

Ladue Invitational Spring Tournament IV

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Round 11

Tossups

1. This man received shelter after he embraced the legs of Queen Arete of Scheria, the wife of King Alcinous. Eurymachus attempted to hit this man with a chair after he defeated the beggar Irus. His men were killed after they ate the cattle of Helios, and the rest of his ships had earlier been destroyed by the (*) Laestrygonians. After this man arrived at Aeaea, Hermes gave him moly to help him ward off the magic of the witch Circe. This man was held captive by Calypso before coming home and killing his wife's 108 suitors with his son Telemachus. For ten points, name this king of Ithaca who spent ten years trying to return to his wife Penelope after the Trojan War.

ANSWER: Odysseus [accept Ulysses]

<BZ>

2. One type of these devices is capable of producing Bessel beams with minimal diffraction. Another types of these devices is created by layering a set of concentric annular sections. Their bestform type minimize comas formed from deviations from the optical axis. One formula sets the difference between inverse radii proportional to their power, which is measured in (*) diopters and is equal to the inverse of focal length. A larger, virtual image appears behind the observer if he is standing closer than the focal length of the convex type. For ten points, identify these optical devices contrasted with mirrors, which are curved and found in microscopes and glasses.

ANSWER: lenses [accept specifics like concave or convex lenses]

<EC>

3. This author wrote a short story in which Mrs. Sommers pays a dollar and ninety-eight cents for an eight-and-a-half sized item. In addition writing "A Pair of Silk Stockings," this author wrote a story in which Louise repeats the word "free" after Josephine tells her that Brently Mallard died from a railroad accident. The protagonist from this author's most famous novel bursts into tears at (*) Mademoiselle Reisz's piano recital before returning to Grand Isle, where she had met Robert Lebrun, and drowning herself in the Gulf of Mexico. For ten points, identify this American author of "The Story of an Hour" who wrote about Edna Pontellier in *The Awakening*.

ANSWER: Kate Chopin

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4. This man names a hierarchy with Schützenberger whose Type-1 level can be interpreted with a linear bounded automaton. In one work, this thinker defined the terms "competence" and "performance." This man criticized Skinner's belief that children are conditioned to develop a (*) verbal behavior, and instead proposed an inherent acquisition device. This pioneer of the concept of transformational-generative grammar used the sentence "Colorless green ideas sleep furiously" to demonstrate that a meaningless sentence can be grammatically correct. *Syntactic Structures* was written by, for ten points, what MIT linguist?

ANSWER: Noam Chomsky

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5. In one painting, this artist depicted water streaming out of the breasts of a statue of Venus at his wedding to Helene Fourment. This artist of *The Garden of Love* depicted three men on horseback attacking the title creature, which stands on top of a crocodile, in his *The Hippopotamus Hunt*. *The Coronation in Saint-Denis* and *The (*) Disembarkation at Marseilles* are parts of a cycle by this artist, who also created a triptych that depicts Christ being taken down after the crucifixion. For ten points, identify this Flemish painter of the Marie de Medici cycle and *The Descent from the Cross* who is known for his fleshy nudes.

ANSWER: Peter Paul Rubens

<JD>

6. One estimate for this quantity, equal to 10.5 times the ideal gas constant, breaks down for liquids with strong intermolecular forces, thus deviating from Trouton's rule. In one formulation, this quantity is proportional to the sum of the products of microstate probabilities and their respective natural logs. The change in this quantity can also be calculated as change in (*) heat divided by temperature. For an isolated system, this never-decreasing property has been challenged by Maxwell's Demon, but otherwise holds true according to the Second Law of Thermodynamics. For ten points, name this property that measures the disorder in a system.

ANSWER: entropy

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7. Jesus and Mary allegedly presented this man with a copy of the Gospels and an omophorion after he was imprisoned for slapping Arius across the face at the First Council of Nicaea. In one story, he gave bags of gold to three poor girls who could not afford a dowry. This patron saint of sailors and fishermen also served as a Bishop of (*) Myra, and his namesake day is celebrated on December 6 and involves a tradition derived from his habit of donating coins in shoes and other gift-giving acts. For ten points, name this saint who provided the inspiration for the legend of Santa Claus.

