

The Illinois Mathematics and Science Academy of Aurora, IL,



in partnership with Loyola Academy of Wilmette, IL, present

## **IMSANITY 3**

## -ROUND 10-

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## Tossups

(1) This work uses a divided line to illustrate the difference between what is visible and what is knowable. In this work, a dead man rises from his funeral pyre and speaks about the afterlife. In addition to the Myth of Er, the idea that what we can sense is merely a representation of fundamental immaterial ideas is this work's Theory of Forms, which is illustrated by a man who can only see (\*) shadows on the wall in the Allegory of the Cave. Arguing for a Philosopher-King, for ten points, name this most famous Platonic dialogue which analyzes the title form of government.

**ANSWER:** The Republic (or Politeia)

(2) The founding ruler of this polity was almost defeated when an escaped slave warned his enemy Bela IV of an upcoming attack during the Battle of Mohi. One leader of this empire failed to regain his throne at the Battle of the Vorskla River, despite the help of Grand Duke Vytautas. At the Battle of the Terek River, that leader Tokhtamysh was defeated by Tamerlane. Its leader Uzbeg converted to Islam and founded the city of New Sarai. (\*) For ten points, Batu Khan founded what offshoot of the Mongols named for the color of grand tents?

ANSWER: Golden Horde

(3) In one of his poems, this author exclaims "Oh, what a tangled web we weave / When first we practise to deceive." In addition to writing that poem about an attempt to ruin the impending marriage of Sir Ralph de Winton and Clara de Clare, he wrote about Malcolm Graeme, Roderick Dhu, and James Fitz-James competing for Ellen Douglas. He wrote *Marmion*, *The Lady of the Lake*, and a novel in which Jeanie Deans travels to from Edinburgh to London to get a pardon for her sister, Effie. This author of (\*) *Heart of Midlothian* wrote about a character who, was abandoned by his father, Cedric of Rotherwood, saved Rebecca's life, but loved Rowena. For ten points, identify this Scottish author of *Ivanhoe*.

ANSWER: Sir Walter Scott

(4) Sphalerons may affect the production of this substance, which is also subject to the three Sakharov conditions. Emilio Segre and Owen Chamberlain discovered several types of this substance in the Bevatron. Thunderstorms producing this substance create terrestrial gamma-ray flashes, and the PAMELA module has found this substance in Earth's Van Allen belts, where NASA has proposed extracting it. Neutral kaons may turn into this substance in a process called mixing, while mesons contain one quark of this type. An (\*) asymmetry regarding this substance results in the existence of the known universe. For ten points, name this substance that annihilates upon contact with matter.

ANSWER: <u>antimatter</u> (accept <u>matter</u> before the end of the second sentence; accept <u>baryons</u> or antileptons before "Sakharov")

(5) This man's namesake book is read in its entirety during the Haftarah service on Yom Kippur. This man grew angry and wished that he would die when a "vehement east wind" killed a gourd that was shielding him from the sun. This son of Amittai ordered everyone in a certain city to wear sackcloths and cover themselves in ashes lest their city be destroyed in forty days. This man famously took a ship to Tarshish but was (\*) thrown overboard when it was determined he was causing the bad weather. For ten points, name this prophet of the Old Testament who spent three nights in the belly of a large fish.

ANSWER: Jonah

(6) Pelopidas led this city's right flank in one victory, after which they liberated the Messenians. In order to defeat the Phocians, this city got the help of Philip II of Macedon. After this city won the Battle of Leuctra, it launched several invasions of the Peloponnese. At this city's victory at Mantinea, this city lost its leader Epaminondas. At the Battle of Chaeronea, Alexander the Great defeated this city's (\*) Sacred Band after this city was convinced by Demosthenes to ally with Athens. For ten points, name this Boeotian city which overthrew Spartan Hegemony in the wake of the Peloponnesian War.

