

Ladue Invitational Spring Tournament IV

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Round 3**Tossups**

1. This composer did not allow the publication of the score of his fifth symphony, which celebrated the three-hundredth anniversary of the Lutheran Church. He wrote a work nicknamed "Kinderstück" which was one of his *Songs without Words*. This composer of the *Reformation* symphony was inspired by his trip to (*) Fingal's Cave to write the *Hebrides Overture*, and he composed the Scottish and Italian symphonies. He also wrote the incidental music to a Shakespeare play that includes Puck's valedictory speech and a famous *Wedding March*. For ten points, name this composer of *A Midsummer Night's Dream*.

ANSWER: Jakob Ludwig Felix Mendelssohn Bartholdy

<MP>

2. In this play, one character inherits a fortune after a millionaire is convinced that he is the "most original moralist" of England. In an earlier scene, a young lady pays a shilling in Wimpole Street to be able to work in a flower shop; that character later marries (*) Freddy Eynsford Hill. This play begins in Covent Garden, where an interpreter of Indian dialect, Colonel Pickering, accepts a bet with a phonetics professor that the latter can change a cockney-speaking girl into a proper woman. For ten points, identify this play in which Eliza Doolittle betrays Henry Higgins, written by George Bernard Shaw.

ANSWER: Pygmalion

<KT>

3. While Governor of Virginia, this man suppressed Gabriel Prosser's rebellion, and later he helped Robert Livingston negotiate the Louisiana Purchase. After the Spanish foreign minister Luis de Onís and his Secretary of State John Quincy Adams signed a treaty, this president acquired Florida. His nearly (*) unanimous election in 1820 was indicative of the "Era of Good Feelings" during his term. The Clark Memorandum and Roosevelt Corollary were additions to one policy promulgated by this man. James Madison was succeeded by, for ten points, what president, who issued a doctrine prohibiting European nations from interfering in Latin America?

ANSWER: James Monroe

<BZ>

4. Z-ligands accept this many electrons from their metal centers while donating zero, and naphthalene consists of this many fused benzene rings. Oxygen's paramagnetism is due to having this many unpaired electrons in its antibonding pi orbitals, and this value is the most common oxidation number of cadmium due to its full (*) d-shell. This is the number of hydrogen atoms in the empirical formula for glucose, and also the maximum number of electrons allowed in the first electron shell. The number of valence electrons found in alkaline earth metals is, for ten points, what value that is also the atomic number of helium?

ANSWER: two

<EC>

5. Richard Herrnstein formulated a “matching law” for this school of thought. One proponent of this school developed an air crib for his daughter and invented a box designed to measure a rat’s response to certain conditions. A pioneer of this school worked with Rosalie Rayner in an experiment to induce a (*) fear of white and furry objects in a child. Another member trained a dog to salivate at the sound of a tuning fork through classical conditioning. For ten points, identify this school which argues that psychology should be focused on observable conduct, advocated by Skinner, Watson, and Pavlov.

ANSWER: behaviorism [accept word forms like behaviorist]

<KT>

6. In this novel, a police officer kills one character by crushing his skull with a pick-handle, and that character was arrested due to the outspokenness of Floyd Knowles. Ivy and Sairy Wilson accompany the protagonist of this novel on a trip which Muley Graves refuses to attend. In that trip, (*) Connie Rivers abandons his wife Rose of Sharon. The former preacher Jim Casy is involved in a strike, and his friend Tom becomes a fugitive at the end of this novel after committing a murder. For ten points, name this work in which the Joad family travels to California from Oklahoma during the Great Depression, a novel written by John Steinbeck.

ANSWER: *The Grapes of Wrath*

<KT>

7. This state’s medical board revoked the medical license of Christopher Duntsch after he killed or paralyzed six patients. In April 2013, this state’s town of West suffered an explosion at an ammonium nitrate fertilizer plant. This state’s current governor won a primary election against Kay Bailey Hutchison and a gubernatorial election against (*) Bill White in 2010. He also called a special session on July 1, 2013 to pass an abortion bill that was earlier filibustered by Wendy Davis. For ten points, name this state home to Ron Paul and Ted Cruz, which is currently governed by Rick Perry.

