*)** Pauli Exclusion Principle. Atoms that have more or fewer of these particles than of protons have charge, and are called ions. For ten points, name these negatively charged subatomic particles that travel around the nucleus.

ANSWER: electrons

(1) This retrovirus infects and kills T cells, weakening the body's immune response. For ten points each, Name this virus that can lead to acquired immune deficiency syndrome, or AIDS.

ANSWER: HIV (or human immunodeficiency virus)

The HIV virus can easily spread through this process of receiving blood intravenously, though screening has made the rate of such accidental infections exceptionally low in developed countries.

ANSWER: blood transfusion

When HIV infects cells, it copies its RNA genome into the DNA of the host cell, the reverse direction of this genetic process in which DNA is copied into RNA.

ANSWER: transcription (accept reverse transcription)

(2) **This character chides Kitty, Dinah's kitten, by holding it up to a mirror, and she liberates the pig-like child of the Duchess. This girl uses a flamingo to play croquet with the Queen of Hearts. She learns poetry from (*)** Tweedle-Dee and Tweedle-Dum, and follows the mysterious Cheshire Cat. For ten points, name this girl, who has *Adventures in Wonderland* in a pair of books by Lewis Carroll.

ANSWER: Alice Liddell

(2) One of the protagonists of this novel steals an item from Gollum, who refers to that item as “precious.” For ten points each,

Name this fantasy novel about Frodo and Sam’s journey from the Shire with Aragorn and Gandalf to defeat Sauron in Mordor. Two volumes of this novel are *The Two Towers* and *The Return of the King*.

ANSWER: The Lord of the Rings

This English author of *The Hobbit* and *The Silmarillion* wrote *The Lord of the Rings*.

ANSWER: J(ohn) R(onald) R(euel) Tolkien

In 1936, Tolkien gave a lecture subtitled “The Monsters and the Critics” on this Old English epic poem. Tolkien’s translation of this poem about the slayer of Grendel and Grendel’s mother was published in 2014.

ANSWER: Beowulf

(3) **One of these buildings in Cologne took 632 years to complete. The coronation of French monarchs like Henry II took place in one of these building in Reims. They are often oriented east to west, are supported by flying (*) buttresses. and feature a transept and nave forming a cruciform floor plan.** For ten points, name these architecturally impressive Christian places of worship that serve as the seat of a bishop.

ANSWER: cathedrals (prompt on “church;” do not accept “abbeys”)

(3) Hundreds of thousands of settlers traveled along a series of pre-railroad trails to this state’s Willamette Valley in the 19th century. For ten points each,

Name this Pacific Northwest state, where cities like Eugene and Portland flourished with new settlers.

ANSWER: Oregon Trail

The Oregon Trail primarily began in this Midwestern state’s cities of Independence and St. Joseph.

ANSWER: Missouri

An important stop on the trail was Fort Laramie on the North Platte River in this state.

ANSWER: Wyoming

(4) **In 1911, this scientist became the first person to win a second Nobel Prize. Due to contamination, protective clothing must be worn to study this scientist’s archives. The term “radioactivity” was coined by this chemist and (*) her partner, with whom she co-discovered the elements radium and polonium.** For ten points, name this Polish-French chemist, the first woman to win a Nobel Prize.

ANSWER: Marie Curie (or Marie Skłodowska; prompt on “Curie”)

(4) Fred Whipple proposed the “dirty snowball” model for these bodies, suggesting they consist of rock, dust, and ice. For ten points each,

Name these small bodies that appear to sprout “tails” as they approach the Sun.

ANSWER: comet

Perhaps the most famous comet is this one, whose 75-year period and intense brightness make it regularly visible to the naked eye. It last “visited” Earth in 1986.

ANSWER: Halley’s Comet

The *Giotto* and *Vega* probes studied Halley’s Comet in 1986 by flying through this region of gas and dust that surrounds the comet. As a comet approaches the Sun, its force pushes on this mini-atmosphere, creating the comet’s tail.

ANSWER: coma

(5) **In a sequel to this novel, called *Son*, Claire tries to recover her son, who also appears in this book’s sequel *Messenger*. Lily expresses worry in this novel after she becomes upset enough to make a fist, and this novel’s protagonist is dismayed to learn that his father, a (*) Nurturer, “releases” children by giving them lethal injections. In this novel, Jonas escapes a dystopian village on a red sled after becoming Receiver of Memories. For ten points, name this novel by Lois Lowry.**

ANSWER: The Giver

(5) A *Sketch Book* written by this author cites the fictional Dutch historian Diedrich Knickerbocker. For ten points each,

Name this American author who wrote about the schoolteacher Ichabod Crane and the Headless Horseman in “The Legend of Sleepy Hollow.”

