LADUE INVITATIONAL SPRING TOURNAMENT 2013

Round 15

TOSS-UPS

1. A character in one of this author's stories is speculated to have become a Justice of the Ten Pound Court, and horses in that story include Daredevil and Gunpowder. In another of this author's stories, the protagonist, while out with his dog Wolf, encounters the ghosts of Henry Hudson's crew very loudly playing ninepins. That character sleeps for (*) twenty years, and this author's most famous protagonist vies for Katrina van Tassel with Brom Bones before disappearing after a chase with the Headless Horseman. For ten points, identify this American author of "Rip van Winkle," who told the tale of Ichabod Crane in "The Legend of Sleepy Hollow."
ANSWER: Washington **Irving**
<MS>

2. McCoy Tyner played this instrument in Benny Golson's Jazztet. Another player of this instrument wrote songs like "Wolverine Blues" and "Black Bottom Stomp" and claimed to have invented jazz, and the composer of "Lush Life" played this instrument. One player of this instrument used by Billy Strayhorn and (*) Jelly Roll Morton recorded songs such as "Pick Up Stix" and "Take Five" in his album, *Time Out*. Another player of this instrument recorded "Take the 'A' Train" and "It Don't Mean a Thing (If It Ain't Got That Swing)" with his orchestra. Dave Brubeck and Duke Ellington played, for ten points, what keyboard instrument?
ANSWER: **piano**forte (prompt on **keyboard** before mention)
<HX>

3. For a non-uniform three-dimensional object, this entity is represented by the vector X such that integrating the difference between X and a given point times the density at that point with respect to volume is zero. For two binary objects moving elliptically, their speeds are greatest the closer they are to this entity. It can be found experimentally by intersecting two plumb lines, and the (*) parallel-axis theorem demonstrates that moment of inertia is minimized when an axis goes through this point. It is the point at which gravitational torque is zero, and for uniform objects it is located at the centroid. For ten points, identify this location, the weighted average of a system's mass.
ANSWER: **center of mass** (or **center of gravity**)
<MS>

4. One fan of this team, Bryan Stow, was beaten in a parking lot by fans of its rival. Matt Cain pitched a perfect game while playing for this team, and its current manager is Bruce Bochy. One player from this team is the most recent to hit three home runs in a World Series game, and the 2010 NL Rookie of the Year was this team's catcher (*) Buster Posey. Other players on this team include pitcher Tim Lincecum and third baseman Pablo Sandoval, and it was once home to steroid-abusing home run "king" Barry Bonds. For ten points, name this 2010 and 2012 World Series champion team, located in the Bay Area.
ANSWER: **San Francisco Giants** (accept either)
<SC>

5. The main idea behind this modern-day organization was originated by Jean Monnet and Robert Schuman, who founded several precursors to it. The current head of this organization's Commission is Jose Manuel Barroso, and much of it was reformed by the 2009 Lisbon treaty. Predecessors to this body included the Common Market and an organization that traded steel and (*) coal during the Cold War. This organization was established by the Treaty of Maastricht, and is currently facing a crisis with its namesake currency. For 10 points, name this organization of countries on a certain continent, which includes France, Britain, and Germany.
ANSWER: **European Union** (or **EU**)
<BZ>

6. This figure's court hears the story of the death of Polites and Priam before an altar. The many-feathered Rumor takes news of this figure to the Gaetulian King Iarbas, and this woman's husband Sychaeus was slain by her brother Pygmalion. This sister of Anna falls in love with another man when a storm (*) traps them in a cave during a hunt. Earlier, she had been offered as much land as she could cover with a bull's hide, so she cut it apart and surrounded a circle of land in Tunisia, founding a city which would later war with Rome. For ten points, name this suicidal lover of Aeneas, the first Queen of Carthage.
ANSWER: **Dido** (or **Elissa**)
<MS>

7. One leader of this country named himself the "Conqueror of the British Empire" but was deposed after he failed to invade a neighboring country's province of Kagera. Edward Mutesa II was this country's first president, while Yoweri Museveni is its current president. In 1972, the Jews and Asians were expelled from this country, in which several hostages were rescued in a raid on (*) Entebbe. In March 2012, Invisible Children released a video about a military leader from this country who is the head of the Lord's Resistance Army, Joseph Kony. For ten points, identify this African nation formerly ruled by Milton Obote and Idi Amin.
ANSWER: Republic of **Uganda**
<JD>

