

## PRISON BOWL IX

Questions written and edited by Hunter College High School (Gilad Avrahami, Sam Brochin, Christopher Chilton, David Godovich, Lily Goldberg, Ada-Marie Gutierrez, Diane Hwangpo, Joshua Kwan, Chloe Levine, Alice Lin, Brian Lu, Helen Lyons, Daniel Ma, Albert Tai, Luke Tierney, and Rachel Yang), with contributions from Rohan Nag and Jeff Xie

### Round 07

#### Tossups

1. A mouse caught in a trap causes one character in this book to weep. Another character in this work shouts, "The devil take you and the frying pan!" In this work, Nicholas sleeps with Alisoun after convincing her husband to sleep in a bucket hanging from the ceiling, and one character farts in the hand of a friar. A knight in this work learns that what women really want is control over their husbands and lovers according to a story told by the Wife of Bath, and the structure of this work is thought to be highly influenced by *The Decameron*. For 10 points, name this collection of stories told by a group of pilgrims written by Geoffrey Chaucer.

ANSWER: *The Canterbury Tales* [accept *Tales of Caunterbury*] <CL>

2. John Harsanyi addressed people's' irrational preferences in his preference theory of this concept, while R.M. Hare placed emphasis on "critical" reasoning in his two-level form of this philosophy. Another advocate of this philosophy featured it prominently in his *An Introduction to the Principles of Morals and Legislation*. That man created a felicific calculus, which gauged the moral status of an action based on factors like the intensity and duration of pleasure derived from that action. For 10 points, name this philosophy that attempts to maximize happiness for the largest amount of people, championed by Jeremy Bentham and John Stuart Mill.

ANSWER: utilitarianism <AT>

3. Diego Garcia de Moguer ("mo-GARE") names the largest of the Chagos Islands in this body of water in 1544. On one shore of this body of water, flush toilets were built of coral stone in the 1300s. The Greeks called it the Erythrean Sea. Cholera and smallpox were often spread around this ocean by square-rigged ships called dhows. The city of Great Zimbabwe arose due to the gold trade with towns on this ocean like Kilwa and Zanzibar. The Zamorin of Calicut and Portuguese explorer Vasco da Gama met on the shores of this ocean in 1492. For 10 points, name this ocean to the east of Africa.

ANSWER: Indian Ocean

4. This artist included oriental vases in his paintings *Lady of the Land Lijsen* and *The Little White Girl*. He hung his painting *The Princess from the Land of Porcelain* and *Rose and Silver* in a room which he decorated with Cuir de Cordoue, gold leaf, and turquoise paint, *The Peacock Room*. A series by this man features the Old Battersea Bridge and a display of fireworks in a foggy night sky, and he was accused of "flinging... paint in the public's face" by John Ruskin in response to his *Nocturne in Black and Gold*. For 10 points, name this painter of *Arrangement in Grey and Black No.1*, which depicts his mother.

ANSWER: James Abbott McNeill Whistler <AG>

5. Rainclouds on brown dwarfs are believed to be composed of sand and this element. Metallicity is sometimes defined by finding the ratio between hydrogen and this element. The production of hydrogen sulfide by bacteria may have greatly reduced the presence of this element in early oceans. This element is the lightest element to produce energy from nuclear fission, which is why a supernova will occur once the particles in a star's core fuse into this element. The inner core of the Earth mostly consists of nickel and this element. For 10 points, name this element, the most abundant metal in the universe and the principal component of asteroids, with symbol Fe.

ANSWER: iron (accept Fe before mention) <GA>

6. The 1954 Doolittle Report strengthened the power of this organization. The so-called "family jewels" refer to reports of illegal activities by this organization, and it conducted Project MKULTRA. Scooter Libby was imprisoned for outing Valerie Plame Wilson as a member of this organization. Jacobo Arbenz's government was overthrown by this group, which helped the United Fruit Company in Guatemala. This organization has global "black sites," and President Ford banned its assassinations in 1976. John McCone and Allen Dulles were some of its early leaders. For 10 points, name this main US intelligence gathering agency.