ANSWER: St. Nicholas of Myra [accept Santa Claus before the end; accept Bishop of Myra before mention]

<BZ>

8. One character in this novel imagines the author Jonathan Swift climbing a pole to avoid the mass. That character later composes a poem on a scrap torn from Deasy's letter about cattle disease. The protagonist of this work runs into Bantam Lyons after receiving a letter from Martha Clifford addressed to his pseudonym, Henry Flower. (*) Blazes Boylan has an affair with the central character's wife, Molly, whose soliloquy concludes with the statement "yes I will yes." Buck Mulligan has an argument with Stephen Dedalus in, for ten points, what stream-of-consciousness novel about a day in Leopold Bloom's life, written by James Joyce?

ANSWER: Ulysses

<KT>

9. In one of this composer's pieces, Pales sings the aria, "Sheep May Safely Graze." He used trumpets and five voices to conclude the "Symbolum Nicenum" section of another work. This composer of *Hunting Cantata* and *Mass in B minor* based another of his works on a theme given by Frederick the Great. He wrote (*) 24 preludes and fugues in every key in a work named after a tuning system. This composer of *The Musical Offering* produced a work dedicated to Christian Ludwig that was comprised of a set of six musical pieces. For ten points, name this German composer of *The Well-Tempered Clavier* and *Brandenburg Concertos*.

ANSWER: Johann Sebastian Bach [prompt on "Bach"]

<KT>

10. Removing these numbers from Pascal's triangle results in the formation of Sierpinski's triangle. This property is possessed by the degrees of all the vertices in an Eulerian graph. It is hypothesized that all perfect numbers also satisfy this condition, and these types of numbers can be expressed as the sum of two (*) prime numbers according to Goldbach's Conjecture. This property applies to functions such as x squared and cosine because those functions are symmetrical about the y-axis. In binary, these numbers have an end digit of zero because they are all multiples of two. For ten points, identify this property possessed by numbers which are not odd.

ANSWER: even

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11. These people were defeated by the Gepids at the Battle of Nedao. One colorfully named successor state of these people was alternatively known as the Hephthalites and overthrew the Gupta Empire. These people, who are often linked with the Xiongnu Confederation, were led after the death of Rugila by two brothers, one of whom demanded half of Rome as (*) dowry for his marriage to Honoria. These people, who caused the Great Migration and had a "white" subdivision, were defeated by Flavius Aetius and Theodoric I at the Battle of Chalons while led by the "Scourge of God." For ten points, name this violent nomadic tribe that swept into Europe under the leadership of Attila.

ANSWER: Huns

<JD>

12. This man appointed Konrad Krajewski to an office funded by sales of this man's photos on parchment. When asked his opinion of homosexuals, this man responded, "Who am I to judge?" During the 2013 World Youth Day celebrations, this former chemical technician and nightclub bouncer was met by 3 million people on Copacabana Beach in (*) Rio de Janeiro. This figure chose his official name based on his concern for the poor, which he has demonstrated through such actions as washing the feet of juvenile inmates and renouncing the regal clothing of his predecessor. For ten points, identify this successor of Benedict XVI, the current pope.

ANSWER: Pope Francis [or Jorge Mario Bergoglio]

<JD>

13. The Kibō module located here was the first to detect the moment a star was swallowed by a black hole. The search for dark matter is carried out by AMS-02, a spectrometer located on this object, which has seen visits from Cygnus and Dragon spacecrafts. Expedition 38, the most recent mission to this object, seeks to understand protein crystal and plant (*) growth in preparation for a one-year long mission to this location in 2015. This collaborative effort between five agencies and multiple countries is the most expensive object ever constructed. For ten points, name this artificial satellite orbiting earth that allows astronauts to conduct research in space.

ANSWER: International Space Station

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14. This figure's return from exile to Ezeiza Airport was marred by a massacre of his left-wing supporters, the Montoneros. This man, whose wife went on a "Rainbow Tour" of Europe, first rose to power by backing a coup of Ramón Castillo that end his country's Infamous Decade. He was excommunicated by Pius XII after trying to legalize prostitution, which led to a bombing of his presidential palace, the (*) Plaza de Mayo. His supporters were known as the *descamisados*, or the "shirtless ones." He was succeeded by his third wife Isabel, and his second wife was former actress who gained popularity with the masses. For ten points, identify this leader of Argentina and husband of Evita.