8. One politician with this last name attacked Reagan's doubling the debt in his 1987 letter to RNC chair Frank Fahrenkopf, around the time he was affixing his name to racist newsletters. Another member of this family was the final Republican opponent of extending the PATRIOT Act after filling defeating John Conway and Trey Grayson to fill Jim Bunning's Senate seat. This family's best-known member placed second in the 2011 (*) Ames Straw Poll after declaring his candidacy in the Republican presidential primaries. For ten points, identify this last name shared by Kentucky Senator Rand and Libertarian Ron.
ANSWER: **Paul** (accept Rand **Paul** or Ron **Paul**)
<MS>

9. This scientist introduced the idea of a statistical ensemble to create a system that considers all possible microstates. This man names an equation that relates changes in chemical potential for a thermodynamical system with Duhem, while he also proposed that the number of degrees of freedom is equal to the number of components minus the number of phases plus two in his namesake (*) phase rule. Enthalpy minus the product of entropy and temperature is the formula for one of this man's quantities, the change in which is negative for spontaneous reactions. For ten points, name this American scientist who names a type of free energy symbolized G.
ANSWER: Josiah Willard **Gibbs**
<EnC>

10. One of this author's plays is set in a "radiant city" home to a man who shows people a "picture of the colonel" before murdering them. In another of his works, a deaf-mute orator arrives and the Old Man and Woman drown themselves after an invisible emperor shows up. One play by this author of *The Killer* and *The (*) Chairs* sees Mrs. Smith note that she always wears her hair in the same style after the fire chief makes a remark about the title singer. In this author's most famous play, Mr. Boeuf turns into the title animal while talking with Berenger. For ten points, identify this absurdist French-Romanian author of *The Bald Soprano* and *Rhinoceros*.
ANSWER: Eugene **Ionesco**
<MS>

HALFTIME

11. In the right of one of this man's paintings, spoked wheels with men attached are mounted upon poles, and a grotesquely stretched man hangs with head lodged between the limbs of a tree. In another painting by this artist, a knife hangs out a window above a card-player while a nearby man bites a pillar and someone defecates out of a window. In this artist's most famous work, a farmer plows and a ship passes by without (*) noticing the splashing legs of the drowning mythical figure. For ten points, identify this Flemish artist of *The Triumph of Death*, *Netherlandish Proverbs*, and *Landscape with the Fall of Icarus*.
ANSWER: Pieter **Brueghel** the Elder
<MS>

12. The use of a photographic filter exposed to light in this part of the spectrum gives the appearance of a surreal glowing foliage in the Wood effect. It was first predicted by Émilie du Châtelet, and FSO takes advantage of this part of the spectrum over the use of cables. One technique performed with this phenomenon identifies specific molecules in the (*) fingerprint region, while the near type of it is used in night vision goggles. For ten points, identify this form of electromagnetic radiation used in spectroscopy and thermal imaging cameras that has longer wavelengths than red light.
ANSWER: **infrared** or **IR** light/waves/radiation
<EnC>

13. One of these operations named after Vandermonde can be computed to give the product of pairwise differences of a set of numbers, and the Wronskian one will show independence of functions. Doing this operation upon vectors of a parallelogram yields its area. The solutions to a set of linear equations can be expressed as quotients of these entities, according to (*) Cramer's Rule. This value may be calculated for larger inputs through "expansion by minors." For ten points, name this value associated with a square matrix, which for a 2-by-2 matrix has value *a* times *d* minus *b* times *c*.
ANSWER: matrix **determinant**
<YL>

14. The prologue to this work notes that it begins after the month of March has "bathed every vein in...liquor." In one part of this work, a demon takes a frying pan to hell after the old lady who owned it damns a lying summoner. The innkeeper Harry Bailey frequently interrupts the main characters, and another part of this work sees the carpenter John sleep in one of three (*) tubs hoisted above the ground while Nicholas has an affair with Alison. What women desire is the subject of the Wife of Bath's narrative in this work. For ten points, identify this work in which a number of pilgrims have a story-telling contest, written by Geoffrey Chaucer.
ANSWER: The ***Canterbury Tales***
<MS>