ANSWER: the CIA or the Central Intelligence Agency

7. The electromagnetic rest mass formula contains a fraction with this number as its numerator, which also names a problem solved by applying Poincare stresses. The Higgs field has this many components, which are classified as neutral or charged. This number of dimensions in the Minkowski space is multiplied by pi and epsilon-naught in the denominator of Coulomb's constant. Stefan-Boltzmann's law states that the energy radiated by a blackbody equals temperature raised to the power of it. Atoms with this many nucleons were used to discover the presence of the atomic nucleus in Rutherford's gold foil experiment. For 10 points, name this number of dimensions in spacetime.

ANSWER: four (accept 4/3 before Higgs) <AT>

8. In 2014, Helsinki held a design contest for a museum of this name near its South Harbour. Hilla von Rebay served as director of another museum named this, formerly known as the “The Museum of Non-Objectivism.” A puppy statue made of flower patches is displayed outside another museum of this name. This word names a museum with a famous circular skylight, which was modeled after an “inverted ziggurat.” A museum of this name is covered in its architect’s signature curved metal plates, while another includes a ramp gallery arranged in a long, continuous spiral along its outer edges. For 10 points, give this name shared by two museums in Bilbao and New York.

ANSWER: **Guggenheim** Museum (accept Solomon R. **Guggenheim** Museum, **Guggenheim** Museum Bilbao, or **Guggenheim** Helsinki) <AT/R/Y>

9. One character in this play is introduced with the description, “She isn’t a woman, she is a mother.” At the end of this play, one girl drowns in a fountain, while her stepsister runs out of the theater. After that exit, a man is unsure whether or not the events of this play were real, but decides either way he has lost a whole day. In one scene in this play, Madame Pace tells a girl she must become a prostitute to save the Mother’s job. At the beginning of this play, an acting company rehearsing *Mixing it Up* is interrupted by a group of strangers. The Father explains the members of the title group are unfinished in, for 10 points, what absurdist metatheatrical play by Luigi Pirandello?

ANSWER: ***Six Characters in Search of an Author*** [accept ***Sei personaggi in cerca d'autore***] <CL>

10. The Executive Committee of the NSC was created in response to a crisis in this country. Secretary of State Hamilton Fish resolved the *Virginian* Affair in this country during its Ten Years War. The 1902 resignation of Tomas Estrada Palma caused US intervention in this country using the Platt Amendment. The Ostend Manifesto and Teller Amendment applied to this country. Refugees from this country went to Miami in the Mariel boatlifts. Operation Mongoose was carried out on this nation, whose Bay of Pigs was later invaded by exiles. For 10 points, name this Caribbean country once led by Fidel Castro.

ANSWER: **Cuba** <LT>

11. This country is home to an author of a book in which Anna’s ashes are returned to the farm and only the medical officer realizes Michael is innocent. One author from this country wrote *Burger’s Daughter* and a book featuring Bamford and Maureen Smales’ new life under the protection of their black servant. That book is *July’s People*. Sam loves the dancing floor because it is “a world without collisions” in another work from this country, “*Master Harold*” ...and the Boys. For 10 points, name this country home to authors like John Coetzee, Athol Fugard, and Nadine Gordimer, where Alan Paton wrote about Msimangu, Gertrude, and Arthur Jarvis in *Cry, the Beloved Country*.

ANSWER: **South Africa** <CL>

12. These objects’ paraspeckles disappear in response to many metabolic stimuli, and SMN is contained in their Gemini of coiled bodies. Emerin and nesprin are components of lamin, which provides structural integrity to these objects. This organelle is connected to the endoplasmic reticulum, and importins regulate their pores. Surrounded by a double membrane, this organelle is exclusive to eukaryotes. For 10 points, name this organelle that contains most of the cell’s genetic material.

