LADUE INVITATIONAL SPRING TOURNAMENT 2013

Round 11

TOSS-UPS

1. In one poem by an author with this surname, the speaker discusses a "fulcrum of violence" where the title bird "hangs still;" that author wrote *The Hawk in the Rain* and *Tales from Ovid*. Another author with this last name wrote a poem whose speaker "bathed in the Euphrates when dawns were young" and whose "soul has (*)** grown deep." That author of "The Negro Speaks of Rivers" asked whether the central object "fester[s] like a sore" or "drie[s] up / like a raisin in the sun" in his poem about "a dream deferred." For ten points, identify this last name shared by Sylvia Plath's husband Ted and Harlem Renaissance poet Langston.
ANSWER: **Hughes** (accept Ted or Langston **Hughes** before mention)
<MS>

2. The last ruler of this empire, Brihadratha, was overthrown and killed by the founder of the Sunga Dynasty. The Seleucid ambassador Megasthenes visited another rule of this empire, who erected a pillar topped by four lions at Sarnath. With the help of Kautilya, the founder of this empire overthrew the Nanda Dynasty and established his capital at (*) Pataliputra. The Great Stupa at Sanchi was commissioned by a ruler of this empire, who issued a series of rock edicts after warring with Kalinga and converting to Buddhism. For ten points, identify this Indian empire which was once ruled by Ashoka and founded by Chandragupta.
ANSWER: **Maurya**n Empire
<JD>

3. One way to study heat transfer involves analyzing this process in naphthalene, and a cold finger is commonly used in an apparatus involving this process. Caffeine is commonly purified using this process, and the enthalpy of this process equals the sum of the enthalpies of fusion and vaporization. This process occurs when temperature increases at pressures and temperatures (*) below the triple point, and the reverse of this process is deposition. For ten points, identify this process that occurs in dry ice, in which a solid changes directly into a gas without entering the liquid phase.
ANSWER: **sublimation** (do not accept deposition at any point)
<EnC>

4. According to some myths, this man was killed by a falling boulder from Mount Sipylus for harboring the golden dog that Pandareus stole. His daughter was turned into a weeping rock on Mount Sipylus, while his son beat Oenomaus in a chariot race to marry Hippodamia. This man's father invited him to dine on Olympus, only for this man to (*) steal some ambrosia and nectar. His son Pelops received an ivory shoulder after this man served him as food to the gods. For ten points, identify this man who suffers from perpetual thirst and hunger in the underworld.
ANSWER: **Tantalus**
<BZ>

5. This river rises at Lake Toma before flowing over Schaffhausen Falls. This river's distributaries include the Waal and the IJssel ("eye-sell"), and the Aar flows into this river after passing by a national capital. Bingen lies at the end of this river's namesake gorge, which contains a rock named after the Lorelei. The Moselle joins this river at Koblenz, and it flows past the industrial (*) Ruhr Valley. The western border of Liechtenstein is formed by this river, which receives the Neckar and the Main after flowing past Lake Constance. Basel, Cologne, and Rotterdam lie on this river. For ten points, name this river which flows through Germany before emptying into the North Sea.
ANSWER: the **Rhine** (or **Rijn**; or **Rhin**)
<JD>

6. This leader's Trade and Industry Secretary, Leon Brittan, was involved in the Westland Affair, and, much like Edward Heath, this leader's party was split between the "dries" and the "wets." Arthur Scargill led the National Union of Mineworkers on a strike against this prime minister, who survived the Brighton hotel bombing conducted by the IRA. This prime minister was once called the (*) "milk snatcher," and attempted to implement a poll tax called the Community Charge, which prompted John Major to replace this leader after her resignation. For ten points, identify this Conservative British prime minister who won the Falklands War and was nicknamed the "Iron Lady."
ANSWER: Margaret Hilda **Thatcher**, Baroness Thatcher
<KT>

