

Round 4

First Half

(Tossup 1) **A character created by this author is disappointed to discover bills in a mysterious bureau while staying with the Tilney family. This author, who wrote about Catherine Morland in (*) *Northanger Abbey*, wrote a novel that ends with the upcoming marriages of the two eldest Dashwood sisters. *Sense and Sensibility* is by, for ten points, what female English novelist of the early 1800s who also wrote *Pride and Prejudice*?**

ANSWER: Jane Austen

(Bonus 1) This literary character loses his head to a cannon-ball during a Revolutionary War battle and becomes the “dominant spirit” of the area around a small New England town. For ten points each,

[Part A] Name this literary character who pursues Brom Bones and Ichabod Crane in an early American short story.

ANSWER: Headless Horseman (accept Gallopig Hessian)

[Part B] The Headless Horseman haunts this town in a short story titled for the “Legend” of this place.

ANSWER: Sleepy Hollow (accept The Legend of Sleepy Hollow)

[Part C] The Legend of Sleepy Hollow appears in this author’s collection *The Sketchbook of Geoffrey Crayon*.

ANSWER: Washington Irving

(Tossup 2) **Dropping needles on a striped surface can be used to approximate this constant. Summing the infinite series of 1 over n-squared results in this constant squared over 6, which was the solution to the Basel problem. This number divided by 180 is the number of (*) radians in a degree. This number is often approximated with the fraction 22 over 7. The area of a circle is equal to r-squared times, for ten points, what constant that is approximately 3.14?**

ANSWER: pi

(Bonus 2) Operations with this property are typically also associative. For ten points each,

[Part A] Name this property of an operation in which the order it is performed does not matter. For addition, it is shown by stating that $a + b$ is equal to $b + a$.

ANSWER: commutative (accept commutativity)

[Part B] Operations such as subtraction are considered anticommutative, which means that reversing the other of the operands gives a value with this relationship to the original value.

ANSWER: the reverse result is the opposite of the original result (accept descriptions of “the reverse result is the negative of the original result;” accept descriptions of “the reverse result is the original result, times negative 1”)

[Part C] This operation, the inverse of multiplication, is not commutative. The use of an obelus instead of a slash to represent this operation regularly results in ambiguous equations.

ANSWER: division

(Tossup 3) **This colony was reinforced by the Baron De La Warr-led Third Supply. John Rolfe’s cultivating of tobacco resulted in the economic viability of this colony. During the (*) Starving Time, a leader of this colony stated “he that will not work shall not eat.” John Smith led, for ten points, what first permanent English colony in the new world, a former capital of Virginia?**

ANSWER: Jamestown (prompt on Virginia until it is read)

(Bonus 3) In 1661, this man’s remains were posthumously executed. For ten points each,

[Part A] Name this English leader who helped overthrow Charles I [the first] before establishing the Protectorate, which he ruled as Lord Protector. After his death in 1658, he was succeeded by his son Richard.

ANSWER: Oliver Cromwell

[Part B] Oliver Cromwell was a member of the “Rump” version of this legislative body of the United Kingdom, which is divided into the House of Lords and the House of Commons.

ANSWER: (Rump) Parliament

[Part C] Oliver Cromwell was appointed by the Rump Parliament to lead a campaign to this island. After a successful invasion, Cromwell suppressed the power of Catholics on this island.

ANSWER: Ireland (accept Eire)

(Tossup 4) **These particles can be created by electron capture. Isotopes are differentiated based on the number of these particles they possess. The degeneracy pressure of these particles prevents these particles namesake (*) stars from collapsing. These particles are made up of two down quarks and one up quark. For ten points, name these neutrally charged particles that make up the nucleus with the proton.**

ANSWER: neutrons (do not accept or prompt on neutrinos)

(Bonus 4) This form of precipitation can only occur when a storm system has a strong enough updraft, allowing water droplets to be blown back up into the cloud. For ten points each,

[Part A] Name this form of precipitation, which unlike sleet, does not form from freezing rain as it falls.