15. One holder of this position ran under the "Fireproof" party, while another was shot by Giuseppe Zangara with a bullet intended for FDR. The first black holder of this position, Harold Washington, defeated Jane Byrne and the son of a prior man to have this job, who later would join with Rod Blagojevich to ban semi-automatic assault weapons and appoint (*) Arne Duncan as head of its public school district. The current holder of this position was elected to it after resigning as Obama's chief of staff. For ten points, identify this post formerly held by multiple Richard Daleys and currently held by Rahm Emanuel, the chief executive of a large Illinois city.
ANSWER: **mayor** of **Chicago** (prompt on "mayor")
<MS>

16. This country's movement of *Sestigers* was led by Breyten Breytenbach and Andre Brink. In one play from this country, people reminisce about a kite while Hally watches Sam and Willie practice ballroom dancing. Cathy and Lionel are the Communist parents of Rosa in one novel from here, also the setting of a work in which Maureen and Bamford Smales escape a civil war. This country is home to the playwright of (*) *Master Harold....and the Boys* as well as the author of *Burger's Daughter* and *July's People*. Athol Fugard and Nadine Gordimer are from, for ten points, what country whose literature often deals with the effects of apartheid?
ANSWER: **South Africa**
<MS>

17. This thinker observed that "every action can only take place in consequence of a sufficient motive" in *The Basis of Morality*, and also wrote an essay arguing that the title group of people can't take a "purely objective interest in anything", titled "On Women". This philosopher applied "observations of unbiased physical investigators" to the "kernel of [his] Metaphysics" in *On the Will in Nature*, and described four classes of objects in *On the (*) Fourfold Root of the Principle of Sufficient Reason*. The "Epistemology" volume of his best known work discusses the Kantian "thing-in-itself". For ten points, name this pessimistic German author of *The World as Will and Representation*.
ANSWER: Arthur **Schopenhauer**
<HX>

18. One camel can be sacrificed for seven people during one part of this event, participants in which put on the *ihram* at a *miqat*, and this event is contrasted with the "lesser" *Umrah*. People participating in it stand vigil on the plains near Mount Arafat the day after drinking from the Well of Zamzam but before a ritual "stoning of the devil". This occasion's *Tawaf* requires (*) circling the black stone Kaaba, and it must be done once during the lifetime of any able-bodied adherent. For ten points, identify this pillar of Islam which consists of a pilgrimage to Mecca.
ANSWER: ***hajj*** (prompt on things like "pilgrimage to Mecca" or "going to Mecca")
<MS>

19. The Nagorno-Karabakh war began under this leader's rule, and he resigned about a week after the Belavezha Accords were signed. He removed Andrei Gromyko as Minister of Foreign Affairs, and this man implemented an "acceleration" program called *uskoreniye* along with reforms that allowed private ownership of some businesses and increased freedoms of the press. This man was targeted in a (*) 1991 Communist coup, which was suppressed by Boris Yeltsin. For 10 points, identify this Soviet leader who implemented policies such as *glasnost* and whose term saw the breakup of the USSR.
ANSWER: Mikhail Sergeyevich **Gorbachev**
<BZ>

20. In one structure found in these organs, horizontal cells, amacrine cells, and ganglion cells connect to neurons called bipolar cells and are involved in lateral inhibition. In some arthropods, these organs are made of thousands of ommatidia. In one of these organs' structures, cells made of disks containing rhodopsin are absent from the (*) fovea, which sits at the center of the macula. They contain an aqueous humor and a vitreous humor, and are surrounded by a sclera that connects with the cornea. For ten points, identify these organs that contain a lens and retina to process light.
ANSWER: **eye**s (accept **compound eye**s; until "ommatidia" is read, prompt on **retina**)
<BZ>

End of regulation, only proceed if tied

21. Neighborhoods in this city include Botafogo and Leblon, and this city contains Maracanã Stadium and the Sambadrome. Tijuca Forest can be found in this city, which is connected to Niteroi via a bridge over Guanabara Bay. Cable cars allow tourists to visit Sugarloaf Mountain in this city, whose residents are called *cariocas*. Copacabana and Ipanema Beaches are found in this city, and its slums are called (*) *favelas*. This city's Corcovado Mountain holds one of the New Seven Wonders of the World, a statue of Christ the Redeemer. For ten points, name this Brazilian city that will host the 2016 Olympics, located northeast of Sao Paulo.
ANSWER: **Rio de Janeiro** (prompt on "Rio")
<JD>