ANSWER: **nucleus** [or **nuclei**; do not accept or prompt on “nuclear membrane,” “nuclear envelope,” or “atomic nucleus”] <AT>

13. In this state, one river rises west of Mount Gerdine and is called the Kuskokwim River. This state, which is home to Little Diomedea, also contains Amaknak Island, the location of the former base Dutch Harbor. Ashes from the eruption of Novarupta filled a valley in this state’s Katmai National Park. A notable race in this state passes through Kaltag and ends at Nome. The northernmost point in this state is Point Barrow. The Alutiiq (ah-LOO-tee-ick) people once lived on this state’s Kodiak Island. This state is home to Denali, the highest mountain peak in North America. For 10 points, name this state including the Aleutian Islands with its capital at Juneau.

ANSWER: **Alaska** <RY/CL/DM>

14. This deity's children with the nymph Cabiero are worshipped at a mystery cult at Lemnos closely associated with this deity. Another one of his offspring named Erichthonius was created when his semen was wiped away from Athena’s leg onto the ground, impregnating Gaea. Poseidon pleads for the release of two figures imprisoned by this god in exchange for a guarantee for an adulterer’s fine. He built a golden net for his unfaithful wife in order to catch her in an illicit affair with Ares, and the Sintians tended to this god after he was thrown down from Olympus by his mother, Hera. For 10 points, name this crippled god of blacksmiths and fire.

ANSWER: **Hephaestus** (accept **Vulcan**) <RY/JK>

15. This U.S. state is the setting of a Walt Whitman poem in which he is “Inquiring, tireless, seeking what is yet unfound.” The speaker asks Federico García Lorca, “What were you doing down by the watermelons?” in a poem named for a supermarket in this state. This state is the setting of F. Scott Fitzgerald’s posthumous novel *The Last Tycoon*, in which Monroe Stahr must deal with the consequences of an earthquake. Another novel set in this state features Samuel and Liza Hamilton as well as Cathy Ames and takes place in Salinas County. That novel is *East of Eden*. For 10 points, name this state to which the Joads travel in John Steinbeck’s *The Grapes of Wrath*.

ANSWER: **California** <CL>

16. This man's namesake test attempts to detect differences in treatments across multiple test attempts. He theorized a utility function with varying curvature according to wealth alongside Leonard J. Savage, and proposed that a central bank should increase its monetary supply by a constant "k" percentage rate every year. This man characterized the pre-Depression recession as a "Great Contraction" in a book that followed monetary policy from Reconstruction era, and noted the existence of a "natural rate of unemployment." The co-author of *A Monetary History of the United States*, for 10 points, name this economist who famously opposed Keynesian theory and advised Ronald Reagan.

ANSWER: Milton **Friedman** <AT>

17. They're not determinants, but the Hartree-Fock method is used in the linear combination of the Slater or Gaussian types of these entities. These objects' namesake diagrams feature short horizontal lines connected by diagonal dotted lines. Another type of them is symbolized by an asterisk, and due to the location of their nodes, is classified as antibonding. These objects classified by three quantum numbers are solutions to the Schrodinger Equation. The Aufbau principle states that they are filled starting with the lowest energy levels. For 10 points, name these entities that surround atoms, which are comprised of either one or two electrons.

ANSWER: molecular **orbitals** (accept specific types, like s **orbitals**, p **orbitals**, etc.) <AT>

18. Some magnates opposed to this dynasty claimed the "jus resistendi" by the Golden Bull of 1222. The Treaty of Cateau-Cambrésis ("ca-TOE cam-BRAY-siss") ended this dynasty's wars with the Valois. Francis I of this dynasty merged it with the House of Lorraine. The palace of Schönbrunn ("SHOWN-broon") was built in its capital by Emperor Leopold. John IV of Portugal became independent from this dynasty's rule in 1640, ending the Iberian Union and establishing the rule of the Braganza dynasty in his native Portugal. The Pragmatic Sanction of 1719 applied to Maria-Theresa of this dynasty. For 10 points, name this Germanic dynasty whose rulers included Charles V and Joseph I.