7. George Pimentel developed an isolation technique named after these entities, and one named after Harris allows archaeologists to view stratigraphic sequences in diagram form. This term describes the fine-grained, non-phenocryst minerals in a porphyritic rock such as granite. Collagen and proteoglycans form the (*) extracellular *this* in animals, and this term also describes the intermitochondrial space. A mathematical object with this name can be put into row echelon form using Gaussian elimination. For ten points, name this term which in math refers to an array of numbers for which a determinant can be calculated.
ANSWER: **matrix** or **matrices**
<HX>

8. While ascending the only landmass in the Southern Hemisphere, one character in this work notes that it is sunset in Jerusalem and nighttime above the Ganges. In another section of this work, Minos wraps his tail around himself a certain number of times, and Geryon helps the narrator go down a large cliff. The last word of each section of this work is (*) "stars," and it is written in a hendecasyllabic *terza rima* form. Virgil helps the narrator through the nine circles of hell, and its author is guided through heaven by Beatrice. For ten points, name this epic poem including *Paradiso, Purgatorio*, and *Inferno*, written by Dante.
ANSWER: ***Divine Comedy*** (or ***Divina Commedia***, prompt on ***Inferno***, ***Purgatorio***, or ***Paradiso*** before mentioned)
<MS>

9. This game's "Minuet of Forest" plays when an area once infested with Mad Scrubs is entered, the Sacred Forest Meadow. This game's protagonist is the only one in Kokiri Forest who did not have a fairy given to him by the Great Deku Tree, and had earlier had a nightmare of Impa fleeing this game's antagonist on horseback. This game's antagonist seeks to acquire the remaining parts of the (*) Triforce, and the protagonist is trapped for seven years after pulling the Master Sword from a stone. For ten points, identify this N64 game from the *Zelda* series in which Link defeats Ganondorf with the help of the title instrument.
ANSWER: *The Legend of Zelda:* ***Ocarina of Time*** (prompt on "Legend of Zelda")
<MS>

10. The scherzo of one work by this composer was inspired by "Walpurgis Night's Dream" from Goethe's ["Gur-tuh's"] *Faust* and replaced the minuet in his first symphony. This composer of a *String Octet in E-flat major* included a high F-sharp in the "Here Ye Israel" section of his *Elijah* oratorio, and quoted a work inspired by a trip to (*) Fingal's Cave in his *Scottish Symphony*. His fifth symphony honors Martin Luther's Augsburg Confession and incorporates "A Mighty Fortress is Our God" in its final movement. For ten points, name this composer of the *Reformation Symphony,* the *Hebrides* ["HEH-brih-dees"] *Overture*, and incidental music to *A Midsummer Night's Dream*.
ANSWER: Felix **Mendelssohn**
<HX>

HALFTIME

11. This state's Republican Party chair Pat Brady has come under fire for supporting gay marriage. This state's most senior Representative, Jerry Costello, did not seek re-election, and its current governor defeated Bill Brady in the 2010 election. This state has one of the lowest credit ratings, due to its 96 billion dollar pension liabilities. The current Senate Majority (*) Whip is from this state, whose senators are Mark Kirk and Dick Durbin. For ten points, identify this state governed by Pat Quinn, from which Roland Burris was selected by Rod Blagojevich to succeed Obama in the Senate.
ANSWER: **Illinois**
<DA>

12. One battle named after this body of water saw fire break out due to exposed jars of paint and took place after the capture of Malta. That battle, in which *L'Orient* exploded in Aboukir Bay, was a major victory for Horatio Nelson over Napoleon and took place in this river's mouth. John Speke and (*) Richard Burton searched for the source of this river, whose low level allowed the Mahdists to kill "Chinese" Gordon in Khartoum. The temple of Abu Simbel was moved before a dam was constructed on this river, which has six cataracts. For ten points, name this river, whose seasonal floods facilitated Egyptian agriculture.
ANSWER: **Nile** River (accept **Aboukir** Bay before mention, I suppose)
<MS>

13. Fusors can eject beams of these particles, which are often produced from a spallation source. These particles have magnetic moment equal to 1.9 times the nuclear magneton, but it is unknown whether or not their electric dipole moment is zero. Boron-10 is very able to (*) "capture" these particles, which are composed of two down and one up quark. A nuclear chain reaction depends on the release of these particles, and they were discovered by James Chadwick. For ten points, identify these 1 atomic mass unit particles which have no charge.
ANSWER: **neutron**s
<MS>