ANSWER: Juan Domingo Perón

<JD>

15. The speaker of one of this author's poems comments that "such gaudy Tulips [are] rais'd from Dung" after entering the dressing room of Celia. This author included the allegory of a spider and a bee in a prolegomenon to a work in which Peter, Jack, and Martin, who each symbolize a branch in Christianity, ultimately split up. This author of *The Battle of the Books* and (*) *A Tale of a Tub* also wrote an essay which suggests the usage of children as a rich source of food. The protagonist of his most famous novel meets the Houyhnhnms, Yahoos, and the tiny inhabitants of Lilliput. For ten points, name this satirical author of *A Modest Proposal* and *Gulliver's Travels*.

ANSWER: Jonathan Swift

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16. The Grand Ditch diverts water from the headwaters of this river in the Never Summer Mountains to the Front Range Urban Corridor. The All-American Canal, which replaced the original Alamo Canal, provides irrigated water from this river to the Imperial Valley. The Salton Sea was originally created by floodwaters from this river. (*) John Wesley Powell explored this river's most visited feature. This river flows through Lake Mead, which is created by an arch-gravity dam constructed during the Great Depression. For ten points, identify this river which flows through Hoover Dam after cutting through the Grand Canyon.

ANSWER: Colorado River

<JD>

17. Goatsbeard plants of the genus *Tragopogon* are a model for one form of this process, which involves the formation of autopolyploid and allopolyploid organisms. Prezygotic and postzygotic barriers facilitate this process, one theory of which involves cladogenesis and is contrasted with phyletic (*) gradualism; Stephen Jay Gould helped develop that theory, called punctuated equilibrium. The sympatric and allopatric types of this phenomenon differ based on whether geographic barriers contribute to reproductive isolation. For ten points, name this process which results in the formation of new species.

ANSWER: speciation [accept specific types, such as allopatric, peripatric, sympatric, or parapatric speciation; prompt on "evolution"]

<BZ>

18. The Battle of Vitkov Hill occurred near this city during a war that was partly set in motion due to Utraquist beliefs developed here. In the sixteenth century, a rabbi called the Maharal allegedly used a *shem* to create a golem in this city. In 1635, Ferdinand II signed a peace settlement with the Holy Roman Empire in this city which partially ended a war that was sparked when four Catholic regents were (*) thrown into manure in the Second Defenestration of this city. In 1968, Alexander Dubcek ["DOOB-check"] attempted to implement "socialism with a human face" in a "spring" name for this city. For ten points, name this largest city and capital of what is now the Czech Republic.

ANSWER: Prague

<BZ>

19. In one film, Yao is asked to retrieve this object while supporting two metal plates, while in another, Bard possesses a black one of these objects passed down from Girion. Princess Merida requires only three of these objects to win her challenge, unlike her suitors in the movie *Brave*, and in another film, a tethered one of these objects causes an explosion after entering a (*) thunderstorm. Fletching uses feathers to stabilize these objects, one of which is present in the beak of the mockingjay symbol. For ten points, identify these projectile weapons used by Katniss Everdeen and fired from bows.

ANSWER: arrows [do NOT prompt or accept "bow" or "bow and arrow"] [the first line references *Mulan* and *The Hobbit: The Desolation of Smaug*]

<EC>

20. In this work, one criminal being persecuted at the Wall wears a bag with blood seeping through that resembles a red smile. Two characters in this novel learn that Janine's child was a "shredder" while attending a "Prayvaganza." Professor Pieixoto describes how this novel's story was presented in the form of thirty cassette tapes. After playing a game of (*) Scrabble, the protagonist of this work learns the phrase, "Don't let the bastards grind you down." That character sleeps with Nick, who tells her to trust the Eyes in the Mayday resistance, and serves Serena Joy and a Commander. For ten points, name this novel concerning Offred, written by Margaret Atwood.