ANSWER: **Habsburgs** [accept **Hapsburgs**]

19. In a Buddhist tale, one of these animals suddenly becomes aware that it had been beheaded in its last 499 lives. They're not wolves, but in the *Lupercalia*, priests dressed in these animals' skins. In Rabbinic Judaism, one of these animals was associated with Azazel. During Yom Kippur, one of them was sacrificed to Yahweh, while the other was sent into the wilderness. In a parable, these animals were separated from sheep, and according to a superstition from the Middle Ages, they whisper vulgar words into the ears of saints. For 10 points, name these animals that often symbolize the devil in Christianity.

ANSWER: **goats** <GA>

20. One composer from this country was inspired by some Peter Altenberg postcard-texts to write *Five Orchestral Songs*, which premiered in this country's "scandal concert." That composer also wrote the opera *Wozzeck*. Another composer from this country used sprechstimme in a poem series with pieces like *O Alter Duft* and *Der Mondfleck*. That man pioneered a composition technique that emphasized using all the notes in a chromatic scale equally. The twelve-tone technique originated in this country, as did the melodrama *Pierrot Lunaire*. For 10 points, name this home country of Alban Berg and Arnold Schoenberg, who founded the Second Viennese School.

ANSWER: **Austria** <GA>

TB. The St. Scholastica Day Riot occurred here, as did the Huxley-Wilberforce debate. An institution in this city hosted the 1933 "King and Country" debate and had a Holy Club. During the Mad Parliament, the "Provisions of" this city were England's first written constitution. This city housed the exiled court of Charles I. Queen Mary had the Anglican bishops Thomas Cranmer, Nicholas Ridley, and Hugh Latimer burnt at the stake in this city. Newer "redbrick universities" were different from the stone architectures of Cambridge and this city's namesake university. For 10 points, name this city that houses the oldest English university.

ANSWER: **Oxford**

## Bonuses

1. Vandino and Ugolino Vivaldi searched for a route from Europe to Asia in search of these goods. For 10 points each:

[10] Name these exotic flavorings that include cayenne, cardamom, and cinnamon. Europeans referred to parts of East Asia as their namesake islands.

ANSWER: **spices** [prompt on "condiments"]

[10] This city-state on the Ligurian Sea sponsored the Vivaldi brothers and supported its navy with the spice trade. It lost the War of Chioggia, and Andrea Doria was from here.

ANSWER: **Genoa** [accept **Genova**]

[10] This Genoese colony on the Crimean Peninsula was the origin of the Black Plague's import into Europe. It dominated Black Sea trade after Genoa bought it from the Golden Horde.

ANSWER: **Kaffa** [prompt on **Feodosia**; prompt on **Theodosia**; prompt on **Kefe**] <CL>

2. Increased osmotic pressure and decreased vapor pressure are some examples of these properties. For 10 points each:

[10] Name these properties that depend on the concentration of a solute, rather than the amount of substance present.

ANSWER: **colligative** properties

[10] This colligative property is caused by the interference of ions with hydrogen bonds. It explains why adding salt to snow-covered roads will cause the ice to melt faster, and its effects can be estimated with the cryoscopic constant.

ANSWER: **freezing-point depression** (accept word forms)

[10] One can quantify the effects of a solute on a substance's colligative properties by finding the Van't Hoff factor. Give the Van't Hoff factor for an ideal solution of sodium chloride.

ANSWER: **2** <AT/JK>

3. One of this man's characters says, "Talk sense to a fool and he calls you foolish." For 10 points each:

[10] Name this ancient Greek tragedian who wrote "Hippolytus," "The Bacchae," and a play about a woman whose husband Jason leaves her for a Corinthian princess, "Medea."