14. One character in this novel breaks off his engagement to Blanche Ingram, and another has the word "Resurgam" placed on her tombstone after dying of consumption. That character, Helen Burns, attended the Brocklehurst-run Lowood school with this novel's protagonist, who rejects (*) St. John Rivers and a chance to be a missionary's wife in India after hearing her former love call her name. That man had been secretly married to the mad Bertha Mason, who burns down Thornfield Hall. For ten points, identify this novel whose protagonist eventually marries Rochester, the most famous work of Charlotte Bronte.
ANSWER: ***Jane Eyre***
<MS>

15. In Haitian Vodou, this event includes a ceremony called the Dessunin, in which the *mait-tete* of a person is removed, and in Hinduism, this event often takes place in a *Shmashana*, which is usually located by a river. In Judaism, a person performs *shemira* prior to this event, at which people doing *k'riah* tear their clothes, and a Kaddish prayer is said. In India, some wives would perform (*) *sati* and immolate themselves during this ceremony. According to Islamic tradition, a person's head should be facing Mecca after it, and those attending this event should pour out three handfuls of soil. For ten points, identify these ceremonies, in which a deceased person is mourned and buried.
ANSWER: **funeral**s (prompt on "death" or "burial" or equivalents, also prompt on "mourning")
<KT>

16. This work cites Proudhon's *Philosophy of Poverty* as an example of a form of a philosophy to which it claims economists, philanthropists, and humanitarians belong. Its second section advocates a ten-point program which calls for the establishment of industrial armies as well as free education for all children in public schools. That section follows one which examines the history of the (*) bourgeoisie and the proletarians and claims that the history of society is a history of class warfare. For ten points, name this work authored by Friedrich Engels and Karl Marx, which discusses how the problems of capitalism would be solved by adopting socialism and eventually the title ideology.
ANSWER: The **Communist Manifesto** (accept Das **Kommunistische Manifest** or **Manifesto of the Communist Party**)
<HX>

17. Conway weighted squares on a grid with powers of this number to show that a half-plane of adjacently jumping checkers can never advance five rows over. This number's continued fraction consists entirely of ones, and it is equal to 2 times the cosine of pi-fifths. This is the ratio of the diagonal of a regular pentagon to the length of its side, and an isosceles triangle with base angle (*) 72 degrees has side-ratio equal to it. The ratio of successive terms in the Fibonacci sequence approaches this number, whose square is one larger than itself. For ten points, identify this constant symbolized by the Greek letter phi and equal to about 1.618, named for its aesthetically pleasing properties.
ANSWER: **golden** ratio/mean/section/proportion (or **divine** in place of golden, accept mean of **Phidias**, accept **$(1+\sqrt{5})/2$** , accept **phi** before mentioned, prompt on decimal approximations which are the first few digits of 1.61803...)
<MS>

18. Explicit graffiti can be found in this city's Lupanar, a brothel. The "masonry" and "ornate" styles are two of four named after this city, and a depiction of Alexander the Great staring down Darius at the Battle of Issus used to be located in its House of the Faun. A woman joining a Dionysian cult is painted on the walls of a room in this city's (*) Villa of Mysteries, and this city's most famous mural is of a married couple posing as scribes. The oldest surviving amphitheatre is located in this city, which suffered the same fate as nearby Herculaneum. For ten points, identify this Roman archaeological site, buried by ash during the 79 AD eruption of Vesuvius.
ANSWER: **Pompeii**
<MS>

19. This non-American wrote of "purple smoke rising from the mountains" and likened the title location to the "Milky Way falling from the ninth heaven" in his "Waterfall of Lushan Mountain". Another of his works describes "Two small people, without dislike or suspicion" and instructs the title character to let the narrator know beforehand when she comes "down through the narrows of the river Kiang". This poet noted that "The (*) moonlight glistens in front of my bed / As if there is frost on the ground" and was the dedicatee of many poems of Du Fu. For ten points, name this Tang dynasty poet of "Quiet Night Thoughts" and "The River Merchant's Wife" who allegedly died while trying to embrace the moon's reflection.
ANSWER: **Li Bai** (accept **Li Po** or **Li Bo**)
<HX>