ANSWER: Washington Irving

Irving’s *Sketch Book* also includes this short story, whose title character misses the American Revolution when he falls asleep in the Catskills for twenty years.

ANSWER: Rip van Winkle

”The Legend of Sleepy Hollow” and “Rip van Winkle” both appear in *The Sketch Book* of this pseudonym used by Washington Irving.

ANSWER: Geoffrey Crayon

(6) **The apex of the Midcontinent Rift contains the largest of these bodies of water, and by volume, they contain twenty-one percent of Earth’s freshwater. These bodies of water are connected to the Atlantic Ocean by the (*) St Lawrence River, which flows out of Lake Ontario. For ten points, name these interconnected lakes between the United States and Canada, exemplified by Erie and Superior.**

ANSWER: Laurentian Great Lakes

(6) A Van de Graaff generator builds up a high voltage form of this type of electricity. For ten points each,

Name this type of electricity, which exists within, or on the surface of, a material and stays there until a discharge takes place.

ANSWER: static electricity

These objects can retain a static charge because electricity does not flow through them. Some of them, like rubber and plastic, are wrapped around wires as protection.

ANSWER: insulators (accept word forms like insulation)

Static discharge can form this triatomic allotrope of oxygen, which is accompanied by a sharp smell. It's a gas at standard conditions, and can be condensed at very cold temperatures into a blue liquid.

ANSWER: ozone (prompt on O₃)

(7) **Governor Robert Pattison used the state militia during one of these events after Pinkerton detectives were defused. Eugene V. Debs went to prison in 1894 for leading the American Railway Union during one of these events. After air traffic controllers performed this action, Ronald Reagan (*)** fired over 11,000 of them. Homestead, Pennsylvania and Pullman, Illinois were sites of, for ten points, what events in which labor unions refuse to work until conditions are met?

ANSWER: labor strikes (accept additional information)

(7) This document was signed at Runnymede and later annulled by Innocence III. For ten points each, Name this document that limited the power of the monarchy. It was forced on the King of England in 1215.

ANSWER: Magna Carta Libertatum (accept The Great Charter; accept The Greater Charter of Liberties)

The Magna Carta was signed by this king, the son of Henry II and Eleanor of Aquitaine.

ANSWER: John of England (accept John Lackland)

John's refusal to abide by the Magna Carta led to a war with this group of nobles, who had forced the Magna Carta on John. This noble title ranks below count and viscount, but above knights.

ANSWER: barons

Halftime

The categories are ...

1. Literary Animals
2. The War in the Pacific
3. The Night Sky
4. Instruments

LITERARY ANIMALS

Name the character that...

(1) is Frog's best friend in a series of children's books written by Arnold Lobel.

ANSWER: **Toad**

(2) writes messages in her web to a pig named Wilbur.

ANSWER: **Charlotte**

(3) starves to death while watching the prosperous Ant in an Aesop Fable

ANSWER: **Grasshopper** (accept **Cicada**)

(4) is killed by Travis after being infected with rabies in a Fred Gibson work.

ANSWER: **Old Yeller**

(5) is a dark-colored horse created by Anna Sewell that is sold dozens of times.

ANSWER: **Black Beauty** (accept **Darkie**; accept **Black Auster**; accept **Jack**; accept **Blackie**; accept **Old Crony**)

(6) transforms mysteriously into an insect-like "vermin" in *The Metamorphosis*

ANSWER: **Gregor Samsa** (accept either underlined name)

THE WAR IN THE PACIFIC

Regarding the Pacific Theater of World War II, name the...

(1) Hawaiian naval base targeted by a surprise Japanese attack on December 7, 1941.

ANSWER: **Pearl Harbor**

(2) American President who declared that date a “day of infamy” in his speech declaring war on Japan.

ANSWER: **Franklin Delano Roosevelt** (or **FDR**; prompt on Roosevelt)

(3) continent south of New Guinea, where the 1942 Battle of the Coral Sea was fought near the Great Barrier Reef.

ANSWER: **Australia**

(4) island nation where POWs were forced on the Bataan Death March away from Manila Bay.

ANSWER: **Philippines**

(5) the Chinese city, a former British colony across the Pearl River Delta from Macau, where the “Black Christmas” massacre occurred.

