

## Bowl Round 2

### First Half

(Tossup 1) **This organ contains a series of electroconductive cells that form the Purkinje fibers and Bachmann's bundle. This organ's function is measured with QRS complexes. This organ's rate of contraction is controlled by the Bundle of His. This organ contains the chordae tendineae, as well as the (\*) tricuspid and bicuspid valves. This organ is divided into the left and right atrium and ventricles. For ten points, name this organ that pumps blood through the body.**

Answer: **heart**

(Bonus 1) This protein is produced in beta cells within the Islets of Langerhans. For ten points each,

Part 1: Name this hormone produced in the pancreas that promotes the absorption of blood sugar.

Answer: **insulin**

Part 2: Patients with the "Type 1" or "juvenile" form of this disease cannot produce insulin, which is why they may need to carefully monitor their blood sugar.

Answer: **diabetes** mellitus

Part 3: Sugar absorbed from the blood is converted into this multibranched polysaccharide form, which is the primary molecule for glucose storage in the body.

Answer: **glycogen** (do not accept or prompt on "glucagon")

(Tossup 2) **In the book *Collapse*, Jared Diamond said that this place's civilization fell apart due to pre-European deforestation. This location was home to the Rongorongo script and the Bird Man cult. The supreme god of this location was named Makemake (mah-kay-mah-kay) and its native people are the (\*) Rapa Nui. Name this Polynesian island, a territory of Chile noted for its massive stone heads, called Moai.**

Answer: **Easter** Island (accept Rapa Nui before read)

(Bonus 2) Yu Dongyue and other demonstrators threw eggs at a portrait in this location. For ten points each:

Part 1: Name this site of the "Gate of Heavenly Peace," a plaza flanked by animal columns known as huabiao.

ANSWER: **Tiananmen Square**

Part 2: Tiananmen Square is in this capital city of the People's Republic of China.

ANSWER: **Beijing**

Part 3: The portrait of Mao Zedong on display in Tiananmen Square is changed every year on this national of China, commemorating the retreat of the Kuomintang to Taiwan.

ANSWER: **National Day**

(Tossup 3) **A book by this author apologizes for its lack of a nineteenth chapter, which would have been about Miss Zarves. A novel by this author presents the back story of the outlaw** (\*) Kate Barlow, whose African-American lover was murdered and who then refused to disclose the location of a treasure buried near Camp Green Lake. For ten points, name this young adult author of the Wayside School series and the novel *Holes*.

Answer: Louis **Sacher**

(Bonus 3)The "thousand injuries" committed by this literary character are never described, but inspire this man's enemy to lure him into a wine cellar and brick him into a wall to die. For ten points each,

Part 1: Name this literary character who dies screaming "for the love of God, Montresor!"

Answer: **Fortunato**

Part 2: Montresor kills Fortunato in this short story. Montresor lures Fortunato into the cellar by promising him this short story's title wine.

Answer: The **Cask of Amontillado**

Part 3: The Cask of Amontillado is by this American author of gothic horror stories like "The Pit and the Pendulum."

Answer: Edgar Allan **Poe**

(Tossup 4) **With drummer Rashied Ali, this musician recorded an impromptu album released 7 years after his death titled Interstellar Space, with all the songs being named for various planets in our solar system. A "wordless recitation" begins the final section of a work by this man, known as the "Psalm," meant to evoke the presence of an African-American preacher. Shortly after completing session work on Miles Davis's Kind of Blue, he recorded the album Giant Steps.** (\*) For ten points, name this American Jazz Saxophonist of A Love Supreme.

ANSWER: John **Coltrane**

(Bonus 4) The 1973 film *The Sting* used works by this composer like “King Cotton.” For ten points each:

Part 1: Name this “March King,” a US composer who wrote “Stars and Stripes Forever” and “Semper Fidelis.”

ANSWER: John Phillip **Sousa**

Part 2: He lends his name to the Sousaphone, a modified form of this large, brass instrument primarily played while sitting down in a concert venue.

ANSWER: **Tuba**

Part 3: This English composer wrote a concerto for Tuba for the London Symphony Orchestra. This pupil of Maurice Ravel composed a romance titled “A Lark Ascending.”