ANSWER: Thebes in Boeotia

(7) The first NBA team to play in this city acquired Pete Maravich from the Atlanta Hawks. In 1980, fans responded to this city's NFL team losing 14 straight games by wearing paper bags over their heads. That season capped off ten years without a winning season despite the quarterback Archie Manning, but that team later defeated Indianapolis in its only Super Bowl. This city's current NBA team relocated there from Charlotte, except for a temporary move from 2005 to 2007 to (\*) Oklahoma City. A "bounty scandal" has left this city's NFL team without coach Sean Payton. For ten points, name this city, home to the NBA's Hornets and whose Superdome hosts games for the NFL's Saints.

ANSWER: New Orleans, Louisiana

(8) Every morning, characters in this novel repeat the phrase "Nautron respoc lorni virch." One character stops playing the organ and says "O almighty God! Enough! Enough" in one scene of this novel, and in other scenes, the narrator finds coal mines in an extinct volcano and sees coral forests. At the end of this novel, one character sinks The Avenger because he hates the country it comes from. When the (\*) Abraham Lincoln is destroyed in tracking a narwhal, Conseil, Ned Land, and Pierre Aronnax enter the title locale, and they leave it using the Maelstrome. For ten points, identify this Jules Verne novel about Captain Nemo and his submarine the Nautilus.

ANSWER: Vingt mille lieues sous les mers)

<u>Twenty Thousand Leagues Under the Sea</u> (or

(9) The object 2008 LC-18 resides at this body's L5 Lagrangian point, and the New Horizons probe could explore this area to search for other bodies. The Nice model suggests this body was ejected outwards, forming the scattered disc in the process. It produces over twice as much heat as it receives from the sun, which could be a driver of its many storms, such as Scooter. Confinement by its moon Galatea is hypothesized to have formed its ring arcs, and its largest moon could have been formed from a binary planetoid, which explains its (\*) retrograde orbit. Home to the Great Dark Spot, for ten points, identify this planet with moons Nereid and Triton, the eighth from the sun.

ANSWER: Neptune

(10) One of this artist's early works was of a bird with a puffed chest and a long neck and was called *Maiastra*. This artist's portrayal of Marie Bonaparte was removed from the Salon des Independants in Paris because it appeared to be a phallus. In addition to *Princess X*, this artist created a series of sculptures of lying heads entitled *Sleeping Muse*. This man created a circular stone table surrounded by twelve chairs in his (\*) *Table of Silence*, which is located next to his sculpture of seventeen stacked rhomboids, *Endless Column*. Most famous for a series of elongated avians, for ten points, name this Romanian abstract sculptor of *Bird in Space*.

ANSWER: Constantin Brancusi

(11) At one point in this work, an old man asks for a ride across a river and then enslaves the person who gives him a ride. Another character finds a tailor to sew together Cassim, pours oil on 37 men hiding in jars, and does a dagger dance. Including such characters as the Old Man of the Sea and Moriana, this work was translated by Jorge Luis Borges, Antoine Galland, and Richard Burton. Dunyazade demands the presence of the titular character, who is married to (\*) Shariyar, and other characters in this work include Sinbad the Sailor, Aladdin, and Ali Baba and the Forty Thieves. For ten points, identify this collection of stories told by Scheherazade over a period of of just under three years.

ANSWER: One Thousand and One Nights or Arabian Nights (or Kitab alf lalyla wa-laylah, prompt on "Scheherazade" before mention)

(12) According to the *Theogony*, this god is married to the youngest Charity, Aglaia. With Anticleia, this god fathered Periphetes, one of the bandits slain by Theseus. He tricked Hera into sitting in a gold throne trapped with bonds, and his attempted rape of Athena led to the birth of a king of Athens, Erichthonius. During his exile, he traveled to Sicily and found a new home in Mount (\*) Aetna. He finally obeyed Poseidon's order to release two deities after using a net to catch Ares in bed with his wife Aphrodite. For ten points, name this crippled Greek god of the forge.