22. The Deutsch-Jozsa algorithm was the first one to use these devices to deterministically solve a problem faster than classical methods, and critical components of them are modeled by Bloch spheres. Using Grover's algorithm, these devices can search an unsorted database in sub-linear time, and they are difficult to make and maintain due to the phenomenon of (*) decoherence. Shor's Algorithm can be run on these devices to factor integers in polynomial time, ruining RSA encryption, and their namesake objects can be 0, 1, or a superposition of the two. For ten points, identify these not-yet-built devices, computing engines that make use of qubits.
ANSWER: **quantum** computers (accept **qubit**s or **quantum** bits before mentioned)
<MS>

BONUSES

1. Bonus: This religion's Bobo Ashanti sect carry around brooms to symbolize cleanliness. For ten points each:
[10] Identify this religion originating in Jamaica, whose adherents follow the *ital* ("eye-tal") diet and typically have dreadlocks. Bob Marley was a notable proponent of this religion.
ANSWER: **Rastafari**anism (or **Rasta**s)
[10] In a Reasoning ceremony, a circle of Rastafari sit and smoke this drug in order to communicate with their god.
ANSWER: **ganja** (prompt on **cannabis**, **marijuana**, **pot**, etc)
[10] This is the Rastafari name for god, who promised the land of Zion to them and with whom they try to communicate in Reasoning ceremonies.
ANSWER: **Jah**
<MS>

2. Bonus: Name some Rob Reiner films, for ten points each.
[10] "Wuv, twoo wuv" is the subject of this comedic film in which Wesley works with Inigo Montoya to rescue Buttercup from Prince Humperdink.
Answer: The ***Princess Bride***
[10] This Reiner film focuses on the murder of PFC William Santiago under a "code red" ordered by Colonel Jessep, who informs Kaffee that he "can't handle the truth."
Answer: A ***Few Good Men***
[10] This Reiner adaptation of a Stephen King novella follows Gordie, Chris, Teddy, and Vern in their quest to find the body of Ray Brower.
Answer: ***Stand By Me***
<CC>

3. Bonus: It was used by Romans to make pipes, which inadvertently poisoned water supplies. For ten points each:
[10] Name this heavy metal that is alloyed with tin in solder and used to make car batteries.
ANSWER: **lead** (accept **Pb**)
[10] 82 is a magic number that allows nucleons to arrange into complete shells, making lead the end product of the thorium, radium, and actinium series of this phenomenon.
ANSWER: radioactive **decay** chain (or basically any answer mentioning radioactive **decay**)
[10] Lead (II) sulfide forms this mineral in nature. It is often found alongside silver minerals, and can transform into anglesite or cerussite.
ANSWER: **galena**
<EnC>

4. Bonus: You are about to answer a bonus. For ten points each:
[10] You begin by naming this novel, written in the second-person, in which You read the first chapters of a number of books but never get to finish. One sub-plot in it focuses on the languages Cimmerian and Cimbrian.
ANSWER: ***If on a winter's night a traveller*** (or ***Se una notte d'inverno unviaggiatore***)
[10] *If on a winter's night a traveller* was written by this modern Italian author, who also penned *Invisible Cities* and *Cosmicomics*.
ANSWER: Italo **Calvino**
[10] *Invisible Cities* is set as a dialogue between this explorer and Kublai Khan. The *Books of the Marvels of the World* is a travelogue of this man's journey from his native Italy through Central Asia and China.
ANSWER: Marco **Polo**
<MS>

5. Bonus: Alongside the Crow, this tribe helped the United States at the Battle of the Rosebud. For ten points each:
[10] Identify this tribe, whose most famous member, Sacagawea, helped gather horses for a certain expedition to the West Coast.
ANSWER: **Shoshone**
[10] Sacagawea joined William Clark and this other man to explore the Louisiana Purchase. This drunkard died under questionable circumstances three years later while Governor of Louisiana.
ANSWER: Meriwether **Lewis**
[10] Native Americans were very taken with the appearance of this member of the Corps, Clark's personal slave. No one really knows what happened to him, but he probably wound up escaping and living with the Crow Indians.
ANSWER: **York**
<MS>