20. The drug mebendazole is used to treat diseases caused by members of this phylum, such as trichuriasis and ascariasis. These organisms use chitinous spicules during reproduction and are sheathed in a hard protein cuticle. These organisms possess a pseudocoelom and are one of the simplest animals that have a two-way digestive system. Sydney Brenner extensively used one member of this phylum, (*) *C. elegans*, as a model organism. Many members of this phylum are parasitic helminths, such as hookworms and pinworms. For ten points, name this phylum of nonsegmented roundworms.
ANSWER: **Nematoda** (or **nematode**s; accept **roundworm**s until mentioned)
<BZ>

End of regulation, only proceed if tied

21. Along with Tanacharison, this man once ambushed some soldiers led by Joseph Coulon de Jumonville. This man gave the Newburgh Address to appease his officers, and during the Forbes Expedition, he ordered Captain Waddell to investigate the remains of Fort Duquesne ("do-cane"). In one speech, he stated that "it must be unwise in us to implicate ourselves... in the ordinary vicissitudes of (*) Europe's politics" and warned against "entangling alliances". This man's troops ambushed the Hessians at Trenton, and after a defeat at Brandywine, he camped the winter at Valley Forge. For ten points, name this leader of the Continental Army and first president of the United States.
ANSWER: George **Washington**
<HG>

22. In one of this author's works, a handkerchief which seemingly has an H on it actually has an N, and a scarlet kimono suddenly appears in the protagonist's luggage. That novel's character of Cassetti was formerly known as Ratchett, when he kidnapped Daisy Armstrong. In another of this author's novels, nine murderers and Justice Wargrave are lured to (*) Soldier Island, where they are killed one by one, while another of her works sees a man stabbed twelve times on a train, a mystery solved by Hercule Poirot. For ten points, identify this author of detective fiction like *Murder on the Orient Express* and *And Then There Were None*.
ANSWER: Agatha **Christie**
<CC>

BONUSES

1. Bonus: It was called for by two Treaties of Paris signed in 1814 and 1815. For 10 points each:
[10] Name this meeting of countries that fought in the Napoleonic Wars. This event, which was hosted by Klemens von Metternich, attempted to restore the balance of power with a "Concert of Europe".
ANSWER: **Congress of Vienna** (or **Wiener Kongress**)
[10] The United Kingdom was represented at the Congress of Vienna by this Foreign Secretary, who helped pass the Six Acts after the Peterloo Massacre as the Leader of the House of Commons.
ANSWER: Viscount **Castlereagh** (accept Robert **Stewart**, Second Marquis of Londonderry)
[10] This country's neutrality was officially guaranteed and recognized after the Congress of Vienna. It had been reorganized into the Helvetic Republic, which was a loose association of this country's cantons.
ANSWER: **Switzerland** (or **Swiss** Confederation)
<MS>

2. Bonus: This character asks "if you prick us, do we not bleed?" in his "Hath not a Jew eyes" speech. For ten points each:
[10] Identify this character who loans money to Antonio in *The Merchant of Venice* and is foiled by Portia when he attempts to receive his "pound of flesh."
ANSWER: **Shylock**
[10] This Shakespearean work sees the title character kill Duncan and his friend Banquo out of fear of being overthrown. In the end, he is murdered by Macduff.
ANSWER: *Macbeth*
[10] The steward Flavius is very disappointed when this play's title character gives away all his money to false friends like Ventidius, and then finds gold after renouncing society and living in the wilderness.
ANSWER: *Timon of Athens*
<KT>