ANSWER: Texas

<BZ>

8. The Roman equivalent of this Greek god fathered a giant named Cacus who stole the Cattle of Geryon from Heracles. He was raised by Eurynome and Thetis on Lemnos, and fathered a child with Gaia named Erichthonius after his attempted rape of Athena. Self-moving (*) tripods assist this god, who once gave his mother a throne that she could not get out of. This god used a fine metal net to catch his wife in the middle of an affair with Ares. He fell for a day after he was thrown out of Mount Olympus by his mother Hera. For ten points, name this lame husband of Aphrodite and Greek god of fire, smithing, and metalworking.

ANSWER: Hephaestus [or Hephaistos; do not accept or prompt on “Vulcan”]

<BZ>

9. These people lost favor after the Affair of the Placards, and the Duke of Buckingham led a failed attempt to relieve a siege of these people at La Rochelle. Dragonnades were sometimes quartered in their homes, and Gaspard de Coligny was one leader of this group. Frederick William protected these people in Prussia with the Edict of (*) Potsdam, which was a response to the second Edict of Fontainebleau. Catherine d’Medici instigated a mass murder of these people in the St. Bartholomew’s Day Massacre, but they were later protected under Henry IV’s Edict of Nantes. For ten points, name these oft-persecuted French Protestants.

ANSWER: Huguenots [accept French Protestants before mentioned; prompt on “Protestants” or “Calvinists”]

<BZ>

10. In one of this author's works, an Irishman marks a moon-shaped scar on John's forehead before he escapes with "Judas' money." In another of his works, the protagonist develops perfect memory after falling from a horse. This author of "The Form of the Sword" and (*) "Funes, the Memorious" detailed the life of a Chinese spy working for the Germans, Dr. Yu Tsun, who murders Stephen Albert. His most famous story is set in an enormous expanse of hexagonal rooms with books that contain all the characters necessary to create any literary work. For ten points, identify this Argentinian author of "The Garden of Forking Paths" and "The Library of Babel."

ANSWER: Jorge Francisco Isidoro Luis Borges

<KT>

11. Members of the Bobo Ashanti sect of this religion worship Prince Emanuel Edwards. Followers of this religion's I-tal [EYE-tal] dietary code sometimes abstain from using salt, and "reasoning" ceremonies in this religion are aimed at communicating with their god (*) Jah. The formation of this religion was influenced by a Robert Athlyi Rogers work that declared Ethiopians to be the chosen people, called the *Holy Piby*, which is why members of it worship the Ethiopian emperor Haile Selassie. For ten points, name this Afro-centric religion whose adherents include Bob Marley and smoke ganja.

ANSWER: Rastafari movement [accept Rastafarianism; but this is somewhat derogatory]

<BZ>

12. One city on this body of water holds a necropolis where the oldest golden treasure in the world was discovered. The biblical flood behind Noah's Ark may have actually been a dramatic rise in this body of water's level around 5600 BC, known as its "deluge hypothesis." A giant stairway known as the (*) Potemkin Stairs is located near the mouth of the Dnieper in Odessa, a city on this body of water. The 2014 Winter Olympics will be hosted along its banks in Sochi. The Crimean Peninsula juts into this sea, which is connected to the Sea of Marmara by the Bosphorus. For ten points, identify this colorfully-named sea in that borders the Ukraine, Turkey, and Russia.

ANSWER: Black Sea

<JD>

13. One type of these can be approximated by solving Pell's equations, and examples of these with periodic continued fractions are their quadratic types. This set can be constructed from its complement by using Dedekind cuts.

Hippasus arrived at a contradiction in the parity of (*) square numbers to find these numbers, and Cantor's diagonal argument proved that almost all real numbers are these numbers which have non-terminating and non-repeating decimal representations. For ten points, identify these numbers that cannot be expressed as a fraction of two integers "*a* over *b*," exemplified by *e* and the square root of two.

ANSWER: irrational numbers [accept square roots before "quadratic"]

<EC>

14. The Comitia Centuriata designated the holder of this office, which was the endpoint of the *cursus honorum*. After their stay in office, these people were often given the governorship of a province and were known as pro-[this]. Lucius Junius Brutus was the first holder of this position, while Caligula tried to elevate his (*) horse Incitatus to this position and Gaius Marius held it for an unprecedented seven terms. The Lex Licinia Sextia provided that there be at least one plebeian in this position each year. For ten points, identify this highest elected official of the Roman Republic, two of which served together in any particular year.