6. Bonus: This country's President is Viktor Yanukovych. For ten points each:
[10] Name this former Soviet republic that saw its parliament break into an all-out brawl while trying to select a new Speaker.
ANSWER: **Ukraine**
[10] Vitali Klitschko, the leader of Ukraine's opposition party, did not participate in the fight, despite being a world champion in this sport. Other political participants in it include Philippines' Representative Manny Pacquiao.
ANSWER: **boxing** (or **pugilism**)
[10] This former president of Ukraine took office after the Orange Revolution and won the presidency after a runoff election in 2004. He was succeeded by Yanukovych.
ANSWER: Viktor **Yushchenko**
<DA>

7. Bonus: In one work in this series, a dog finds a lady's nightcap in his master's pocket. For ten points each:
[10] Identify this satirical series of 18th century paintings which includes works like *The Tête à Tête* and *The Lady's Death*, depicting the results of an arranged match in which both spouses cheat on the other.
ANSWER: *Marriage a-la-mode*
[10] *Marriage a-la-mode* was painted by this artist, who also painted the series *A Harlot's Progress* and *A Rake's Progress*. He supported British reduction of alcohol consumption in his *Beer Street and Gin Lane*.
ANSWER: William **Hogarth**
[10] Hogarth also painted a scene of this Biblical figure before the Pharoah's daughter. Nicolas Poussin depicted him leading the Israelites in *The Crossing of the Red Sea*.
ANSWER: **Moses** (or **Moshe**)
<MS>

8. Bonus: It was preceded by the Year of the Five Emperors and its end brought on the Crisis of the Third Century. For ten points each:
[10] Name this Roman dynasty which was founded by its namesake, Septimius. Later rulers of this dynasty included Caracalla, who issued citizenship to all freedmen.
ANSWER: **Severan** dynasty or **Severus** family
[10] This Roman ruler helped to resolve the Crisis by implementing his Edict on Maximum Prices and instituting a Tetrarchy of emperors.
ANSWER: **Diocletian** (or Gaius Aurelius Valerius **Diocletian**us Augustus)
[10] During the Crisis, the *coloni* wound up in the employ of those who owned much of this commodity. In medieval times, it was given to vassals in the feudal systems as fiefs.
ANSWER: **land**
<MiP>

9. Bonus: This play's protagonist is accused of raping Charlotte Goodall. For ten points each:
[10] Identify this play, whose title creature is tied to a pole by a band of Mexicans. It sees Reverend T. Lawrence Shannon lead a tour group to a hotel owned by Maxine Faulk.
ANSWER: The *Night of the Iguana*
[10] In this other play by the author of *The Night of the Iguana*, Blanche DuBois visits her sister Stella and Stella's husband Stanley Kowalski.
ANSWER: A *Streetcar Named Desire*
[10] This man wrote *The Night of the Iguana* and *A Streetcar Named Desire*, as well a play in which a "Gentleman Caller" Jim visits Laura Wingfield, *The Glass Menagerie*.
ANSWER: Thomas Lanier "Tennessee" **Williams**
<MS>

10. Bonus: After one of these events, a red supergiant may become a neutron star or black hole. For ten points each:
[10] Name these massive stellar explosions, which usually leave behind a remnant of the original star, such as a nebula. In 1054, astronomers from around the world observed one of these that left behind a new "star" in the sky.
ANSWER: **supernova**e (do not accept or prompt on "nova")
[10] Type Ia ("one-A") supernovae typically occur when these stellar bodies exceed the Chandrasekhar limit. These objects are located in the bottom left of a Hertzsprung-Russell diagram, and Sirius B is one of them
ANSWER: **white dwarf**s
[10] After a Type II supernova, a star becomes a black hole if the resulting black hole will have a mass greater than this limit. Neutrons stars are unstable past this limit, which is estimated to be between 1.5 and 3 solar masses.
ANSWER: **TOV** limit (or **Tolman-Oppenheimer-Volkoff** limit)
<BZ>