ANSWER: **Euripides**

[10] This Euripides play corresponds to Book IX [nine] of *The Odyssey*, and in it, Odysseus convinces the title figure, who has imprisoned and devoured much of his crew, that his name is "Nobody."

ANSWER: **Cyclops** (accept **Polyphemus**, even though it's technically wrong)

[10] *Cyclops* is this type of work in ancient Greek theater, a mixture of tragedy and comedy that resembles burlesque. This genre features phallic props and a chorus of the title creatures.

ANSWER: **satyr-play** [accept **satyric** drama or really anything about drama with **satyr**] <CL>

4. Styles originating in this country include the papercutting art *kiri-e*, as well as the *ukiyo-e* type of woodblock printing. For 10 points:

[10] Name this country home to an artist who created *Thirty-six Views of Mount Fuji*. Origami was practiced from 1603 to 1867 during its Edo period.

ANSWER: **Japan** [accept **Nippon**; accept **Nihon**]

[10] This Japanese artist created *Thirty-six Views of Mount Fuji*, which includes *The Great Wave off Kanagawa*. He also created *Fireworks at Ryogoku Bridge* and published *Quick Lessons in Simplified Drawing*.

ANSWER: Katsushika **Hokusai**

[10] Hokusai first published this 1814 collection of sketches in fifteen volumes, focusing on everyday objects. The works in this collection do not connect to tell a story, unlike a modern Japanese art form with the same name.

ANSWER: *Hokusai* **Manga** [prompt on Hokusai **Sketches**] <CL>

5. His most famous work is named for a monster from the book of Job. For 10 points:

[10] Name this British philosopher who warned of a life "solitary, nasty, poor, brutish, and short" and advocated for a social contract and absolutism in that work, *Leviathan*.

ANSWER: Thomas **Hobbes**

[10] *Leviathan* was published during this conflict. Edward Hyde, 1st Earl of Clarendon wrote a history of this conflict and of *Rebellion* in the same place as this conflict.

ANSWER: Third **English Civil** War [prompt on partial; prompt on **British** instead of "English"; do not accept "First English Civil War" or "Second English Civil War"]

[10] Hobbes also wrote this historical account of the English Civil War, an essay published in 168, though Charles II prevented its earlier release. It shows the effects of government abuse, and features the speakers A and B.

ANSWER: **Behemoth**: the history of the causes of the civil wars of England, and of the counsels and artifices by which they were carried on from the year 1640 to the year 1660 [yes, that's the whole title, and yes, it's uncapitalized; accept The **Long Parliament**] <CL>

6. When these organisms undergo sexual reproduction, the cytoplasm of two parent cells fuse during plasmogamy, and their nuclei fuse during karyogamy. For 10 points:

[10] Name these organisms that reproduce via the ascus and basidium.

ANSWER: **fungi** (accept **fungus** or specific types, like **mushrooms**, **molds**, or **yeast**)

[10] Fungi may also reproduce asexually by releasing these small particles containing genetic material. These entities are stored in fungal caps and are released via lamella, or gills.

ANSWER: **spores**

[10] Many fungi, like yeast, employ this other mechanism to reproduce asexually. During this process, a smaller, genetically identical organism splits off of a parent organism.

ANSWER: **budding** <AT>

7. As of July 2015, there are 1031 of these locations, which include The Leaning Tower of Pisa. For 10 points,  
[10] Give this name for tourist sites with cultural or natural significance, which are protected by the Geneva Convention. Other examples include Machu Picchu and the Taj Mahal, and a UN agency oversees them.

ANSWER: **World Heritage Sites** (accept UNESCO **World Heritage Sites**) <RY>

[10] This World Heritage site in Afghanistan consists of notable religious representations. It was partially destroyed in 2001.