ANSWER: consuls [or consulate]

<JD>

15. In one of this man's works, the sub-lieutenant Fedotik loses all of his belongings from a fire, and another scene shows Solony challenging and killing Baron Tuzenbach in a duel. Konstantin commits suicide after giving the title animal to Nina in one work, and in another, the title character loves (*) Elena and fails in his attempt to shoot Professor Serebryakov. His most famous work features characters like Trofimov and Gayev, and ends with Lopakhin purchasing Madame Ranevsky's estate and cutting down the title tree. For ten points, name this Russian playwright of *The Three Sisters*, *The Seagull*, *Uncle Vanya*, and *The Cherry Orchard*.

ANSWER: Anton Pavlovich Chekhov

<KT>

16. One scene in this film shows six Asians playing Uno at a lunch table. One character in this film misspells chlamydia with a "k," while another is the daughter of the inventor of toaster strudel. Mr. Duvall exclaims that he "did not leave the South Side for this" after a riot occurs in this film, whose main character realizes at a key moment that the (*) limit does not exist. That protagonist of this film helps create the Burn Book and fakes bad calculus scores to get closer to Aaron Samuels. Regina George is hit by a school bus in, for ten points, what 2004 film in which Cady Heron is introduced to high school cliques by the Plastics, starring Lindsay Lohan?

ANSWER: Mean Girls

<JD>

17. Asynchronous examples of these devices include AMULET and ILLIAC II, which are coordinated using pipeline controls and FIFO sequencers. They operate primarily based on fetch, decode, execute, and writeback, and the von Neumann bottleneck limiting their performance can be reduced by adding a (*) cache. They transmit information between the ALU, registers, and memory, and their clock rate is typically measured in gigahertz. Multiple cores can be found in ones manufactured by AMD and Intel. For ten points, identify this hardware component that handles instructions and computation for a computer.

ANSWER: CPU or central processing unit [accept microprocessor]

<EC>

18. The Durham Report urged for the union of this modern-day country's two parts. The explosion of the *SS Mont-Blanc* occurred in this country, whose first prime minister left office after accepting bribes over the construction of a transcontinental railroad in the (*) Pacific Scandal. Louisiana's Cajun culture originated from settlers in this country called Acadians. The Battle of the Plains of Abraham occurred in this country during the French and Indian War, and its Klondike Gold Rush resulted in the settlement of Yukon Territory. For ten points, identify this largest member of the British Commonwealth home to the province of Ontario.

ANSWER: Canada

<JD>

19. The intensity of this process for electrons is proportional to the structure factor squared, and one parameter for this phenomenon measures the ratio of aperture size squared to the product of distance and wavelength. Due to this process, every point on a wave front is considered a source of (*) secondary spherical wavelets, and this interaction creates an Airy disk that limits the focusing ability of lenses. Interference caused by this phenomenon creates alternating light and dark bands, which was observed in Young's double-slit experiment. For ten points, identify this phenomenon where waves bend around an obstacle.

ANSWER: diffraction [accept x-ray scattering before "ratio"]

<EC>

20. Works of art in this movement include *View of the Thames*, which was painted by Alfred Sisley, a British artist dedicated to *en plein air* landscapes. Berthe Morisot painted *The Cradle* using this movement's techniques, which typically avoids using black paint. One work in this movement depicts the seamstress (*) Aline Charigot, who plays with a small black dog and sits in a dining table. Louis Leroy coined the name of this movement. Renoir's *Luncheon of the Boating Party* was a part of, for ten points, what 19th century French art movement named after a Claude Monet painting of a sunrise in Le Havre?

ANSWER: **Impressionism**

<KT>

21. This disorder results from the repeated activation of the nucleus accumbens by the ventral tegmental area. Due to neuroplasticity, this condition can cause the decreased activity of inhibitory neurons and can result in increased tolerance since it alters the (*) reward pathway. This condition can be treated by drugs like naltrexone and methadone. Individuals with this condition experience withdrawal symptoms after they can no longer use dopamine-stimulating chemicals like amphetamines and nicotine. For ten points, identify this condition which results when individuals become dependent on pleasure-inducing substances like drugs.