11. Bonus: The Wakhan Corridor connects it to China. For ten points each:
[10] Name this landlocked country in which the Helmand River drains into the Sistan Basin. Its cities include Herat, Kandahar, and its capital, Kabul.
ANSWER: Islamic Republic of **Afghanistan**
[10] Tirich Mir is the highest point in this mountain range which dominates central and northeastern Afghanistan.
ANSWER: **Hindu Kush** (or **Hindu Kuh**; or **Kuh-e Hind**; or **Pariyatra Parvata**; or **Paropamisadae**)
[10] The Amu Darya rises in Afghanistan and historically has flowed north into this sea on the border between Uzbekistan and Kazakhstan. It was once the fourth largest lake in the world but has shrunk due to excessive irrigation.
ANSWER: **Aral** Sea
<JD>

12. Bonus: It was based on the Theory of Productive Forces and led to the establishment of many backyard steel furnaces. For ten points each:
[10] Identify this policy that was designed to promote industrialization but disastrously left millions in famine.
ANSWER: **Great Leap Forward** (accept **Dà yuè jìn**)
[10] This man implemented the Great Leap Forward and initiated the Cultural Revolution. Some of his speeches and publications can be found in The Little Red Book.
ANSWER: Chairman **Mao** Zedong (accept **Mao** Tse-tung)
[10] This man was designated as Mao's successor, and succeeded Zhou Enlai as Premier of the PRC. He arrested the Gang of Four in 1976.
ANSWER: **Hua** Guofeng (or **Su** Zhu)
<EnC>

13. Bonus: Answer the following about author Chimamanda Adichie, for ten points each:
[10] In an Adichie novel titled after half of a yellow one of these objects, Kainene runs a refugee camp during the Biafran War. Lorraine Hansberry's play about the Younger family is titled after *A Raisin in [this object]*.
ANSWER: **sun**s
[10] The Biafran War was a popular literary subject in this country, Adichie's home. Other authors from here include Ben Okri and Ken Saro-Wiwa, who was executed by Sani Abacha's regime.
ANSWER: **Nigeria**
[10] Adichie's short story of this title ends with a professor realizing he must look forward in life. An Ibsen play of the same title follows the Alving family's struggles with syphilis.
ANSWER: "**Ghosts**" (accept *Gengangere*)
<MS>

14. Bonus: Its composer tried to avoid the "curse of the ninth" with this work, but failed. For ten points each:
[10] Name this work for tenor, contralto, and orchestra which incorporates Chinese poems in sections like "Of Youth" and "The Drunken Man in Spring".
ANSWER: The *Song of the Earth* or Das *Lied von der Erde*
[10] This Austrian composer of *The Song of the Earth* was inspired by unrequited love for Johanna Richter to write his *Songs of a Wayfarer*. He also included a setting of Goethe's *Faust* in his *Symphony of a Thousand*.
ANSWER: Gustav **Mahler**
[10] This other Mahler composition begins with an A harmonic in the strings and an offstage trumpet fanfare. Its "Blumine" movement was discarded by Mahler, and its third movement features a minor setting of "Frère Jacques".
ANSWER: *Symphony No. 1* in D minor, "*Titan*" (accept either underlined part)
<HX>

15. Bonus: During it, the leading strand is continuously elongated while the lagging strand produces Okazaki fragments. For ten points each:
[10] Name this semiconservative process in which a certain double-stranded molecule is copied. This process is driven by polymerases that add new nucleotides to each separated strand of the molecule in question.
ANSWER: **DNA replication** (accept equivalents like **DNA copying** itself; accept **deoxyribonucleic acid** in place of "DNA"; prompt on "replication")
[10] These enzymes break the hydrogen bonds between adjacent nucleotides in DNA to unwind it for replication. The strain and twisting that results from the unwinding is relieved by the topo-isomerase ahead of these molecules.
ANSWER: **helicase**s
[10] This experiment measured the amounts of radioactive nitrogen-15 in samples of *E. coli*, and it determined that DNA replication was semiconservative and not dispersive or conservative.
ANSWER: **Meselson-Stahl** experiment
<BZ>

16. Bonus: The first member of this house was George I. For ten points each:
[10] Name this originally German ruling house, which replaced the Stuarts as kings of Britain.
ANSWER: House of **Hanover** (or **Hanoverian** Dynasty)
[10] The House of Hanover took the throne of Britain after this last Stuart queen died. She ruled during the War of the Spanish Succession and dismissed the Duke of Marlborough near its end.
ANSWER: Queen **Anne**
[10] This British queen was the last member of the House of Hanover. She is currently the longest-reigning queen in British history, and her husband was Prince Albert.
ANSWER: Alexandrina **Victoria**
<BZ>