ANSWER: Ralph **Vaughan Williams** (need both names prompt on partial answer)

(Tossup 5) **In this country, the People Power Revolution succeeded in removing Ferdinand Marcos from power in favor of Corazon Aquino. Manuel Quezon led this country from exile after fleeing from Japanese aggression during World War II. The first president of this country, Emilio Aguinaldo, led resistance against colonizing forces from (\*) Spain and the United States. For ten points, name this Southeast Asian nation which is led from Manila.**

Answer: **Philippines**

(Bonus 5) These warriors served their lords in medieval Japan. For ten points each:

Part 1: Name these sword-bearing warriors, who were executed with honor through seppuku, or ritual self disembowelment.

Answer: **samurai** (accept bushi)

Part 2: Samurai utilized these swords upon fighting. A typical samurai carried a long “uchi” one, along with a short wakizashi.

Answer: **katana** (accept uchigatana)

Part 3: People of this occupation used a shorter katana than a samurai. These spies also used a variety of other weapons, like kunai and shuriken.

Answer: **ninja** (accept shinobi)

(Tossup 6) **Integral curves are tangent to “fields” of these values that represent solutions to some differential equations. This value for a tangent line is found using a derivative. To find this value for a perpendicular line, (\*) one takes the negative reciprocal of the first value; thus the product of these values is negative one. For 10 points, name this steepness value that is the m in the equation y equals mx plus b and is calculated using rise over run.**

ANSWER: **slope**

(Bonus 6) For 10 points each, name some quadrilaterals:

Part 1: This type of quadrilateral has four sides of the same length and four angles all measuring 90 degrees.

ANSWER: **square**

Part 2: This group of quadrilaterals is used in a “rule” that is more accurate in approximating integrals than Riemann sums. They’re not triangles, but these shapes can be “isosceles.”

ANSWER: **trapezoids** [or trapezium]

Part 3: Brahmagupta's formula uses the semiperimeter to calculate the area of this class of quadrilaterals. Kites are these kinds of quadrilaterals only if they have two right angles.

ANSWER: **cyclic quadrilaterals** [accept answers indicating they can be inscribed in a circle]

(Tossup 7) **This novel begins with a flashback to an instance when people were told to go inside and abandon their bikes because of a plane flying overhead. This novel spawned a namesake quartet of novels including the sequels Gathering Blue and Messenger. (\*)** In this novel, people are assigned a lifetime role during the Ceremony of Twelve; this book's main character Jonas is assigned to be a Receiver of Memory. For ten points, name this young adult novel by Lois Lowry.

Answer: ***The Giver***

(Bonus 7) This author mocked real-life religious disagreements in the characters of Big-Endians and Little-Endians, groups that disagree over how to crack and egg in the lands of Blefuscu and Lilliput. For ten points each,

Part 1: This author mocked real-life religious disagreements in the characters of Big-Endians and Little-Endians, groups that disagree over how to crack and egg in the lands of Blefuscu and Lilliput. For ten points each, Name this Irish satirical author of Gulliver's Travels and A Tale of a Tub.

Answer: Jonathan **Swift**

Part 2: In this pamphlet, Swift satirically suggested that Irish peasants could survive the Great Famine by selling their children as food to wealthy English nobles.

Answer: ***A Modest Proposal***

Part 3: In A Tale of a Tub, Swift uses the characters of Peter, Martin, and Jack to allegorize three major branches of this religion.

Answer: **Christianity** (do not accept or prompt on specific sects like "Catholicism" or "Protestantism")

(Tossup 8) **Barry Barish, Rainer Weiss, and Kip Thorne received the Nobel Prize in Physics for their work studying this force. An effect named for this force causes the bending of light and is called "lensing."** (\*) All objects with mass exert this force on each other, according to Newton's universal law for it. This force causes an acceleration of 9.8 meters per second squared at the Earth's surface. For ten points, name this force that causes object to fall toward the ground.

Answer: **gravity** (accept gravitational waves, gravitational lensing; accept Newton's universal law of gravitation)

(Bonus 8) Answer the following about the SN1 reaction in organic chemistry, for ten points each:

Part 1: SN1 belongs to this wider class of reactions, where one functional group in a compound is replaced with another one.

ANSWER: **substitution** reaction (accept **single displacement** reaction; accept single **substitution** reaction; accept **single replacement** reaction)

Part 2: During an SN1 reaction, a positive charge builds up on the central carbon atom, making it this type of ion. Removing electrons from a neutral atom produces this type of ion.

ANSWER: **cation**

Part 3: SN1 reactions happen faster in solvents with this property, which is a separation of electrical charge within the molecule. Water has this property because its electronegative oxygen atom attracts electrons.