ANSWER: drug **addiction** [or **substance dependence**; prompt on "dependence"; prompt on "substance abuse"]

<BZ>

22. Max Dehn showed that one type of these figures has a non-zero Dehn invariant in his proof of Hilbert's third problem. The pentachoron contains 5 of these cells in four dimensions, and one subclass of this figure includes disphenoids. The volume of this figure is computed as one-sixth of the scalar triple product of its sides, and its (*) regular type has surface area equal to s^2 times the square root of three. It is generalized as a 3-simplex, and its regular variety is the simplest platonic solid. For ten points, identify this polyhedron with four triangular faces.

ANSWER: **tetrahedron** [accept regular **tetrahedron** anywhere; accept **3-simplex** before read; prompt on "polyhedron" or "triangular pyramid"]

<EC>

Bonuses

1. Bonus: Its third section features a character who finds it too painful to re-live her 12th birthday. For ten points each:

[10] Name this play narrated by the Stage Manager in which George Gibbs marries Emily Webb in Grover's Corners.

ANSWER: **Our Town**

[10] This playwright wrote *Our Town* and a work in which several people die on an Inca rope bridge, *The Bridge of San Luis Rey*.

ANSWER: Thornton Niven **Wilder**

[10] Henry becomes an enemy for mankind in this Wilder work, in which George Antrobus becomes the president of the Fraternal Order of Mammals and faces extinction from a wall of ice arriving from Canada.

ANSWER: *The* **Skin of Our Teeth**

<KT>

2. Bonus: By Euler's identity, e raised to the power of i times this constant equals negative one. For ten points each:

[10] Identify this constant that is the ratio of a circle's circumference to its diameter, equal to approximately 3.14.

ANSWER: **pi**

[10] Pi is not only irrational but also *this*, where it is not a root of any polynomial with rational coefficients. Almost all numbers satisfy this property since their counterpart, algebraic numbers, are countable while they are not.

ANSWER: **transcendental** numbers

[10] Proving that pi was transcendental also proved the impossibility of squaring the circle using only these two instruments employed in geometric constructions. Give both.

ANSWER: **compass** and **straightedge** [accept in either order; accept **ruler** in place of "straightedge"]

<EC>

3. Bonus: One branch of this religion worshipped Zurvan. For ten points each:

[10] Name this Persian religion founded by the prophet Zarathustra, which believes in the struggle between the benevolent Ahura Mazda and the evil Angra Mainyu.

ANSWER: **Zoroastrianism** [accept **Zarathustraism**, or **Magianism**, or **Mazdaism**]

[10] In Zoroastrian belief, the dead pass through one of these structures. It widens for the virtuous dead and leads them to the House of Song, but becomes narrow for wicked souls and leads to the House of Lies.

ANSWER: Chinvat **bridge**

[10] *Atar*, a form of this phenomenon, features prominently in Zoroastrian temples. In Roman religion, Vestal Virgins were tasked with maintaining a sacred one of these.

ANSWER: **fire**

<BZ>

4. Bonus: Name these American poets who wrote about Abraham Lincoln, for ten points each:

[10] This poet of "Leaves of Grass" addressed Lincoln in the poem, "O Captain, My Captain!" and mourns his assassination in the poem, "When Lilacs Last in the Dooryard Bloom'd."

ANSWER: Walter "Walt" **Whitman**

[10] This author examined Lincoln's nature as a statesman during the Civil War in his book, *Lincoln, the Man*. He also included a poem about Anne Rutledge, one of Lincoln's lovers, in his collection, *Spoon River Anthology*.

ANSWER: Edgar Lee **Masters**

[10] This author wrote a two-volume biography about Lincoln subtitled *The Prairie Years* and *The War Years*. He is also recognized for writing a poem about an entity that "comes/On little cat feet" in his poem, "Fog".

ANSWER: Carl August **Sandburg**

<KT>

5. Bonus: Their habits of preying on livestock led these animals to be wiped out from Yellowstone National Park, leading to an explosion in the elk population. For ten points each:

[10] Identify these canine predators that often hunt in packs.

ANSWER: gray wolf [accept Canis lupus]

[10] Gray wolves in Yellowstone can be considered one of these species because, despite their low abundance, they play a pivotal role in controlling the elk population and maintaining biodiversity.