ANSWER: hail (or hailstones)

[Part B] Hail often accompanies storms of this type. These sorts of storms form from colliding hot and cold fronts, which cause winds to rapidly swirl into vortices.

ANSWER: tornados

[Part C] The strength of tornados is measured on this scale named for a Japanese scientist. This scale classifies tornados from 0 to 5 based on wind strength.

ANSWER: Fujita Pearson Scale (or F Scale)

(Tossup 5) **A majority of the members in this organization participate in the Schengen Area, which allows free movement between them. In 2016, a member of this organization voted to invoke (*)** Article 50 of the Treaty of Lisbon as part of an official withdrawal. The United Kingdom recently left, for ten points, what coalition of states on a continent containing Spain, France, and Germany?

ANSWER: European Union (accept EU)

(Bonus 5) These locations are subject to both state, federal, and tribal authority according to the treaties that created them. For ten points each,

[Part A] Name these locations, where Native Americans were forced to live by the United States government throughout the 19th and 20th centuries.

ANSWER: Native American reservations (accept Indian reservations)

[Part B] The largest reservation in the United States is located in northeast Arizona and belongs to this tribe.

ANSWER: Navajo Tribe

[Part C] This state was founded on the lands of the original Indian Territory and is now home to the second most Native Americans of any state. This state is also home to the cities of Broken Arrow, Norman, and Tulsa.

ANSWER: Oklahoma

(Tossup 6) **This composer's second piano sonata includes a funeral march that was played at John F. Kennedy's funeral and his own funeral, held in 1849 in Paris. This composer of dozens of études and mazurkas wrote a (*)** waltz that is, despite its title, to be played in about 100 seconds. The *Revolutionary Étude* was composed by, for ten points, what Polish composer of piano works like the "Minute Waltz?"

ANSWER: Frédéric Chopin

(Bonus 6) Although this music is commonly heard as an instrumental piece, lyrics were written for its use in a 19th century play; the last line translates to “Ice to your blood!” For ten points each,

[Part A] Name this piece of music that was written for the play *Peer Gynt*. This piece begins slow and pianissimo and gradually builds tempo and volume.

ANSWER: In the Hall of the Mountain King

[Part B] The play *Peer Gynt* was written by Henrik Ibsen, a playwright from this country. Ibsen was assisted by fellow countrymen; Edvard Munch created artwork for the set.

ANSWER: Norway

[Part C] This Norwegian composer wrote “In the Hall of the Mountain King” and other incidental music for the *Peer Gynt* suite.

ANSWER: Edvard Grieg

(Tossup 7) **According to Okun’s Law, for every 1% increase in this phenomenon causes a 2% decrease in a country’s GDP. This phenomenon has an inverse relationship with inflation according to the (*) Phillips Curve.** Milton Friedman argued that this phenomenon has a natural rate of around 5%. This phenomenon comes in frictional and structural varieties. For ten points, name this phenomenon where a person lacks employment.

ANSWER: unemployment

(Bonus 7) 2008 marked the beginning of the “Great” one of these events. For ten points each,

[Part A] Name these low points on the business cycle that are opposed by periods of growth. These periods of decreased economic activity are less severe than a depression.

ANSWER: recessions

[Part B] This economist argued that governments should engage in deficit spending during recessions in his book *General Theory of Employment, Interest, and Money*. This economist opposed the Treaty of Versailles in *The Economic Consequences of the Peace*.

ANSWER: John Maynard Keynes

[Part C] Keynes’ theory was opposed by this early Austrian school economist, who advocated for economic freedom in books such as *The Road to Serfdom*.

ANSWER: Friedrich von Hayek

(Tossup 8) **Two of these gods, Theia and Hyperion, were the parents of Eos and Selene. One of these gods was chained to a rock where an eagle ate his liver every day as punishment for giving (*) fire to mankind.** Another of these gods, Rhea, saved Zeus from being eaten by his father, Cronus. Atlas and Prometheus were two of, for ten points, what early Greek gods who were defeated by the Olympians?