ANSWER: *The Handmaid's Tale*

<KT>

21. A statute passed in the wake of this movement was held to not violate the Fourteenth Amendment in the Supreme Court case *Mugler v. Kansas*. The goals of this movement were enforced by statewide "Maine Laws" and by the particularly ineffective Volstead Act. A violent campaigner for this goal who utilized a hatchet was (*) Carrie Nation. Frances Willard established one organization that promoted this movement, the WCTU, though it was supplanted by the Anti-Saloon League. For ten points, name this movement whose goals were achieved when alcohol was banned by the Eighteenth Amendment.

ANSWER: temperance or Prohibition [accept any answer that references being against alcohol]

<BZ>

22. The concentration of this substance in the blood is measured in BUN levels. It's not a pyrimidine, but carbamoyl phosphate is produced in the beginning of a reaction that results in this compound. The enzyme arginase produces the amino acid ornithine in addition to this compound when it acts on arginine. Silver cyanate was reacted with ammonium chloride in an experiment by (*) Friedrich Woehler, which produced this compound from inorganic reactants. Humans produce this compound because ammonia is too toxic to excrete. For ten points, name this nitrogenous compound which is found in mammalian urine.

ANSWER: urea

<BZ>

Bonuses

1. Bonus: For ten points each, answer the following about European rulers who were defeated by the Ottoman Empire:

[10] Mehmed II initiated a siege that led to the downfall of the Byzantine Empire during the reign of one man with this name. Another emperor of this name ended the persecution of Christians in the Roman Empire.

ANSWER: **Constantine** [accept **Constantine XI** or **Constantine I** or **Constantine the Great**]

[10] Louis II of Hungary died while trying to retreat across a river after this battle, where he had been defeated by Suleiman the Magnificent.

ANSWER: Battle of **Mohacs** [“MO-hash”]

[10] Philippe Villiers de L’Isle-Adam, Grand Master of the Knights Hospitaller, was unable to fend off an Ottoman attack on this island. One of the Wonders of the Ancient World, the Colossus of this island, was scrapped in 653.

ANSWER: **Rhodes**

<BZ>

2. Bonus: Its third section “Blue in Green” may have been written by the pianist Bill Evans. For ten points each:

[10] Name this jazz album that includes tracks like “So What,” “Freddie Freeloader,” and “Flamenco Sketches.” It features the drummer Jimmy Cobb and the saxophonist John Coltrane.

ANSWER: **Kind of Blue**

[10] *Kind of Blue* was composed by this jazz trumpeter who also created *Birth of the Cool* and *Bitches Brew*.

ANSWER: Miles Dewey **Davis** III

[10] Miles Davis wrote an album titled after the *Sketches of* this nation, borrowing the music of Joaquin Rodrigo and Manuel de Falla.

ANSWER: Kingdom of **Spain**

<KT>

3. Bonus: Diseases affecting this organ include emphysema and silicosis. For ten points each:

[10] Name these respiratory organs, which contain tiny sacs called alveoli that are the site of gas exchange.

ANSWER: **lungs**

[10] The trachea branches off into these two tubes, one for each lung. They are Generation 1 on the respiratory tree and name a disease that results from the inflammation of the lower respiratory tract.

ANSWER: **bronchi** or **bronchus**

[10] The lungs are surrounded by two of these structures. When the thoracic cavity expands or contracts, the surface tension that holds these two membranes together causes the lungs to expand or contract as well.

ANSWER: **pleural** membranes or **pleura**

<BZ>

4. Bonus: With his father Increase, he actively supported smallpox inoculation. For ten points each:

[10] Name this Puritan minister of the Old North Church, who claimed that “spectral evidence” was permissible during a series of 1692 events.

ANSWER: **Cotton Mather** [prompt on “Mather”]

[10] Cotton Mather played a pivotal role in the witchcraft trials of this New England town.

ANSWER: **Salem**

[10] The Salem witch trials occurred in this colony. After arriving here, John Winthrop proclaimed a “city upon a hill”.

ANSWER: **Massachusetts** Bay Colony [or Province of **Massachusetts** Bay]

<BZ>

5. Bonus: Identify some paintings by Sandro Botticelli, for ten points each:

[10] A handmaid offers a pink cloak to the title figure of this Botticelli painting, which depicts the nude title Roman goddess emerging from the sea while standing on a seashell.