ANSWER: Hephaestus

(13) This principle was used in economics by Paul Samuelson to explain why elasticity is higher in the long run than the short run, and in chemistry, one example of it can be seen when precipitating calcium carbonate out of hardwater with soda ash. An analogous statement to this principle in electrodynamics is Lenz's Law. It explains why inert gases and catalysts do not affect reaction yield and the aforementioned (\*) common-ion effect. For ten points, name this chemical principle which states that a system responds to changes in temperature, pressure, and concentration by returning to equilibrium.

ANSWER: Le Chatelier's Principle

(14) This person tried to convince Camille Desmoulins to burn his journal, Le Vieux Cordelier, and he was the target of an assassination attempt by Cécile Renault. He objected to war with Austria, saying that no one likes armed missionaries. With the help of "The Angel of Death", Louis de Saint-Just, he opposed the Girondists, and was responsible for the deaths of Jacques Hébert and Georges (\*) Danton. He established the Cult of the Supreme Being and was eventually executed in the Thermidorian Reaction. For ten points, identify this leader of the Committee of Public Safety who guillotined thousands during the Reign of Terror.

ANSWER: Maximilien Francois Marie Isadore de Robespierre

(15) This author published poetry under the pseudonym Anne Singleton. Along with Gene Weltfish, this thinker argued that environment, not head shape and size, was the primary factor of intelligence in "The Races of Mankind." This scientist used the traditions of the Pueblo, Dobu, and Kwakiutls to expound cultural relativism in one work, and used newspaper clippings, videos, and other devices in another to get around the fact she could not visit (\*) Japan. For ten points, identify this anthropologist who wrote Patterns of Culture and The Chrysanthemum and the Sword.

ANSWER: Ruth Fulton Benedict (accept either)

(16) This man published his French Overture with an Italian Concerto, the latter of which was partially included in his six Partitas for Keyboard. This man penned the lyrics "the flock, in Thee confiding, drink of joy from Deathless springs" in a movement from the cantata Heart and Mind and Deed and Life, also known as Jesu, Joy of Man's Desiring. This composer based fourteen fugues on a theme beginning with a descending D minor triad, collecting them alongside four canons in (\*) The Art of Fugue. He also composed six concerti for a certain margrave. For ten points, name this German Baroque composer of the Brandenburg Concertos.

ANSWER: Johann Sebastian Bach (prompt on a partial answer)

(17) A midwife in this novel demands full payment despite being unable to save either mother or child. Another character is given a hundred dollar bill, but is unable to make change for it, and he hires someone to pretend Antanas still has a job. One character is engaged to fiddler Tamoszius, although they don't have enough money to marry, and that character, Marija, becomes a prostitute. The protagonist meets Jack Duane while in jail, works for Mike Scully, and attacks his wife's rapist, Phil Connor. The novel opens with sixteen-year old Ona Lukoszaite marrying (\*) Jurgis Rudkus. For ten points, identify this novel about the Chicago meatpacking industry, a novel by Upton Sinclair.

ANSWER: The Jungle

(18) One defect associated with this organ is the typically-asymptomatic Meckel's diverticulum. This organ's epithelium secretes important enzymes such as nucleosidases, and it contains Peyer's patches. Affected by Crohn's disease, other important lymphatic features in this organ include lacteals, which aid in fat absorption. This organ increases its surface area through its brush borders, which contain microvilli. It includes the longer (\*) ileum, while its duodenum receives digestive enzymes made in the pancreas. Playing a crucial role in absorption of nutrients, for ten points, name this organ which receives chyme from the stomach.

ANSWER: Small Intestine

(19) This person used the Massachusetts national guard to restore Edwin Curtis to office during the Boston Police Strike. He once issued a press statement that just said "I do not choose to run for President." He signed the Curtis-Crisp Act after vetoing a farm relief bill sponsored by Haugen and McNary. His vice president won the Nobel Peace Prize for developing the Dawes plan, and his Secretary of State Frank Kellogg negotiated a (\*) pact with Aristide Briand. Succeeded by his vice president Herbert Hoover, for ten points, name this president who succeeded Warren Harding after his assassination and was known for being "silent".