ANSWER: Titans (accept Titanes; prompt on “Greek gods”)

(Bonus 8) One of these works was written by Snorri Sturluson and contains the book *Gylfaginning*. For ten points each,

[Part A] Give this name shared by “Prose” and “Poetic” works that provide most of our modern understanding of Old Norse religion.

ANSWER: Edda (accept Poetic Edda or Prose Edda; accept Elder Edda or Younger Edda; accept Saemundar Edda or Snorri’s Edda; accept Eddur)

[Part B] In *Gylfaginning*, a Swedish king named Gylfi tries to travel to this realm of the gods.

ANSWER: Asgard

[Part C] In *Gylfaginning*, Gylfi learns that this chief Norse god possesses the ravens Huginn and Muninn, who tell him about world events when they return to this god’s hall, Valhalla.

ANSWER: Odin (accept Wotann)

Sixty-Second Rounds

The categories are ...

1. Charlotte’s Web
2. Napoleon Bonaparte
3. Oxygen

CHARLOTTE’S WEB

In relation to the book *Charlotte’s Web*, name the...

(1) Type of animal that Charlotte is.

ANSWER: spider

(2) Pig whom Charlotte saves by writing messages in her web.

ANSWER: Wilbur

(3) Author of *Charlotte’s Web* and *The Trumpet of the Swan*.

ANSWER: E.B. White (or Elwyn Brooks White)

(4) Young farm girl who wants to protect Wilbur from being slaughtered.

ANSWER: Fern Arable (prompt on Arable)

(5) Talkative animal who gives Wilbur advice and frequently repeats her words.

ANSWER: goose

(6) Rat who is occasionally tempted to help Wilbur with promises of food.

ANSWER: Templeton

NAPOLEON BONAPARTE

Name the...

(1) Country he led as Emperor.

ANSWER: **France**

(2) Country where his soldiers legendarily shot off the nose of the Sphinx during the Battle of the Pyramids.

ANSWER: **Egypt**

(3) Peninsula he failed to conquer in the Peninsular War after losing to Spain and Portugal.

ANSWER: **Iberian** Peninsula

(4) 1815 battle, Napoleon's final defeat.

ANSWER: Battle of **Waterloo**

(5) British general who won that battle.

ANSWER: Arthur **Wellesley**, 1st **Duke of Wellington** (accept either underlined name)

(6) Island in the South Atlantic he was exiled to after having previously escaped from Elba.

ANSWER: **Saint Helena**

OXYGEN

Name the...

(1) Only element that is more common than oxygen in Earth's atmosphere.

ANSWER: nitrogen

(2) Form of oxygen found in a layer of the atmosphere that protects the Earth from UV radiation.

ANSWER: ozone (layer)

(3) Number of atoms of oxygen present in its most common molecular form.

ANSWER: two atoms (accept diatomic)

(4) Element to which one atom of oxygen is bonded in a dangerous, odorless gas that bonds well with hemoglobin.

ANSWER: carbon (accept C; accept carbon monoxide or CO)

(5) Element with which oxygen is bonded in quartz.

ANSWER: silicon (accept silicon dioxide; do not accept "silica" or "silicone")

(6) English chemist who isolated oxygen around the same time that Antoine Lavoisier and others discovered it.

ANSWER: Joseph Priestley

Second Half

(Tossup 9) **Cities on the shore of this body of water include the gambling hub of Biloxi. Galveston and Mobile are ports on this body of water. The state of (*) Veracruz has its nearly its entire eastern border on this body of water. Tampa, Houston, and New Orleans are all found on, for ten points, what gulf in the Atlantic Ocean named for the southern neighbor of the United States?**

ANSWER: Gulf of Mexico (accept Golfo de México)

(Bonus 9) This man first rose to prominence during the Long March. For ten points each,

[Part A] Name this leader whose quotations are collected in the Little Red Book. This man's mausoleum is located in Tiananmen Square.

ANSWER: Mao Zedong

[Part B] Mao Zedong was a leader of this country which he helped take control of by fighting the Nationalists in a civil war.

ANSWER: People's Republic of China (accept Zhongguo)

[Part C] The Chinese Civil War was lost by this leader of the Kuomintang. After losing the war, this man, and his wife Soong Mei-ling, fled to Taiwan.