ANSWER: The *Birth of Venus* [or *Nascita di Venere*]

[10] This Botticelli painting depicts the nymph Chloris being abducted on the right and Hermes raising a rod towards the sky on the left side while the Three Graces dance in a grove.

ANSWER: *Primavera* [or *Allegory of Spring*]

[10] Twelve angels dance in the sky at the top of this Botticelli painting, which depicts the Virgin Mary and a newborn Jesus in a cave.

ANSWER: The *Mystical Nativity*

<JD>

6. Bonus: She opposed the FDA's recommendation to make the morning after pill available over the counter. For ten points each:

[10] Name this current Secretary of Health and Human Services.

ANSWER: Kathleen Sebelius

[10] Sebelius testified about the failures of a website created to implement this law, which included an individual mandate to buy health insurance.

ANSWER: Patient Protection and Affordable Care Act [or PPACA; accept Obamacare]

[10] Unlike similar healthcare measures in Canada and the United Kingdom, the Affordable Care Act did not set up one of these systems, in which the government is the sole provider of insurance.

ANSWER: single-payer system

<BZ>

7. Bonus: It was ruled exclusively by the Keita Dynasty. For ten points each:

[10] Identify this West African empire which began under the rule of Sundiata and fell after the rise of Songhai. Its scholarly city of Timbuktu still plays an important role in its namesake modern-day country.

ANSWER: Mali Empire

[10] The University of Sankore, located in Timbuktu, was built under this ruler of the Mali Empire, though he is better known for inadvertently devaluing the price of gold in Cairo during his pilgrimage to Mecca.

ANSWER: Mansa Musa I

[10] The later Mali ruler Suleyman was visited by this illustrious Moroccan traveler who explored most of the Islamic world, in addition to eastern Europe and China.

ANSWER: Abu Abdullah Muhammad Ibn Battuta

<JD>

8. Bonus: It describes men who are "drunk with fatigue" and how "all went lame" and "blind". For ten points each:

[10] Name this poem which states that "My friend, you will not tell" the title "old lie" to "children ardent for some desperate glory".

ANSWER: "Dulce et Decorum Est"

[10] "Dulce et Decorum Est" was written by this English poet who also asked "What passing-bells for these who die as cattle?" in his poem, "Anthem for Doomed Youth."

ANSWER: Wilfred Edward Salter Owen

[10] Wilfred Owen's "Dulce et Decorum Est" reflected the horrors of trench warfare during this conflict. Another leading poet during this war was Siegfried Sassoon.

ANSWER: First World War [accept equivalents like World War One, WW1, and the Great War; prompt on "World War"]

<KT>

9. Bonus: The value of a good produced in the US by a French firm counts towards it. For ten points each:

[10] Name this quantity calculated by adding up the value of all final goods and services produced in a given country. Unlike the gross national product, ownership does not matter.

ANSWER: **Gross Domestic Product** or **GDP**

[10] Real GDP constitutes the X-axis of a model that graphs this quantity and its counterpart. The long-run curve of this quantity is vertical, and cost-push inflation is caused by a leftward shift of this.

ANSWER: **aggregate supply** [do not accept or prompt on “supply”]

[10] Because the population of a country affects its GDP, dividing GDP by the population of the country is a more accurate indicator of its economic health. That value is denoted by this Latin term.

ANSWER: GDP **per capita**

<BZ>

10. Bonus: The Romans have often run into trouble in the Middle East. For ten points each:

[10] The Roman Empire faced three separate rebellions by these people. The first rebellion by these people saw the destruction of the Second Temple and the siege of Masada, while the third one was led by Simon bar Kokhba.

ANSWER: **Jews** [or **Jewish** people]

[10] This Roman general’s campaign against the Parthians ended with his death at the Battle of Carrhae, after which molten gold was poured down the mouth of his corpse. This member of the First Triumvirate may have been the richest man in history.

ANSWER: Marcus Licinius **Crassus**

[10] This Syrian queen managed to seize Egypt from the Romans but was eventually subdued by Aurelian, thereby bringing an end to the short-lived Palmyrene Empire.

ANSWER: Julia Aurelia **Zenobia** [or Septimia **Zenobia**; or Bat-**Zabbai**; or al-**Zabba**]

<JD>

11. Bonus: Ice core measurements can show the progressive fluctuations of these compounds, which include carbon dioxide and nitrous oxides. For ten points each,

[10] Identify these substances that absorb thermal radiation and are responsible for their namesake effect that contributes to global warming.