ANSWER: Calvin Coolidge

(20) A condition in which this operation commutes with a limit is given by the Dominated Convergence Theorem. Approximating a function with step functions is the key to the Lebesgue type of this operation. By inverting the Product Rule, one can perform this operation "by parts". This operation can be approximated using either Simpson's Rule (\*) or Riemann sums, and it can be computed exactly as capital F of b minus capital F of a according to the Fundamental Theorem of Calculus. Often achieved using antiderivatives, for ten points, name this operation in calculus which computes areas.

ANSWER: <u>integral</u> (accept word forms like "integration", accept <u>Lebesgue integral</u>, prompt on "antiderivative" or "antidifferentiation")

(21) One building in this city was intended to be assassination-proof and was also used to teach engineers. Cavalry slipped on cobblestones while attempting to charge in this city's Senate Square. A government located in this city struggled with the government of Georgy Lvov. Alexander Menshikov was the first governor of this city, which was built after Nyenschantz Fortress was captured, and the land for this city was officially gained at the Treaty of Nystad. The death of this city's governor Kirov led to the (\*) Great Purge, and during World War II, this city was under siege by German forces for nearly 900 days. For ten points, identify this former Russian capital, a "window to the west".

ANSWER: Saint Petersburg (or Petrograd or Leningrad or Sankt Peterburg)

## Bonuses

- (1) It is the most abundant element in the earth's crust after oxygen and silicon. For ten points each:
  - [10] Name this metallic element with atomic number 13 that is mined from bauxite ore and whose oxides are amphoteric.

**ANSWER:** Aluminum (prompt on "Al")

[10] In this doubly-eponymous industrial process, discovered simultaneously in France and the United States, alumina produced from bauxite ore is dissolved into molten cryolite before it is purified.

ANSWER: Hall-Heroult process

[10] The Hall-Heroult process is an example of this more general chemical process, in which a non-spontaneous redox reaction is forced by an applied electric current. It is often used to split water into hydrogen and oxygen gas.

ANSWER: electrolysis

- (2) Answer the following about three cases that were called "The Trial of the Century" for ten points each.
  - [10] Clarence Darrow defended these two rich guys, successfully arguing against capital punishment, even though they killed a 14-year-old boy just to get away with it.

**ANSWER:** Nathan Freudenthal <u>Leopold</u>, Jr. and Richard Albert <u>Loeb</u> (accept in either order)

[10] Bruno Hauptmann was executed for the kidnapping and murder of the 20-month-old son of this famous aviator who flew the Spirit of St. Louis.

ANSWER: Charles Lindbergh

[10] According to Johnny Cochran, if this article of clothing doesn't fit, you must acquit O.J. Simpson of the murder of his ex-wife and her boyfriend.

**ANSWER:** bloody leather glove

- (3) It describes the "white eyes writhing in" the face of a soldier who had been unable to fit "the clumsy helmet, just in time." For ten points each:
  - [10] Identity this poem, which concludes by quoting two lines of Horace as "that old lie."

**ANSWER:** Dulce et Decorum Est

[10] Dulce et Decorum Est is a poem by this World War I anti-war poet. Another of his poems asks "What candles may be held to speed them all?"

ANSWER: Wilfred Owen

[10] Owen wrote this poem which begins "What passing-bells for these who die as cattle? Only the monstrous anger of the guns."

ANSWER: Anthem for Doomed Youth

- (4) Answer some questions about the geography of Russia for ten points each.
  - [10] This vast cold region of Russia extends from the Ural mountains in the west to the eastern coastline on the Bering Sea. It has very low population density, but houses vast reserves of natural gas.

ANSWER: Siberia

[10] This peninsula on the eastern edge of Siberia includes the largest active volcano in the Northern Hemisphere. It cuts out the Sea of Okhotsk to its west, separating it from the Pacific Ocean.