ANSWER: Chiang Kai-Shek (accept Chiang Chung-cheng; accept Chiang Chieh-shih; accept Jiang Jieshi)

(Tossup 10) **In a 2020 entry in this series, *Narwhal on a Sunny Night*, the main characters explore Greenland. This series's (*) *Merlin Mission* books are intended for more advanced readers than its primary titles. In the first book of this series, *Dinosaurs Before Dark*, Jack and Annie Smith travel back in time. Mary Pope Osborne writes, for ten points, what series of children's books titled for an enchanted arboreal dwelling?**

ANSWER: The Magic Tree House series

(Bonus 10) In this novel, Old Major insists that the denizens of Mr Jones's manor should free themselves from the slavery into which they are born. For ten points each,

[Part A] Name this allegorical novel in which Napoleon and Snowball lead a revolt, only to be corrupted by power and become just as oppressive as their human predecessors.

ANSWER: Animal Farm

[Part B] This author allegorized the power struggles in the Soviet Union in *Animal Farm*.

ANSWER: George Orwell (or Eric Arthur Blair)

[Part C] In *Animal Farm* Napoleon and Snowball are this type of animal, who promise to end the practice of marching past the skull of a boar, one of these animals, to make peace with nearby humans at the end of the novel.

ANSWER: pigs

(Tossup 11) **Horatio Greenough sculpted this man in the pose of Zeus at Olympia. Grant Wood painted this man as a child in *Parson Weems' Fable*, in which he holds an (*) axe while standing in front of a damaged tree. Emanuel Leutze painted this man anachronistically standing next to an American Flag. For ten points, name this U.S. president who is depicted by Leutze "Crossing the Delaware."**

ANSWER: George Washington

(Bonus 11) This work was the only one that its artist signed, doing so on a sash. For ten points each,
[Part A] Name this sculpture that depicts Mary holding the body of Christ.

ANSWER: Pieta

[Part B] This Italian sculptor created *Pieta* as well as the paintings on the ceiling of the Sistine Chapel.

ANSWER: Michelangelo Buonarroti

[Part C] Michaelangelo also sculpted a seated depiction of this biblical figure for Pope Julius II's tomb. In the sculpture, this figure has horns and holds a set of tablets.

ANSWER: Moses

(Tossup 12) **At the Battle of Delhi, Timur the Lame countered a division of these animals by scaring them with flaming camels. Scipio Africanus created a gap in his lines to trap these animals after they charged forward. (*) Hannibal crossed the Alps with dozens of the North African forest variety of these animals. For ten points, name these large animals that often used their tusks during battles.**

ANSWER: elephants

(Bonus 12) Every year, this action is symbolically performed on a turkey. For ten points each,

[Part A] Name this act in which the President of the United States can excuse a person from punishment for a crime.

ANSWER: Presidential pardon

[Part B] This former President was controversially pardoned after he chose to resign rather than be removed from office in the wake of the Watergate scandal.

ANSWER: Richard Nixon

[Part C] Nixon was pardoned by this man, his former Vice President, who declared that "our long national nightmare is over."

ANSWER: Gerald Ford

(Tossup 13) **This substance is too large to be suspended, and thus moves through saltation. The Grand Canyon is made out of a stone named for this substance. The black variety of this substance is formed from broken down (*)** lava, while the pink variety of this substance is created from broken down coral. For ten points, name this type of sediment that is larger than silt or clay and forms dunes in deserts and along beaches.

ANSWER: sand

(Bonus 13) This joint contains a fibrocartilage structure called the meniscus. For ten points each,

[Part A] Name this joint found between the femur and the tibia.

ANSWER: knee

[Part B] This sesamoid bone is colloquially known as the kneecap.

ANSWER: patella

[Part C] A common knee injury is the tearing of one of these structures known as the ACL. These structures link bones to bones.