17. Bonus: Answer the following about the worship of a certain god, for ten points each:
[10] This Egyptian god of the sun was the grandfather of Osiris and Isis.
ANSWER: **Ra** (or Atum-**Ra**, or Amun-**Ra**, or **Ra**-Horakhty; accept **Re** in place of "Ra"; prompt on Atum, Amun, or Horakhty)
[10] Amenhotep IV changed his name to honor this deity, the worship of whom replaced that of Ra and other traditional Egyptian gods. This god represented the solar disk.
ANSWER: **Aten** (or **Aton**)
[10] The center of Ra's worship was located in this city, which contained a House of the Sun. An obelisk from a temple to Ra is currently the only monument recovered from this city.
ANSWER: **Heliopolis** (accept **City of Helios**)
<BZ>

18. Bonus: Answer the following about Irish plays, for ten points each:
[10] In this Sean O'Casey play, Joxer Daly spends lots of tie at the pub with "Captain" Jack Boyle, whose wife leaves him after the death of their son Johnny.
ANSWER: *Juno and the Paycock*
[10] This play sees Jack Worthing take on a false name for the sake of Gwendolen Fairfax. Other characters in this play include Dr. Chasuble and Algernon Moncrieff.
ANSWER: *The Importance of Being Earnest*
[10] *The Importance of Being Earnest* is by this author of *Lady Windermere's Fan* and *A Woman of No Importance*.
ANSWER: Oscar **Wilde**
<MS>

19. Bonus: Answer the following about the man whose coin problem is a generalization of the Chicken McNugget Theorem, Ferdinand Frobenius. For ten points each:
[10] Though not one of its two namesakes, Frobenius was the first to publish a proof of the Cayley-Hamilton theorem, which states that every matrix is a root of its own "characteristic" one of these.
ANSWER: **polynomial** (or **equation**, I guess)
[10] Frobenius proved that certain algebras are isomorphic to the quaternions, the reals, or this set of numbers, which can be written in the form a plus b times i for real a and b.
ANSWER: **complex** numbers
[10] Frobenius also proved the Sylow theorems, which apply to these algebraic structures, defined as a set and an operation. They must satisfy four namesake axioms, and the set of integers over addition is an example of one.
ANSWER: **group**s
<MS>

20. Bonus: Answer some questions about a psychoanalyst who isn't Freud, for ten points each:
[10] This psychoanalyst broke with Freud over his assertion that humanity has a collective unconscious. He described the anima and animus as representing the feminine and masculine parts of personality.
ANSWER: Carl **Jung**
[10] Jung believed that these universal symbols were used to channel human experience and resulted in typical patterns of behavior.
ANSWER: **archetypes**
[10] Jung also coined this term, which describes events coming together in an unlikely manner, or a "meaningful coincidence."
ANSWER: **synchronicity**
<DA>

21. Bonus: Answer the following about radiation, for ten points each:

[10] The most penetrating type of radiation is a gamma ray, which is simply a high-energy one of these particles of light.

ANSWER: **photon**s

[10] Another commonly emitted particle in radioactive decay is this one, whose +2 ["plus two"] charge makes it get stopped very quickly.

ANSWER: **alpha** particle (or **helium** nucleus)

[10] The SI unit of radioactivity is named after this physicist, who won the 1903 Nobel with the Curies. He discovered that uranium's decay made a very visible image on photographic plates.

ANSWER: Henri **Becquerel**

<MS>

22. Bonus: A Shakespeare play is a dangerous place to be. For ten points each:

[10] Juliet kills herself in this manner after she sees Romeo's dead, poisoned body.

ANSWER: **stab**bing herself (accept equivalents)

[10] *The Winter's Tale* contains a stage instruction for Antigonus to flee the stage, chased by one of these animals which kills him.

ANSWER: a **bear**

[10] Othello kills Desdemona in this manner while she lies in bed, having been convinced she's cheating on him with Cassio.

ANSWER: he **smother**s her

<MiP>