ANSWER: Kamchatka Peninsula

[10] This large Arctic archipelago is located just north of the mouth of the Ob river on the western edge of Siberia. Its two largest islands separate the Kara Sea from the Barents Sea.

ANSWER: Novaya Zemlya

- (5) She had two daughters with Odr, Hnoss, and Gersemi. For ten points each:
  - [10] Identify this goddess, who owned a cloak of feathers and wears the necklace Brisingamen.

**ANSWER:** Freya (or Freyja)

[10] Freya took half of those who were slain in battle to this field, which held her hall of Sessrumnir.

**ANSWER:** Folkvangr

[10] The other half of those killed in battle were led by the valkyries to this 540-doored Asgardian Hall of the Dead. The golden tree Glasir lay outside this hall.

ANSWER: Valhalla

- (6) Answer the following questions about large members of the kingdom Plantae for ten points each.
  - [10] Most examples of this type of trees, also known as pinophyta, reproduce using pine cones. They cover a large expanse of boreal area in the northern hemisphere and serve as a major source of pulp for paper production.

ANSWER: Coniferous (or Coniferae)

[10] This other group of plants undergoes leaf abscission and activation of carotenoids during certain climate conditions.

ANSWER: Deciduous

[10] This other type of shrubland predominantly covers southwestern portions of the United States with a Mediterranean climate. Leaves of members of this group are resistant to drought and wildfires.

ANSWER: Chaparral

- (7) The title character of this song spends his time "drawing pictures of mountaintops" with a "lemon yellow sun" and dead people lying "in pools of maroon below". For ten points each:
  - [10] Name this song, controversial for its allusion to a school shooting, in which the title boy "spoke in class today".

**ANSWER:** Jeremy

[10] Jeremy is a song from this band's breakout album Ten. The lead singer, Eddie Vedder, recently made guest appearances on Bruce Springsteen's tour.

**ANSWER:** Pearl Jam

[10] The future members of Pearl Jam performed with Soundgarden singer Chris Cornell under this name. Their namesake album included songs such as *Pushing Forward Back* and *Hunger Strike*.

**ANSWER:** Temple of the Dog

- (8) Answer the following about reclining nudes for ten points each.
  - [10] This man aroused controversy for having the audacity to paint a sexually confident nude Olympia. He had earlier caused an uproar with his Luncheon on the Grass.

**ANSWER:** Edouard Manet

[10] A maid searches a chest and a dog sleeps in the right half of this Titian painting, in which the title figure holds roses in her right hand and stares directly at the viewer as she lies on a white sheet.

**ANSWER:** Venus of Urbino

[10] A study published in the Journal of the Royal Society of Medicine concluded that the titular figure of this Ingres work was depicted with five extra vertebrae in addition to an elongated pelvis.

**ANSWER:** The Grande Odalisque

- (9) Paolo and Francesca are both here, and Francesca speculates that her husband, Gianciotto, is frozen in ice in Caino in this location. For ten points each:
  - [10] Name this location, with a sign that reads "Abandon all hope, ye who enter here."

ANSWER: Inferno (accept Hell)

[10] Inferno is the first section of this author's The Divine Comedy, which depicts his journey through hell, purgatory, and paradise guided by Beatrice and Virgil.

ANSWER: Dante Alighieri (accept either portion)

[10] In the *Inferno*, this winged monster bears Dante and Virgil on his back past the waters of Phlegethon into the eighth circle of hell.

ANSWER: Geryon

- (10) Answer the following about some airlifts in history for ten points each.
  - [10] "The Hump" was the nickname given to the Himalayas by pilots supplying Chinese forces from India during World War II, after this route was cut off by the Japanese. The primary goal of British Indian forces was to recapture this route in its namesake colony.

ANSWER: Burma Road (or Burmese Road)

[10] In Operation Vittles, William H. Tunner, who worked on the airlift over the Hump, organized the 1948 airlift to supply the West half of this city after the Soviets cut off all land routes.

ANSWER: West Berlin

[10] This first Prime Minister of Israel launched Operation Magic Carpet to secretly airlift Jews from Yemen.