ANSWER: keystone species

[10] One type of these animals is *Pisaster ochraceus*, a keystone species in the eastern Pacific that controls mussel bed populations. *Stichaster australis*, a second example, plays a similar role in the south Pacific.

ANSWER: purple sea star or starfish [accept either; accept ochre sea star or starfish; accept reef starfish]

<EC>

6. Bonus: As patron of the military, this god sometimes wore a uraeus [yoo-ray-us]. For ten points each:

[10] Identify this crocodile-headed son of Set and Neith who had a major center of worship at Crocodilopolis.

ANSWER: Sobek [accept Sebek, Sochet, Suchos, or Sobki]

[10] In his role as a creator god, Sobek was sometime syncretized with this Egyptian sun god, who fathered Shu and Tefnut and was worshipped at Heliopolis.

ANSWER: Ra [accept Atum-Ra, or Amun-Ra, or Ra-Horakhty, accept Re in place of “Ra” at all times, prompt on Atum, Amun, or Horakhty]

[10] According to the Coffin Texts, Sobek retrieved the hands of this falcon-headed god from the Nile after Isis cut them off. This god engaged in a war against his uncle Set that featured hippopotamus hunting and boat racing.

ANSWER: Horus [accept Neferhor or Harsiesis or Harpokrates]

<BZ>

7. Bonus: Although it begins with a clarinet glissando in B flat, its opening modulates to A major. For ten points each:

[10] Name this jazz composition which premiered in the concert, “An Experiment in Modern Music,” and was orchestrated by Ferde Grofe.

ANSWER: Rhapsody in Blue

[10] This American composer, famous for using French taxi horns in his *An American in Paris*, worked with his older brother and lyricist Ira to compose many of his pieces, including *Rhapsody in Blue*.

ANSWER: George Gershwin [accept Gershowitz; accept Jacob Gershwine]

[10] Gershwin composed the “American Folk Opera” *Porgy and Bess* depicting the title characters in this fictional setting based on a neighborhood in Charleston, South Carolina.

ANSWER: Catfish Row

<MP>

8. Bonus: Isolated outcroppings of rock in this region are called *kopjes*. For ten points each:

[10] Identify this grassland region of eastern Africa, which sees an annual migration of millions of wildebeest, zebras, and gazelles.

ANSWER: Serengeti region/plain

[10] The word “serengeti” means “endless plains” in the language of the Masai people, who inhabit both Kenya and this country south of the Serengeti. Mount Kilimanjaro is located in this country.

ANSWER: United Republic of Tanzania

[10] The Serengeti lies west of a “great” one of these geographical features that stretches from the Dead Sea to Mozambique and formed Lake Victoria.

ANSWER: rift valley [accept Great Rift Valley]

<JD>

9. Bonus: He formulated the law of three stages, which include theological and metaphysical stages. For ten points each:

[10] Identify this founder of positivism, who was influenced by Henri Saint-Simon and coined the term “altruism.”

ANSWER: Isidore Auguste Marie François Xavier Comte

[10] Auguste Comte is also considered the founder of this discipline, which studies the interaction between humans. A prominent thinker in this field was Max Weber, the author of *Protestant Ethic and the Spirit of Capitalism*.

ANSWER: sociology

[10] Another important sociologist is this French thinker, who wrote *The Division of Labor in Society*. He also distinguished sociology from other fields in his *Rules of the Sociological Method*.

ANSWER: David Émile Durkheim

<KT>

10. Bonus: Marian Smoluchowski formulated a theory for this process, which is also described by the Wiener process and random walks. For ten points each:

[10]: Identify this stochastic process first observed by its Scottish namesake after inspecting pollen grains in water.

ANSWER: Brownian motion

[10]: This man, as part of his *Annus Mirabilis* papers, presented a detailed model of Brownian motion which can be used to derive Avogadro’s number.

ANSWER: Albert Einstein

[10]: Smoluchowski theorized how this device is able to extract useful work from Brownian motion of heated gas particles, thus violating the Second Law of Thermodynamics. Feynman ultimately showed why such a device would fail.

ANSWER: Brownian ratchet [accept Feynman-Smoluchowski ratchet]

<EC>

11. Bonus: He depicted *The Savage State* in the first painting of *The Course of Empire* series. For ten points each:

[10] Identify this American painter of *The Oxbow*, *The Garden of Eden*, and an allegorical landscape series titled *The Voyage of Life*.