ANSWER: **Hong Kong**

(6) 1942 battle, a turning point in which Japan lost the *Soryu*, *Kaga*, and *Akagi* carriers.

ANSWER: Battle of **Midway**

THE NIGHT SKY

Name the...

(1) big cat that the constellation Leo represents.

ANSWER: lion

(2) constellation named for a Greek hunter, whose "belt" includes Alnitak, Alnilam, and Mintaka.

ANSWER: Orion

(3) set of 12 divisions of the celestial sphere, each of which is given a name like Gemini or Capricorn.

ANSWER: Zodiac

(4) seven-star, spoon-shaped constellation whose Latin name means "Great Bear."

ANSWER: Big Dipper or Ursa Major (prompt on Ursa)

(5) the current North Star, which is pointed to by the previous answer.

ANSWER: Polaris

(6) major constellation that includes Aldebaran and the Pleiades.

ANSWER: Taurus

INSTRUMENTS

Which musical instrument...

(1) is a single-reed woodwind usually made of brass, whose alto, tenor, and baritone varieties are in most wind ensembles?

ANSWER: saxophone

(2) was played by Duke Ellington and usually has 88 keys?

ANSWER: piano

(3) is a miniature flute?

ANSWER: piccolo

(4) is a set of large pitched kettledrums?

ANSWER: timpani

(5) was played in jazz and swing bands by Benny Goodman?

ANSWER: clarinet

(6) plays a repetitive ostinato in Maurice Ravel's *Bolero*?

ANSWER: snare drum (do not accept other types of drums)

Second Half

(1) **This author argued that poor Irish people should sell their children to be eaten by rich people in his satirical pamphlet *A Modest Proposal*. The title character of one of his novels visits the sorcerers of Glubbudrib, the giants of (*) Brobdingnag, and the tiny people of Lilliput. For ten points, name this Irish satirist who wrote *Gulliver's Travels*.**

ANSWER: Jonathan Swift

(1) D'Artagnan wants to join this group, whose motto is "All for one, one for all." For ten points each, identify this fictional trio of soldiers that consists of Athos, Porthos, and Aramis.

ANSWER: The Three Musketeers

The Three Musketeers were created by this French author. He also wrote the two sequels *Twenty Years After* and *The Vicomte of Bragelonne*.

ANSWER: Alexandre Dumas, père

This female antagonist of *The Three Musketeers* convinces Felton to free her and kill the Duke of Buckingham. She conspires with Cardinal Richelieu.

ANSWER: Milady de Winter

(2) **The male lead in this work sings "There's something due any day" in his opening song, "Something's Coming." The title of another song in this work is "the most beautiful sound I ever heard," according to a man who "just kissed a girl named (*) Maria." The Capulets and Montagues are replaced with the Jets and Sharks in, for ten points, what musical composed by Leonard Bernstein, an adaptation of *Romeo and Juliet* set in New York City?**

ANSWER: West Side Story

(2) This man built Taliesin West after his workshop in Wisconsin was burned down by his chef. For ten points each,

Name this American architect, who studied under Louis Sullivan and built low-roofed homes like Robie House that complemented the flatlands of Illinois.

ANSWER: Frank Lloyd Wright (or Frank Lincoln Wright)

Wright built Robie House and Taliesin in this architectural style, which focuses on building in harmony with the surroundings. It is named for the flat grasslands that dominated Wright's home in Illinois.

ANSWER: Prairie School

Wright also built this private home in the Prairie School style. This home was built for the Kaufmann family, and is extended over a waterfall on Bear Run.

ANSWER: Fallingwater

(3) **Indra works against the Asuras when he acts as a god of this type, and Ishtar wears a beard in her capacity as a god of this subject. The Greek deity of type was trapped in a (*) golden net while having an affair with Hephaestus's wife, Aphrodite. For ten points, name this type of violent deity, exemplified by the Greek Ares and the Roman Mars.**

ANSWER: Gods of War (accept War Deities)

(3) This man was the older brother of Benjamin, and the firstborn son of Rachel. For ten points each, Name this biblical figure, who was sold into slavery in Egypt when his brothers became jealous of his beautiful coat.

ANSWER: Joseph

Joseph was one of the twelve sons of this Jewish patriarch, who married Rachel and Leah. This man was given the name Israel.

ANSWER: Jacob

Joseph was sold as a slave to this Egyptian captain of the guards, whose wife had Joseph imprisoned on false charges.