ANSWER: David Ben-Gurion

- (11) Gauss was so pleased when he drew a regular heptadecagon with these tools that he wanted it inscribed on his tombstone. For ten points each:
  - [10] Identify these two tools used in ancient Greek geometric constructions. These tools can be used to bisect any angle but cannot trisect a general angle.

ANSWER: compass and straightedge (in either order, prompt on "ruler" for "straightedge") [10] This ancient Greek problem is impossible to solve since a segment whose length is the third root of 2 is not constructible with straightedge and compass.

**ANSWER:** doubling the cube (or the Delian problem)

[10] The ancient Greek Manaechmus showed that a cube can be doubled by finding intersections of this type of conic section, such as those with equations y equals x squared and x equals 2 times y squared.

ANSWER: parabola

- (12) Answer the following about Ballets Russes for ten points each:
  - [10] Sergei Diaghilev, director of the Ballets Russes, commissioned this Manuel de Falla ballet featuring Andalusian folk music. In this work, a woman plays a joke on a magistrate by seductively offering him grapes.

**ANSWER:** The Three-Cornered Hat (or El Sombrero de Tres Picos)

[10] This other ballet caused riots when the Ballets Russes premiered it in Paris in 1913. It features a young girl dancing herself to death while dissonant music plays.

ANSWER: The Rite of Spring (or Le Sacre du Printemps or Vesna svyashchennaya)

[10] This Russian composer of *The Rite of Spring* had earlier written *The Firebird* and *Petrushka* for Diaghilev.

ANSWER: Igor Stravinsky

- (13) This investigation's results were confirmed by the Trouton-Noble experiment. For ten points each:
  - [10] Name this doubly-eponymous experiment conducted at Case Western Reserve University that used an interferometer with the beams set at right angles to observe differences in the velocity of light. It ultimately found a negative result.

**ANSWER:** Michelson-Morley Experiment

[10] The Michelson-Morley experiment caused the demise of this concept, which postulated a medium in which light waves moved.

ANSWER: luminiferous aether

[10] Like the ether, this was often considered a fifth element in classical mythology. This term has been revived to mean a form of dark energy acting as a variable repulsive force.

**ANSWER:** quintessence

- (14) Sara Muller, her husband Kurt, and their three children return to Fanny and David Farrely's house in this author's *Watch on the Rhine*. For ten points each:
  - [10] Identify this author of a play in which Horace dies before he can declare a loan and Alexandra breaks away from her mother, Regina Hubbard, entitled *The Little Foxes*.

ANSWER: Lillian Hellman

[10] Lillian Hellman wrote this play in which a stolen bracelet causes accusations of a lesbian relationship between schoolteachers Karen Wright and Martha Dobie. It shares its title with a poem about Alice, Edith, and Anne Allegra.

**ANSWER:** The Children's Hour

[10] The poem *The Children's Hour* was written by this American, who also wrote *Paul Revere's Ride* and *The Song of Hiawatha*.

**ANSWER:** Henry Wadsworth Longfellow

(15) [Note to Moderator: Please look over the answer line for Part 1 before reading the bonus; it's really complicated, as there are two facets of the answer required and lots of alternate ways to give them. Whether Part 1 has been answered correctly or not, only read the main answer line and nothing else.]

Alexander Haig said, "I've known women who think they've talked for five minutes and then have talked for an hour" to justify the main theory about it. For ten points each:

[10] Identify this entity which presumably contained conversations with H.R. Haldeman. It consisted of up to nine different segments, only four of which a foot pedal could have manipulated. The Rose Mary Stretch was used to explain this entity.

ANSWER: eighteen and a half minute gap (accept anything involving a missing or erased section in tapes important for Nixon or Watergate, prompt on a partial answer)

[10] The eighteen and a half minute gap was contained on the tapes related to this scandal, which involved a break-in to plant listening devices in the DNC headquarters in the namesake hotel.