ANSWER: Thomas Cole

[10] Thomas Cole was the most prominent member of this movement, which romanticized landscapes near the Catskill and Adirondack mountains, near the namesake watershed.

ANSWER: Hudson River School

[10] This other member of the Hudson River Valley school went on sketching expeditions with Thomas Cole and painted *Kindred Spirits*.

ANSWER: Asher Brown Durand

<MP>

12. Bonus: This artist is dressed in all pink, ‘cept his gator shoes, those are green. For ten points each:

[10] Name this Seattle-born rapper who first broke out in 2012 along with Ryan Lewis for the hit single “Thrift Shop.” His first hit, “And We Danced,” came off of his album, *The Unplanned Mixtape*.

ANSWER: Macklemore [accept Ben Haggerty]

[10] This was the debut studio album of Macklemore and Ryan Lewis. It reached #1 on iTunes within hours of its release thanks in large part to hit singles such as “Wings” and “Can’t Hold Us.”

ANSWER: The Heist

[10] This song off of *The Heist* won a Video Music Award in August for “Best Video With a Social Message” probably because of its message of marriage equality.

ANSWER: “Same Love”

<SC>

13. Bonus: It is produced by the beta cells of the Islets of Langerhans. For ten points each:

[10] Name this hormone secreted by the pancreas, whose deficiency causes diabetes.

ANSWER: insulin

[10] The hormone glucagon opposes the action of insulin by stimulating the breakdown of this glucose polymer in the liver. This molecule is the animal equivalent of starch.

ANSWER: glycogen

[10] A cell's reception of insulin activates receptor kinases named after this amino acid. Upon activation, those kinases add a phosphate group to this amino acid in proteins.

ANSWER: tyrosine [accept receptor tyrosine kinases; prompt on "Tyr" or "Y"; prompt on "RTKs"]

<BZ>

14. Bonus: The Tanker War was a part of an 8-year conflict between this nation and its western neighbor. For ten points each:

[10] Identify this country where political prisoners are held at Evin Prison in its capital of Tehran.

ANSWER: Islamic Republic of Iran

[10] Iran's 1979 revolution saw the overthrow of Mohammad Reza, who was a member of this dynasty.

ANSWER: Pahlavi dynasty [accept Imperial State of Iran]

[10] Mohammad Reza Pahlavi was replaced as leader of Iran by this Ayatollah, who had previously been forced into exile due to his opposition to reforms brought about by the White Revolution.

ANSWER: Ruhollah Khomeini

<JD>

15. Bonus: This country's Islamic Courts Union administers sharia law. For ten points each:

[10] Name this country on the Horn of Africa, which was once led by a Transitional Federal Government that had little control over piracy.

ANSWER: Federal Republic of Somalia

[10] Somalia is home to this branch of al-Qaeda, which also has relations with the Islamic Courts Union. Its name means "The Youth" and it may be most famous for an attack on a shopping mall in September 2013.

ANSWER: al-Shabaab [or Harakat al-Shabaab al-Mujahidin; do not accept "Mujahidin"]

[10] That aforementioned attack on a Westgate mall took place in this capital city. This city is also home to the only major United Nations office in Africa.

ANSWER: Nairobi

<BZ>

16. Bonus: They come in single-walled and multi-walled varieties, and their *sp*² hybridization gives them immense mechanical strength. For ten points each:

[10]: Identify these structures, essentially rolled up graphene, that have a large length-to-diameter ratio and are incorporated in storage media, field-effect transistors, and polymer composites.

ANSWER: carbon nanotubes [or CNT]

[10]: Carbon nanotubes and graphene are two of carbon's many allotropes, one of which is this shiny mineral, the hardest found in nature and commonly used for jewelry and industrial drill bits.

ANSWER: diamond

[10]: Carbon nanotubes belong to a group of molecules that includes this one, a spherical molecule made up of twenty hexagons and twelve pentagons. It resembles its namesake's geodesic domes.

ANSWER: buckminsterfullerene [accept buckyball or C60; prompt on "fullerene"]

<EC>

17. Bonus: For ten points each, answer the following questions about Richard III of England:

[10] Richard III's death at the Battle of Bosworth Field ended this war between the houses of Lancaster and York, which was named after the red and white flowers on the badges of each house.