ANSWER: Potiphar (accept Potiphera)

(4) **David Race holds the world record for this game, which he set by completing it in 3 hours and 33 minutes. This game is the subject of *The King of Kong*, which follows Steve Wiebe's attempt to reach a (*) "kill screen" and his conflict with Billy Mitchell. A feminine spin-off of this game, released in 1982, features Sue, a replacement for the masculine Clyde. Blinky, Pinky, and Inky appear in, for ten points, what arcade game, whose title character eats pellets while avoiding ghosts?**

ANSWER: Pac-Man (do not accept "Ms. Pac-Man")

(4) As of the start of spring training, Las Vegas named the Chicago Cubs favorites to win this event, which will take place in October 2016. For ten points each,

Name this annual event, the final round of the MLB playoffs.

ANSWER: World Series

Though they didn't win their division, the Cubs made the playoffs in 2015 as this type of playoff team. The Pittsburgh Pirates were the other National League team to make the playoffs in this fashion, but the Cubs defeated the Pirates in a one-game playoff round.

ANSWER: wild card team

The Cubs won the 2015 NL Wild Card game thanks to a complete game shutout by this starting pitcher, who no-hit the Dodgers in August and won the 2015 NL Cy Young award.

ANSWER: Jake Arrieta

(5) After proving a bound on the gaps between these things, Yitang Zhang was given a professorship. The Goldbach conjecture argues that every even integer greater than 2 is the sum of two of these numbers. The (*) sieve of Eratosthenes [air-oh-TOSS-theh-nees] leaves these numbers after eliminating the composites. Contrary to popular opinion, 1 is not one of these numbers. For ten points, give this term for a positive integer with no divisors other than 1 and itself.

ANSWER: prime numbers

(5) For the set 5, 5, 5, 6, 7, this value is equal to 5. For ten points each,

Give this term for the number that appears most frequently in a set of data.

ANSWER: mode

This other quantity is equal to the sum of all of the numbers in a set divided by the number of numbers in the set.

ANSWER: arithmetic mean (or average)

Like the range, this quantity measures the spread of a data set, but takes into account all values, not just the largest and smallest. It is equal to the square root of the variance.

ANSWER: standard deviation

(6) In 1975, this body reduced the number of votes to reach cloture from two-thirds of the present members. Members of this body can delay a vote on a bill by filibustering. In 2015, (*) Mitch McConnell replaced Harry Reid as the Majority Leader of this body. Tied votes in this body are broken by the Vice President. For ten points, name this 100-member body that, with the House of Representatives, makes up the United States Congress.

ANSWER: U.S. Senate (prompt on Congress until "House of Representatives" is mentioned)

(6) According to legend, the colonial British gave this mountain a name unprintable in Hindi and unpronounceable in India. For ten points each,

Name this tallest mountain in the world, first summited in 1953 by Sir Edmund Hillary and Tenzing Norgay.

ANSWER: Mount Everest (or Sagarmatha or Chomolungma)

Everest is part of the Mahalangur section of this mountain range, formed by the collision of the Indian tectonic plate into Eurasia.

ANSWER: Himalayan Mountains

The border between China and this Himalayan country passes through Everest's summit.

ANSWER: Nepal

(7) **These figures used five names, including a Nebty name and a prenomen and nomen that were written in a cartouche. They symbolized their rule with the crook and flail, and the burial sites of these rulers often feature (*) ankhs and jewelry shaped like the eye of Horus. Names shared by people who held this title included Thutmose, Amenhotep, and Ramesses. Mastabas and pyramids served as burial sites for, for ten points, what rulers of ancient Egypt?**

ANSWER: pharaohs (prompt on (ancient) Egyptian rulers before mentioned)

(7) Members of this class revolted in the Satsuma Rebellion. For ten points each,

Name this Japanese military class whose members were expected to follow the bushido code, similar to chivalry.

ANSWER: samurai

Samurai are often depicted wielding a katana, which is a curved this type of weapon.

ANSWER: sword

Masterless samurai were known by this term. Forty-seven of these people took revenge on Yoshinaka Kira after he forced their master to commit seppuku.

ANSWER: ronin

Extra Question

Only read if you need a backup or tiebreaker!

(1) **At the end of this novel, the title character of this novel receives a vision from The Cripple Who Is Whole, Oromis, and receives a crippling back injury from Durza's blade. After Murtagh intervenes in an ambush by the (*) Ra'zac, the protagonist's mentor, Brom, dies. While out hunting, the protagonist finds a blue egg in this first book of the *Inheritance Cycle*. For ten points, name this Christopher Paolini novel whose title character rides the dragon Saphira.**

ANSWER: Eragon