ANSWER: **greenhouse gases**

[10] This 1997 international treaty sets obligations for industrialized countries to reduce greenhouse gas emission, which the US signed but did not ratify. The second commitment of this treaty begins in 2013 and extends until 2020.

ANSWER: **Kyoto Protocol** to the United Nations Framework Convention on Climate Change

[10] This other greenhouse gas is trapped in clathrates and released when arctic ice melts, forming a positive feedback cycle.

ANSWER: **methane** [accept **CH4**]

<EC>

12. Bonus: In this work, Azazello observes the metaphorical death of two characters after they drink poisoned wine. For ten points each:

[10] Name this novel in which Professor Woland, the cat Behemoth, and other characters wreak havoc in Moscow.

ANSWER: *The **Master and Margarita***

[10] This Russian author wrote *The Master and Margarita* and wrote about the Turbin family in his novel *The White Guard*.

ANSWER: Mikhaíl Afanasyevich **Bulgakov**

[10] In *Master and Margarita*, the Master writes a book about this Roman Prefect’s trial of Yeshua. In the end of the novel, the Master finally allows this character to travel a moonbeam path.

ANSWER: Pontius **Pilate** [or Pontius **Pilatus**]

<KT>

13. Bonus: In 1982, this island temporarily seceded from the United States to form the Conch Republic. For ten points each:

[10] Identify this island at the end of US Highway 1 that contains the southernmost point in the continental United States.

ANSWER: **Key West**

[10] Key West is an island in this state, which also contains the Everglades and cities like Tampa and Miami.

ANSWER: **Florida**

[10] Even further west from Key West is this group of islands at the very end of the Florida Keys. Its namesake national park features the unfinished coastal fortress of Fort Jefferson.

ANSWER: **Dry Tortugas**

<JD>

14. Bonus: Leon Foucault used one of these devices to demonstrate the rotation of the earth. For ten points each,

[10] Name these objects consisting of a bob attached to a pivot that can swing freely under the influence of gravity.

ANSWER: **pendulum**

[10] This property for a simple pendulum is equal to “2 pi times the square root of length divided by gravitational acceleration.” It is notably independent of the bob’s mass, and also independent of amplitude for small angles.

ANSWER: **period**

[10]: This parameter measures a harmonic oscillator’s resistance to disturbances in its oscillation period, or the rate at which the device loses energy to damping.

ANSWER: **Quality factor**

<EC>

15. Bonus: In this novel, Mrs. Schächter repeatedly screams “Fire!” to foreshadow the crematoria in Auschwitz. For ten points each,

[10] Identify this novel in which the narrator is deported to Auschwitz and sent to work in Buna. He survives, but loses his father a few weeks before Americans liberate the camp.

ANSWER: **Night** [accept **La Nuit** or **Un di Velt Hot Geshvign**]

[10] This Holocaust survivor, the winner of the 1986 Nobel Peace Prize, wrote *Night* as part of a trilogy with *Dawn* and *Day*.

ANSWER: Eliezer “Elie” **Wiesel**

[10] In *Night*, this character teaches Eliezer about the Kabbalah. After escaping from deportation, this man relays the horrors of the Gestapo to the villagers, although no one, not even Eliezer, believes him.

ANSWER: **Moishe** the Beadle [or **Moshe** the Beadle]

<EC>

16. Bonus: She was originally the wife of a king of Pisa named Tantalus. For ten points each:

[10] Name this daughter of Tyndareus and Leda who conducted an affair with Aegisthus after she learned that her daughter Iphigenia was sacrificed.

ANSWER: **Clytemnestra**

[10] After Orestes avenged his father Agamemnon by killing Clytemnestra, this trio of goddesses pursued him for committing matricide. They were renamed the Eumenides, or Kindly Ones, after they agreed to stop chasing Orestes.

ANSWER: **Erinyes** [accept **Furies**]

[10] In some stories, Orestes reunites with his sister Iphigenia because this goddess whisked her away at the last second as she was about to be sacrificed. This virgin huntress and protector of the wilderness is a daughter of Leto.