ANSWER: **Wars** of the **Roses**

[10] Henry VII's victory over Richard III ended the House of Plantagenet and began this English royal house that also included Henry VIII and Elizabeth I.

ANSWER: House of **Tudor** [or **Tudor** dynasty]

[10] Richard III came to power after one king with this name was deemed illegitimate because of his father's invalid marriage. Henry VIII's sole surviving son was the sixth king of this name and was succeeded by his sister Mary I.

ANSWER: **Edward** [accept **Edward V** or **Edward VI**]

<BZ>

18. Bonus: The main character of this work develops a sexual relationship with Marie Cardona despite the fact that his mother died the day before. For ten points each:

[10] Name this work in which the emotionless Meursault is arrested due to killing an Arab on the beach.

ANSWER: *The **Stranger*** [accept ***L'Étranger*** and *The **Outsider***]

[10] The author of *The Stranger* also wrote this philosophical novel, in which the "judge-penitent" Jean-Baptiste Clamence tells a stranger in the *Mexico City* bar of Amsterdam how he regrets allowing a woman to drown.

ANSWER: *The **Fall*** [or ***La Chute***]

[10] This French-Algerian author wrote *The Stranger* and *The Fall*.

ANSWER: Albert **Camus**

<KT>

19. Bonus: A discovery in Titusville, Pennsylvania helped kickstart this industry. For ten points each:

[10] Name this industry which was consolidated by John D. Rockefeller into one giant monopoly. Current controversies facing this industry include offshore drilling in protected natural areas.

ANSWER: **oil** [or **petroleum**]

[10] This muckraker published a *History of the Standard Oil Company* that criticized the practices of Rockefeller's monopoly. Her work was previously published separately in issues of *McClure's Magazine*.

ANSWER: Ida Minerva **Tarbell**

[10] One cartoon depicts Standard Oil as one of these animals that has the White House, Congress, and state government in its grip. A Frank Norris novel about wheat farmers was also titled after one of these animals.

ANSWER: **octopus**

<BZ>

20. Bonus: In this work, Mr. Featherstone's nurse considers a relationship with Fred Vincy. For ten points each:

[10] Name this work in which Edward Casaubon's disinterest in Dorothea Brooke prompts her to marry Will Ladislaw after Edward's death.

ANSWER: ***Middlemarch***: *A Study of Provincial Life*

[10] This Victorian-era author wrote *Middlemarch*. She also wrote about how the orphan Eppie alters the life of the title "Weaver of Raveloe" in *Silas Marner*.

ANSWER: George **Eliot** [or Mary Anne **Evans**]

[10] In this first novel of George Eliot, Arthur Donnithorne saves Hetty Sorel from being executed, and the title character decides to marry the Methodist preacher Dinah Morris.

ANSWER: ***Adam Bede***

<KT>

21. Bonus: His most famous action led to the July Crisis. For ten points each:

[10] Name this Serbian assassin who fatally shot Archduke Franz Ferdinand and thus helped cause World War I.

ANSWER: Gavrilo **Princip**

[10] Archduke Franz Ferdinand was heir to a kingdom that, after World War I, was separated into Hungary and this other country. Before World War II, Hitler annexed this country through the Anschluss.

ANSWER: **Austria** [accept **Austria**-Hungary or **Austro-Hungarian** Empire]

[10] Austria-Hungary was ruled by a monarchy descended from this royal house. It merged with Lorraine due to the marriage of Maria Theresa, and members of it once ruled Spain, Austria, and the Holy Roman Empire.

ANSWER: **Habsburg** [or **Hapsburg**; accept **Habsburg-Lorraine**]

<BZ>

22. Bonus: Fermat's theorem guarantees that local extrema are found here. For ten points each:

[10] Identify these points where a function has a first derivative equal to zero or is not differentiable.

ANSWER: **critical** points

[10] This type of local extrema exists where the point is lower than all of its neighboring values and is present in the parabola "y equals x squared" at $x = 0$.

ANSWER: local **minimum**

[10] The second derivative test in two dimensions does not always guarantee extrema to due the presence of these points at which the surface curves up in one dimension and down in another.

ANSWER: **saddle** points

<EC>