ANSWER: ligament (accept anterior cruciate ligament)

(Tossup 14) **Samaritans claim descent from this man through his sons, Manasseh and Ephraim. This man's bones were taken to Shechem after Moses carried them out of (*)** Egypt, where this biblical man had interpreted the Pharaoh's dreams after being sold into slavery by his brothers. For ten points, name this Jewish patriarch whose brothers were jealous over the beautiful coat he got from his father, Jacob.

ANSWER: Joseph (accept Yosef; accept Yusif)

(Bonus 14) This man departed on the hijra shortly after he suffered the Aam ul Huzn, the year of sorrow during which his uncle and his wife Khadijah died. For ten points each,

[Part A] Name this final prophet of Islam, who moved his family and followers out of Mecca to escape religious persecution.

ANSWER: Muhammad

[Part B] During the hijra, Muhammad led his followers from Mecca to this city in modern Saudi Arabia.

ANSWER: Medina (accept Yathrib)

[Part C] After moving to Medina, Muhammad strengthened his political position through a series of marriages, including one to this scholarly woman, known as the Mother of the Believers.

ANSWER: Aisha bint Abu Bakr

(Tossup 15) **A poem with this title demands, “Come and show me another city with lifted head singing so proud” and describes the title location as “bareheaded / shoveling / wrecking.” A poem about this location calls it (*) “Player with Railroads and the Nation’s Freight Handler” in reference to this city’s position as a shipping hub on Lake Michigan. “The City of the Big Shoulders” is, for ten points, what subject of a Carl Sandburg poem, a city in Illinois?**

ANSWER: Chicago

(Bonus 15) In this novel, Marius Pontmercy believes that he owes a debt to Thénardier, who had saved the life of one of his relatives at the Battle of Waterloo. For ten points each,

[Part A] Name this novel whose female characters include Fantine and her daughter Cosette, who is raised by Jean Valjean after her mother’s death.

ANSWER: Les Misérables (or The Wretched Ones or other reasonable translations such as The Victims or The Miserable Ones; prompt on Les Mis)

[Part B] In *Les Misérables*, this police inspector relentlessly pursues the convict Jean Valjean. He commits suicide after Valjean spares his life during an uprising.

ANSWER: Inspector Javert

[Part C] This author of *The Hunchback of Notre Dame* also wrote *Les Misérables*.

ANSWER: Victor Hugo

(Tossup 16) **Some conditions of these organs are treated with albuterol sulfate. Surfactant in these organs helps the function of these organs’ alveoli. (*)** Bronchioles and bronchi are tubes found in these organs. Deoxygenated blood is carried to this organ by the pulmonary artery. The contraction of the diaphragm allows for the expansion of these organs. For ten points, name these organs used for breathing.

ANSWER: lungs

(Bonus 16) This substance is susceptible to cracking in the presence of ozone. For ten points each,

[Part A] Name this elastic substance whose natural forms are harvested from latex.

ANSWER: rubber

[Part B] Because rubber is produced from repeating units of isoprene, it is considered one of these kinds of molecules which is formed of many monomers.

ANSWER: polymer

[Part C] Charles Goodyear invented this process which hardens rubber by introducing sulfur cross-links.

ANSWER: vulcanization (accept word forms like vulcanize)

Tiebreakers

(Tossup 17) **These structures are connected to the alveolar bone by cementum and the periodontal fiber. The inside portion of these structures is known as the pulp chamber, which is surrounded by (*) dentin.** The outermost layer of these structures is known as the enamel, and is the hardest part of the human body. For ten points, name these structures located in the mouth which are used to chew food.

ANSWER: teeth (do not accept or prompt on bones)

(Bonus 17) This disease was caused by the bacteria *Yersinia pestis*. For ten points each,

[Part A] Name this disease, which wiped out 30-60% of Europe's population in the Middle Ages.

ANSWER: Black Death (accept Bubonic Plague; accept the Great Plague; accept the Black Plague)

[Part B] The Black Death was spread by these parasitic insects, who were carried throughout Europe by rats.

ANSWER: fleas

[Part C] Many clergy blamed this religious group for the Black Death, accusing them of poisoning the water. This religious group was also accused of killing Christian children, leading to the term "blood libel."

ANSWER: Judaism (accept the Jews)