ANSWER: Watergate scandal

[10] In this incident, the Attorney General and his deputy both resigned instead of firing Archibald Cox on Nixon's orders. Cox had angered Nixon by insisting that the Watergate tapes be turned over.

ANSWER: Saturday Night Massacre

- (16) Answer the following about photographed women for ten points each.
  - [10] Prominently featuring Florence Owens Thompson, this Depression-era Dorothea Lange photograph is officially named *Destitute pea pickers in California*. Mother of seven children. Age thirty-two. Nipomo, California.

**ANSWER:** Migrant Mother

[10] The cover of the June 1985 issue of this magazine featured a photograph of a girl from Afghanistan wrapped in a red scarf and with piercing green eyes.

ANSWER: National Geographic

[10] This artist photographed the Nakamura sisters at Manzanar internment camp in his Suffering Under a Great Injustice series.

ANSWER: Ansel Adams

- (17) Answer the following about women in ancient Greek literature for ten points each.
  - [10] This man wrote about a woman who takes revenge on Glauce and her sons in *Medea* and followed Cassandra, Andromache, and Helen in *The Trojan Women*.

**ANSWER:** Euripides

[10] This other Greek author wrote about the fifty Danaids who killed their husbands in *The Suppliants* and also described Electra's family in *The Oresteia*.

ANSWER: Aeschylus

[10] Although most of this lyric poet's works were lost, a few fragments survive, such as her *Hymn to Aphrodite*. She was sometimes called the "tenth muse."

ANSWER: Sappho

- (18) A decision tree can be used to show that its optimal strategy wins two-thirds of the time. For ten points each:
  - [10] Identify this mathematical puzzle in which a contestant chooses between three doors but is allowed to change his decision after an incorrect door has been opened, usually revealing a goat. Counterintuitively, the contestant should always take that option.

**ANSWER:** Monty Hall Problem

[10] The Monty Hall Problem is studied in this branch of mathematics concerned with strategies. Another problem in this branch is the Prisoner's Dilemma.

ANSWER: game theory

[10] The St. Petersburg Paradox attempts to explain why the expected value of a game involving this action is infinite.

ANSWER: coin flip (accept equivalents)

- (19) This ruler annoyed the boyars by instituting a tax on their beards. For ten points each:
  - [10] Name this ruler who practiced shipbuilding in the Netherlands and brought Russia into the modern age by instituting the Table of Ranks and building a new capital.

**ANSWER:** Peter the Great or Peter I (or Piotr I or Piotr Alexeyevich, prompt on "Peter" or "Piotr")

[10] This group of soldiers went to Moscow in order to rebel against Peter's reforms. They were soon crushed and were either murdered or exiled.

ANSWER: Streltsy

[10] Earlier, the Streltsy had served in this captured port on the Black Sea. Its namesake flotilla easily defeated the Ottoman forces in this town.

ANSWER: Azov

- (20) No one understood this work but Mahakasyapa, who smiled upon hearing it. For ten points each:
  - [10] Name this so-called "Sermon" which consisted merely holding up the titular object silently. **ANSWER:** Flower Sermon

[10] The Flower Sermon is told as an origin story for this sect of Buddhism, popular in Japan, whose members reflect on paradoxical statements called koans.

ANSWER: Zen Buddhism

[10] This book consists of forty-eight koans collected by Wumen, and begins by asking whether or not a dog has the nature of Buddha.

ANSWER: The Gateless Gate (or Wúménguan)

(21) He "edited" the manuscript of Alex Gray in *Memoirs of Many In One*. For ten points each: [10] Identify this author who wrote about the nurses and children of the dying Elizabeth Hunter in *The Eye of the Storm*.

**ANSWER:** Patrick White

[10] Patrick White was an author from this country. His novel *Voss* is about an explorer of this country's Outback.

ANSWER: Commonwealth of Australia

[10] This other Australian author was the second double-Booker Prize-winning author, receiving his first for Oscar and Lucinda and his second for The True Story of the Kelly Gang.

**ANSWER:** Peter Carey