ANSWER: **polar** (accept **polarity**)

## Category Rounds

The categories are...

1. Chemical Elements
2. The Adventures of Alice
3. The Industrial Revolution

## Chemical Elements

Name the...

Part 1: Scientist who devised the first periodic table and names element 101.

Answer: Dmitri **Mendeleev**

Part 2: Lightest element, found on the top left of the periodic table.

Answer: **hydrogen** [or **H**]

Part 3: Group of unreactive elements with a full valence shell on the right of the periodic table.

Answer: **noble gases** [or group 8A or group 18]

Part 4: Group of elements that has a partially filled d-orbital, whose lightest member is scandium.

Answer: **transition metals**

Part 5: Element that lies below lanthanum on the periodic table.

Answer: **actinium** [or **Ac**]

Part 6: Densest element, with a density of 22.59 grams per cubic centimeter.

Answer: **osmium** [or **Os**]

### **The Adventures of Alice**

In relation to novels about Alice, a girl who goes Through the Looking-Glass, who or what is...

Part 1: The magical world where Alice has her adventures?

Answer: **Wonderland** (accept Alice's Adventures in Wonderland; accept Alice in Wonderland)

Part 2: The author of the Alice novels?

Answer: Lewis **Carroll** (accept Charles Lutwidge Dodgson)

Part 3: The frequently-late animal who leads Alice into the magical world?

Answer: the **White Rabbit** (prompt on "rabbit")

Part 4: The mysterious, disappearing animal with a mysterious smile who advises Alice on her travels?

Answer: the **Cheshire Cat** (prompt on "cat")

Part 5: The sleepy animal who tells stories with the March Hare and Mad Hatter at a tea party?

Answer: the **Dormouse** (prompt on "mouse")

Part 6: The sorrowful animal who dances the Lobster Quadrille with a Gryphon and sings about "Beautiful Soup?"

Answer: the **Mock Turtle** (do not accept or prompt on "turtle")

## The Industrial Revolution

Name the...

Part 1: country where Industrial Revolution first took off, partly due to the domestic peace after the Glorious Revolution

Answer: **England** [Accept UK or Britain]

Part 2: inventor of the efficient steam engine that names a modern unit of horsepower

Answer: James **Watt**

Part 3: people who opposed the mass job loss of skilled workers who would wander around destroying textile machinery

Answer: **Luddites**

Part 4: multi-spindle frame perfected by British inventor Richard Arkwright that partly takes its name from a common British first name

Answer: **Spinning Jenny** [Accept Spinning Frame]

Part 5: the Denis Diderot work that spread Industrial innovations in Britain to other parts of Europe

Answer: **Encyclopédie**

Part 6: Max Weber work that partly explored how one faith's morals may have contributed to the Industrial Revolution

Answer: The ***Protestant Ethic and the Spirit of Capitalism***

## Second Half

(Tossup 9) **This city was governed by the Great Rhetra which, according to legend, was orally shared by Lycurgus. Boys in this city were required to participate in the agoge (uh-GO-gay), a rigorous training program. (\*) 300 warriors from this city under the leadership of Leonidas fought a massive Persian force at the Battle of Thermopylae. For ten points, name this militaristic Greek city-state, the rival of Athens.**

Answer: **Sparta**

(Bonus 9) Part 1: Give this two-word name of a regime which was based on the fact that it supposedly succeeded two earlier empires.

Answer: **Third Reich**

Part 2: The Third Reich was led by this leader of the Nazi Party.

Answer: **Adolf Hitler**



Part 3: Hitler believed the Third Reich would last 1000 years. Within 2, how many years did it actually last?

Answer: **12** (accept 10-14)

(Tossup 10) **MP Edward Clarke's request to this thinker on his ideas on raising children led to his treatise "Some Thoughts Concerning Education." This thinker's idea of the right to "Life, Liberty and Property" (\*)** was later inserted in a modified form to the wording of the Declaration of Independence. After a five year exile in the Netherlands, this thinker formulated the concept of tabula rasa, or the "Blank Slate," in "An Essay Concerning Human Understanding." For ten points, name this British philosopher of *Two Treatises of Government*.

ANSWER: John **Locke**

(Bonus 10) A person with this last name named Anna published *An Introduction to the Technique of Child Analysis*, clashing with academic rival Melanie Klein. For ten points each:

Part 1: Give this last name of a psychologist that developed the Oedipal Complex and divided the human psyche into three parts, the Id, Ego, and Superego.