ANSWER: **Artemis**

<BZ>

17. Bonus: Using these devices, Grover's algorithm can search through databases in sublinear time. For ten points each, [10] Name these novel devices which use the principle of superposition and entanglement to perform operations on data.

ANSWER: quantum supercomputers [prompt on partial]

[10] Shor's algorithm performs this operation on a given integer in polynomial time, which means it could be used to break RSA cryptography. Doing this to 21 returns 3 and 7.

ANSWER: prime factorization [accept words forms and clear-knowledge equivalents]

[10] Quantum computers operate using these pieces of information that can exist in a superposition of two states, unlike their normal counterpart, and are visualized on a Bloch sphere.

ANSWER: qubits [do NOT accept "bit"]

<EC>

18. Bonus: Despite having to travel over 1000 miles in wind chill of negative 100 °F, over fifty competitors enter this competition each year. For ten points each,

[10] Name this annual race across Alaska that features mushers and their team of sled dogs.

ANSWER: Iditarod Trail Sled Dog Race

[10] The Iditarod officially runs from Willow to Nome, but the ceremonial start is in this city along Alaska's southern coast, the state's most populous.

ANSWER: Municipality of Anchorage

[10] Among this family of Iditarod racers is Mitch, the 2012 and oldest ever race winner, as well as his son Dan, the 2013 and youngest ever race winner.

ANSWER: the Seavey family [accept Dan Seavey, Mitch Seavey, and/or Dallas Seavey]

<EC>

19. Bonus: This book's protagonist climbs over trapped women to escape a burning tent. For ten points each:

[10] Name this novel whose title hypocritical preacher has affairs with women like the evangelist Sharon Falconer and Lulu Bains before becoming one of the most powerful men in Zenith.

ANSWER: Elmer Gantry

[10] In this novel by the author of *Elmer Gantry*, Carol Kennicott eventually returns back home with her husband Will to the small town of Gopher Prairie.

ANSWER: Main Street

[10] This author, who was the first American to receive the Nobel Prize in Literature, wrote *Elmer Gantry* and *Main Street*.

ANSWER: Harry Sinclair Lewis

<KT>

20. Bonus: For ten points each, answer some questions about the interesting properties of cyclic quadrilaterals.

[10] Because two pairs of adjacent sides subtend two arcs that add up to form a circle, opposite angles satisfy this property where they sum to 180 degrees.

ANSWER: supplementary angles

[10] Ptolemy's theorem equates the product of these two constructs with the sum of the products of opposite sides. In a rectangle these structures form diameters of the circumscribed circle.

ANSWER: diagonals

[10] This formula computes the area of a cyclic quadrilateral as the square root of the products of the difference between the semiperimeter and each side. It is a corollary of Bretschneider's formula.

ANSWER: Brahmagupta's formula

<EC>

21. Bonus: This work was commissioned at the Hampton Court Conference. For ten points each:

[10] Identify this version of the bible that was translated by 47 scholars from the Church of England. It is named after the English monarch during whose reign it was created.

ANSWER: **King James** Bible [or **KJB**; **King James** Version or **KJV**; or **Authorized Version** or **AV**]

[10] As the King James Bible grew in popularity, it replaced this earlier Latin version of the Bible, which was translated by St. Jerome in the 4th century.

ANSWER: **Vulgate** Bible

[10] An even earlier translation of Christian texts was the Septuagint, which was translation of the Hebrew Bible into this language. The New Testament was originally written in this language.

ANSWER: **Greek** [or **Koine** Greek]

<JD>

22. Bonus: In this novel, Paul D is described as having a “tobacco tin buried in his chest.” For ten points each:

[10] Identify this novel in which the title ghost reappears to haunt the runaway slave Sethe in 124 Bluestone Road.

ANSWER: **Beloved**

[10] This American author of *Beloved* also wrote about a community called the Bottom which white people plan to transform into a golf course in her novel *Sula*.

ANSWER: Toni **Morrison** [or Chloe Ardelia **Wofford**]

[10] In this novel by Toni Morrison, Pecola Breedlove, a woman who desires the title trait, is impregnated by her father Cholly. This work is partially narrated by Claudia MacTeer.

ANSWER: *The* **Bluest Eye**

<KT>