ANSWER: **Bamiyan** Buddhas

[10] This fundamentalist Islamic government of Afghanistan destroyed the Bamiyan Buddhas. They were lead by Mullah Omar and were fought in that year by the US invasion of Afghanistan.

ANSWER: **Taliban** <DM>

8. This poet's major works include a semi-autobiographical novel titled *The Notebooks of Malte Laurids Brigge*. For 10 points each,  
[10] Name this Bohemian poet and author of "The Panther" and *Letters to a Young Poet* who wrote, "Who, if I cried out, would hear me among the hierarchies of angels?"

ANSWER: Rainer Maria **Rilke**

[10] The aforementioned line comes from a work named for this castle near Trieste, where Rilke was a guest of Prince Marie von Thurn und Taxis. In this work, Rilke defines beauty as "the beginning of terror which we are barely able to endure."

ANSWER: **Duino** Castle [accept *The Duino Elegies*]

[10] Rilke also wrote a series of sonnets to this figure, whom Rilke calls "the god with the lyre." In the *Metamorphoses*, Ovid wrote about this figure's attempt to rescue his wife, Eurydice, from the Underworld.

ANSWER: **Orpheus** <CC>

9. These people had a royal umbrella and a Golden Stool as national symbols, and revered Anansi and Nyame ("NAH-may"). For 10 points each:

[10] Name this matrilineal, gold-trading Empire that fought the British in four wars in the 1800s. It included the Fante states at the time, and was named for a group of the Akan people.

ANSWER: **Ashanti**

[10] The Ashanti lived in what is now this country. It was called the Gold Coast during British rule and has a capital at Accra.

ANSWER: **Ghana**

[10] The blue-and-white Ashanti kente was made of this material. Mohammed Ali commercialized this crop in Egypt.

ANSWER: **cotton**

10. [American] Kids these days. According to Jean Twenge's analysis of personality surveys, they harbor a sense of entitlement and narcissism. For 10 points each:

[10] Name this group born between the 1980s and the 2000s, who are confident and tolerant according to Twenge. Strauss and Howe wrote *[Them] Rising: The Next Great Generation*.

ANSWER: **millennials** [prompt on **Generation Y**, **We**, or **Next**, **Global** or **Net Generation**, or **New** or **Echo Boomers**; do not accept or prompt on "Generation 9/11"]

[10] Robert Capa coined this earlier generation's name, using it in a photo-essay about childhood after WWII. They were happy, educated, and family-oriented, despite stereotypes of 1970s and 1980s youth.

ANSWER: Generation **X**

[10] This term refers to a group of people who share a particular event in a specific timeframe. Examples include women who give birth at age 30, Gen X, and the millennials.

ANSWER: **cohort** <CL>

11. This word names a symphonic movement that is meant to represent its composer's love to his wife Alma Schindler. For 10 points:

[10] Name this musical phrase meaning "rather slow." It titles the fourth movement of a certain composer's Symphony No. 5.

ANSWER: **Adagio**

[10] The aforementioned Symphony No. 5 was by this Austrian composer. He nicknamed his first symphony "Titan" after a Jean Paul novel, while his second symphony, Resurrection, explored themes of the afterlife.

ANSWER: Gustav **Mahler**

[10] Gustav Mahler's success allowed him to go all-out with this work, which received its nickname from the large chorus that it demanded. Its Part II is a setting of text from the closing scene of Goethe's Faust.

ANSWER: "**Symphony of a Thousand**" (or Mahler's **Symphony No. 8**) <AT>

12. His novels include *Catherine* and *The Luck of Barry Lyndon*. For 10 points each:

[10] Name this novelist best known for his novels which satirized English society. In addition to working extensively for *Fraser's Magazine*, he published travel books and works like *The Snob Papers*, also known as *The Book of Snobs*.

ANSWER: William Makepeace **Thackeray**

[10] Thackeray is best known for this novel, which satirizes English society in the 19th century. In it, Amelia Sedley becomes obsessed with her son after her husband, George Osborne's, death.