ANSWER: **Freud**

Part 2: Sigmund Freud studied this process in 19 month old daughter, Anna, eventually developing his theory of the unconscious. Wilhelm Stekel influenced that Freudian work, titled "The Interpretation" of this human process.

ANSWER: **dreams**

Part 3: Carl Jung and Alfred Adler developed their own forms of this Freudian therapeutic technique used to treat a host of contemporary mental ailments.

ANSWER: **Psychoanalysis**

(Tossup 11) **Early Christians moved the beginning of this holiday a day back to coincide with the crucifixion of Jesus, which by John is said to have occurred on the 14th of Nisan. Traditionally, observants of this holiday do not eat (\*)** breads derived from Wheat, Rye or Barley, leading to the consumption of unleavened bread in dishes such as Gebrochts. This holiday derives its name from when YAHWEH ignored the homes of Israeli households with lamb's blood on their door while still targeting the Egyptian first-born boys during the Ten Plagues. For ten points, name this major Jewish holiday that begins with a namesake seder.

ANSWER: **Passover** [Accept Pesach]

(Bonus 11) The siblings Izanagi and Izanami are creator deities from this religion. For ten points each,

Part 1: Name this Asian religion that worships spirits called *kami*. This religion has no central authority, but its adherents share a focus on family shrines and ritual washing.

ANSWER: **Shintoism** (accept *kami-no-michi*)

Part 2: Shinto is from this island nation, where it is practiced in some form by about 80% of its inhabitants. Christians in this country were persecuted during its Tokugawa period.

ANSWER: **Japan** (accept **Nihon**, accept **Nippon**)

Part 3: The entrances to Shinto shrines are marked by these red gates, which are used to signify sacred spaces.

ANSWER: **torii**

(Tossup 12) **This man painted his mistress, a baker named Margherita Ludi, as a belle donna figure in La Fornarina. This artist named a “Brotherhood” of British artists including John Everett Millais that rejected the Mannerists of the 16th century. This man painted himself next to thinkers (\*) like Ptolemy and Zoroaster in a work which depicts Leonardo da Vinci as Plato in the center of the title place of learning. For ten points, name this painter of the School of Athens.**

ANSWER: **Raphael** Sanzio da Urbino

(Bonus 12) This artist completed his triptychs *The Descent from the Cross* and *The Elevation of the Cross* in the early 17th Century. For ten points each,

Part 1: Name this Flemish artist who painted several versions of *The Three Graces* that depict his characteristic voluptuous nudes.

Answer: Peter Paul **Rubens**

Part 2: Rubens showed the main subject in a typical black hat and black coat, with a white ruff and a beard, in a 1639 painting of this type. This two-word hyphenated phrase describes any painting by an artist that depicts that same artist.

Answer: **self-portrait**

Part 3: Rubens's *Descent and Elevation of the Cross* were created for the cathedral of this Belgian city, where they reside to this day.

Answer: **Antwerp**

(Tossup 13) **In the *Lokasenna*, this god kills Fimafeng before insulting various gods in a flyting. This god goes with Thor in disguise to recover Mjolnir from Thrym. Earthquakes are supposedly caused when this god’s wife Sigyn empties the cup protecting him from dripping snake poison. This god is able to change his (\*) sex, allowing him to mother the eight-legged horse Sleipnir. This god will slay Heimdall at Ragnarok. This half-giant was chiefly responsible for Baldr’s death. For ten points, name this Norse trickster god.**

ANSWER: **Loki**

(Bonus 13) This hero was stuck in the underworld with his friend Pirithous until Heracles came to rescue him. For ten points each,

Part 1: Name this Greek hero who slew the Minotaur with the help of Ariadne.

ANSWER: **Theseus**

Part 2: One of Theseus' foes was this bandit, who used beds to stretch his victims to a certain height. This bandit would also cut off his victims' legs if they were too short.

ANSWER: **Procrustes**

Part 3: Theseus was also tasked with killing one of these animals from Crommyon. A king who ordered the capture of a different one of these animals hid in a bronze jar upon seeing it.

ANSWER: **sow** (accept **boar**, accept **pig**)

(Tossup 14) **In this novel, a child is sent to work for Mr Sowerberry, who forces him to sleep in a coffin, and a conversation with Mr Brownlow under a bridge leads to Nancy's death at the hands of her boyfriend, Bill Sikes. This novel's protagonist joins (\*) Fagin's gang and helps the Artful Dodger pick pockets after being sent away from a workhouse for asking for more gruel. For ten points, name this Charles Dickens novel about a title orphan boy.**

Answer: **Oliver Twist** (accept Oliver Twist; or, the Parish Boy's Progress)

(Bonus 14) This literary work, now usually published as its own book, is the third section of the extremely long novel *The Vicomte of Bragelonne: Ten Years Later*. For ten points each,

Part 1: Name this literary work in which the title man, Philippe, escapes from the Bastille and briefly replaces his brother, Louis XIV, as king of France.

Answer: **The Man in the Iron Mask** (accept **L'Homme au Masque de Fer**)

Part 2: *The Man in the Iron Mask* is part of a series of novels by Alexandre Dumas that tells the story of this group of fighters, made up of Athos, Porthos, and Aramis.

Answer: **The Three Musketeers** (**Les Trois Mousquetaires**)

Part 3: *The Three Musketeers* is the first of a series of Romances written by Dumas and collectively named for this character, who joins the musketeers on their adventures.

Answer: **D'Artagnan**

(Tossup 15) **Kimberlite pipes are the primary mining source of this mineral. This mineral is used to cover the tip of a device used in the Vickers test. Applying high pressure and heat to graphite can be used to grow this mineral in laboratory settings. This mineral has a value of (\*) 10 on the Mohs hardness scale. For ten points, name this extremely hard allotrope of carbon, that is commonly used in engagement rings.**

Answer: **diamond**

(Bonus 15) Enceladus is one of this planet's moons that has cryovolcanoes shooting ice into space, For ten points each.

Part 1: Name this planet that has Great White Spots on its surface. It was visited by the Cassini and Huygens probes and its other moons include Iapetus and Rhea.

Answer: **Saturn**

Part 2: Saturn's most prominent features are these structures made up of rock and ice that orbit around the planet.

Answer: **rings or ring system**

Part 3: This largest moon of Saturn has a dense atmosphere and is known for its methane cycle and lakes of liquid hydrocarbons.

Answer: **Titan**

(Tossup 16) **Harvey Milk became his state's first openly gay elected official after being elected to serve on this city's school board. A body of water named for this city is home to Angel Island, where immigrants arriving on the (\*) Pacific Coast were processed. The oldest Chinatown in the USA is located in this city. For ten points, name this California city that was partially destroyed by a 1906 earthquake along the San Andreas Fault.**

Answer: **San Francisco**

(Bonus 16) Hugh Montgomery was one of two men disciplined for their role in this event. For ten points each,

Part 1: Name this event that took place on March 5, 1770. After being pelted with snowballs and rocks, British soldiers fired upon a crowd, killing five people.

Answer: **Boston Massacre**

Part 2: This future second President of the United States defended the soldiers charged with murder in the Boston Massacre. His cousin Samuel was an early leader of the Revolution in Boston.

Answer: John **Adams** (prompt on "Adams," do not accept or prompt on "John Quincy Adams")

Part 3: This silversmith created an engraving of the massacre inspired by a design by Henry Pelham. William Dawes participated in another event led by this man.

Answer: Paul **Revere**

## Tiebreaker

(Tossup 17) **In 1858, James Buchanan granted full amnesty to treasonous members of this religion with the condition that they accept federal authority. A militia composed of members of this religion and their Southern Paiute allies launched an attack on the Baker-Fancher wagon train in the Mountain Meadows Massacre. (\*) After their leader was killed by a mob in Carthage, Illinois, thousands of members of this religion, under the leadership of Brigham Young, fled to Utah. For ten points, name this religion founded by Joseph Smith.**

Answer: **Mormonism** (accept Latter-Day Saints or LDS)

(Bonus 17) The Mogao Caves held the Irk Bitig text, a text holy to a faith named for this god. For ten points each:

Part 1: Name this sky god which names the Turkic faith once worshipped by much of Central Asia.

ANSWER: **Tengri**

Part 2: This word, taken from the word for holy seers of Tengri of Siberia, now means practitioners that can make contact with the spiritual planes in various cultures.

ANSWER: **Shamans**

Part 3: This Central Asian nation adapted the motif of the “Endless Sky of Tengri” to tis flag after Nursultan Nazarbayev abandoned the “Hammer and Sickle” design of the USSR.

ANSWER: Republic of **Kazakhstan**