ANSWER: ***Vanity Fair***: *A Novel without a Hero*

[10] *Vanity Fair* follows the lives of Amelia and this woman, an anti-heroine. She is beautiful and witty but amoral and manipulative, and she secretly marries Rawdon Crawley and distracts men at card parties while he cheats them.

ANSWER: Rebecca "**Becky**" **Sharp** [accept either underlined part; prompt on **Rebecca**] <CL>

13. Two young girls killed 58 people in a suicide bombing at a refugee camp in this country's town of Dikwa. For 10 points each:

[10] Name this country whose current president, Muhammadu Buhari, defeated Goodluck Jonathan in the 2015 elections and now lives in the Aso Villa in Abuja.

ANSWER: **Nigeria**

[10] In December, Buhari declared that his government had "technically" defeated this Nigeria-based Islamic terrorist organization. Believed to be led by Abubakar Shekau, this group declared a jihad against Christianity and has caused the displacement of 2.3 million Africans since 2009.

ANSWER: **Boko Haram** [accept **Islamic State West Africa Province**]

[10] In 2015, Nigeria officially banned this practice, which the UN recognizes as a human-rights violation rooted in gender inequality and which often includes a procedure called *infibulation*. The UN estimates 20 million Nigerian women have undergone this practice.

ANSWER: **female genital mutilation** [or **FGM**; accept **female genital cutting** and **female circumcision**; accept answers that include descriptions of all three words; prompt on **genital mutilation**; do not accept "rape"] <GA>

14. The narrator of this work with a Latin name remembers being "Knock-kneed, coughing like hags." For 10 points each:

[10] Identify this World War I-era poem which exclaims, "Gas! Gas! Quick, boys!" and describes "An ecstasy of fumbling," culminating in the death of a man the narrator sees "guttering, choking, drowning."

ANSWER: "**Dulce et Decorum Est**"

[10] This poet of "Dulce et Decorum Est" died in the war one week before the Armistice, after writing other poems like "Anthem for Doomed Youth."

ANSWER: Wilfred (Edward Salter) **Owen**

[10] This friend of Owen wrote *Counter-Attack and Other Poems*, as well as his autobiographical trilogy, *The Complete Memoirs of George Sherston*, which includes *Memoirs of a Fox-Hunting Man* and *Memoirs of an Infantry Officer*.

ANSWER: Siegfried **Sassoon** <CL>

15. Because the conditions of this problem imply the presence of four nodes of odd degree, there is no solution. For 10 points:

[10] Name this mathematical problem, which involves traversing four landmasses by crossing each of the title entities only once. A variation of this problem includes "red" and "blue" castles.

ANSWER: Seven **Bridges of Konigsberg** problem (or **Konigsberg Bridges** problem)

[10] This Swiss mathematician provided the solution to the Bridges of Konigsberg problem. He also names a formula relating the faces, vertices, and edges of a polyhedron, as well as a constant equal to about 2.718.

ANSWER: Leonhard **Euler**

[10] Using Euler's identity, one can prove this theorem. It states that cosine x plus i sin x to the nth power equals the cosine of nx plus i times the sin of nx.

ANSWER: **de Moivre's** formula (or **de Moivre's** theorem or **de Moivre's** identity) <AT>

16. The Dakota subset of these people believed in the Sacred Hoop. For 10 points each:

[10] Name this tribe that defeated Custer at the Battle of the Little Bighorn. Tribal leaders included Crazy Horse and Sitting Bull.

ANSWER: **Lakota** or **Sioux** ("SOO")

[10] The Lakota fought in the Great Sioux War after being kicked out of this sacred mountain range, the current location of Mount Rushmore. White settlers became interested in this mountain range following the discovery of gold here.

ANSWER: **Black Hills**

[10] At this fort, the Lakota were allowed to keep their tribal land around the Black Hills in an 1868 treaty ending Red Cloud's War. An earlier treaty at this fort, which is on the Oregon, Mormon, and California trails, was signed in 1851.

ANSWER: **Fort Laramie**

17. This singer achieved popularity with her recording of "Summertime" from the 1935 opera *Porgy and Bess*. For 10 points each:  
[10] Name this black singer of "Gloomy Sunday" and "Fine and Mellow." She was influenced by Bessie Smith's blues singing, and collaborated with Count Basie.

ANSWER: Billie **Holiday** [accept Eleanora **Fagan**]

[10] Holiday used a poem written by Abel Meeropol in this song about black lynching. Featuring the lyrics "blood on the leaves," it contrasts the "scent of magnolias, sweet and fresh" with "the sudden smell of burning flesh."

ANSWER: "**Strange Fruit**"

[10] Early in her career, Billie Holiday performed at the Apollo Theater in this New York City neighborhood. Duke Ellington instructs listeners to take the "A" train to this neighborhood, which also names a literary "Renaissance."

ANSWER: **Harlem** <GA>

18. Zeus thought he would be rid of this daughter of metis after he swallowed her, but she instead sprang fully formed from his head. For 10 points:

[10] Name this Greek goddess of wisdom. She's the namesake of a city whose symbols are the owl and the olive tree.

Answer: **Athena**

[10] In Norse mythology, the skull of one of these creatures named Ymir was used by Odin to create the heavens. These figures resided in Jotunheim.

ANSWER: **giants** (accept variants like frost **giants** or fire **giants**)

[10] The skull of Tiamat was smashed by this Babylonian storm god in the Enuma Elish in order to gain the Tablet of Destinies. He was frequently depicted as the head of the Babylonian pantheon.

Answer: **Marduk** <JK>

19. Gasses, liquids, and solids aren't the only states of matter! For 10 points each, name some things about states of matter not included in the traditional three:

[10] At temperatures very close to absolute zero, a substance's particles will occupy the lowest constant state, resulting in a transition to this phase. It was first synthesized by cooling rubidium-87 atoms.

ANSWER: **Bose-Einstein condensate**

[10] Matter will enter this most abundant phase in the universe if sufficiently energized. Examples of everyday objects in this phase include electrical sparks and lightning.

ANSWER: **plasma**

[10] This man names a certain length describing how far the electrical effects of a plasma will persist. This physicist also names a unit for electric dipole moment.

ANSWER: Peter Joseph Wilhelm **Debye** (dee-bye) <AT>

20. This empire was expanded southward under Bindusara. For 10 points each:

[10] Name this empire, whose leader Ashoka who spread Buddhism in India after the bloody Kalinga War. It was founded by Chandragupta.

ANSWER: **Mauryan** Empire

[10] During his reign, Ashoka ordered the construction of thousands of these dome-like mounds that allegedly housed Buddhist relics. A "Great" one is located at Sanchi.

ANSWER: **stupas**

[10] Xuanzang ("schwan-ZANG") and Yijing visited many stupas during this dynasty, in which Buddhism, Taoism, and Confucianism coexisted as the "Three Teachings". It made a new legal code and allowed Islam to spread for a while.

ANSWER: **Tang** dynasty

TB. Name some stuff about the chemistry of gold and silver, for 10 points each:

[10] Due to their resistance to corrosion and oxidation, gold and silver are classified as a group of metals with this name. This word also names the elements in Group 18 of the periodic table that have complete octets.

ANSWER: **noble** (accept **noble** metals and grudgingly **noble** gases) <AT>

[10] This solution is notable for its ability to dissolve gold and silver. It is a mixture of nitric acid and hydrochloric acid usually in a molar ratio of 1:3.

ANSWER: **aqua regia**

[10] This alloy of gold and silver was frequently used in jewelry in ancient civilizations.

ANSWER: **electrum** <AT>