3. Bonus: This character was partially inspired by William Randolph Hearst. For ten points each:
[10] Identify this media magnate, the title character of the film in which he appears, who dies while dropping a snowglobe and saying the word "Rosebud."
ANSWER: Citizen **Kane** (or Charles Foster **Kane**)
[10] *Citizen Kane* was directed by this man, who also played the title role. He also famously read *The War of the Worlds* on the radio, inciting a small panic.
ANSWER: Orson **Welles**
[10] After divorcing Emily, Kane marries this woman, whom he unsuccessfully tries to make into an opera singer. In a famous scene, he picks up a snowglobe after trashing her room.
ANSWER: **Susan Alexander** (accept either)
<MS>

4. Bonus: Landauer and Bennett showed that this entity was impossible due to its inability to store infinite information. For ten points each:
[10] Identify this hypothetical creature from a thought experiment, which is able to violate the Second Law of Thermodynamics by separating the hot and cold molecules of a gas.
ANSWER: **Maxwell's demon**
[10] The Second Law of Thermodynamics states that in all irreversible processes, this measure of the disorder in a system must increase.
ANSWER: **entropy** (prompt on **S**)
[10] This scientist posited that Maxwell's Demon could not exist because gaining information about the gas molecules would take energy, increasing entropy. He also convinced Einstein to sign a letter to FDR encouraging the Manhattan Project.
ANSWER: Leo **Szilard**

<MS>

5. Bonus: It proposed alleviating poverty through a negative income tax, and argued for the expansion of the money supply. For ten points each:
[10] Name this work which sought to define the liberal in European Enlightenment terms. It advocates replacing the Bretton Woods system with a floating exchange rate system.
ANSWER: *Capitalism and Freedom*
[10] This economist wrote *Capitalism and Freedom* and co-authored *Free to Choose* with his wife. He advocated for monetarism and criticized the Phillips curve with the natural rate of unemployment.
ANSWER: Milton **Friedman**
[10] Friedman was a leader of this school of economics, which rejected Keynesianism. Named for a Midwestern university, its other members included Ronald Coase, Robert Fogel, and George Stigler.
ANSWER: **Chicago** School of Economics
<HX>

6. Bonus: No genetic recombination happens in this process because meiosis does not occur. For ten points each:
[10] Identify this type of reproduction in which offspring arise from only a single parent. Bacteria reproduce this way through binary fission, and yeasts perform it when budding.
ANSWER: **asexual** reproduction
[10] This word, which means "virgin birth" in Greek, describes a form of asexual reproduction in which the embryo develops without fertilization.
ANSWER: **parthenogenesis** (accept word forms like **parthenogenetic**)
[10] This concept was proposed by its namesake American scientist to explain the success of sexual over asexual reproduction. It states that an asexual population will accumulate harmful and irreversible DNA changes over time.
ANSWER: **Muller's ratchet**
<EnC>

7. Bonus: The *Hijra* occurred at the beginning of this month. For ten points each:
[10] Identify this month of the Islamic calendar, during which able-bodied Muslims fast from dawn to dusk.
ANSWER: **Ramadan**
[10] The practice of fasting is referred to by this Arabic word, one of the Five Pillars of Islam. It refers to total abstinence from things such as food, drinking, marital relations, and swearing during the day.
ANSWER: *sawm*
[10] This holiday on the first of Shawwul marks the end of Ramadan. It is a national holiday in many countries.
ANSWER: **Eid al-Fitr** (or the **Lesser Eid**, prompt on "Eid"; do not accept or prompt any other Eids)
<MS>

8. Bonus: It is connected to the Argentine city of Mendoza by the Uspallata ("OOS-pie-YAH-tah") Pass. For ten points each:
[10] Name this South American capital city which lies 60 miles southwest of Aconcagua and 70 miles southeast of the port of Valparaíso.
ANSWER: **Santiago** (accept but do not reveal **Santiago** de Chile)
[10] Santiago is the capital of this long, narrow country which contains the western half of Tierra del Fuego in its south and the Atacama Desert in its north.
ANSWER: Republic of **Chile**
[10] Chile's city of Concepción shares its name with a city in this landlocked South American country that lies southeast of Bolivia. This country's namesake river joins the Paraná River and flows into Argentina.
ANSWER: Republic of **Paraguay**
<JD>

9. Bonus: He defeated Hubert Humphrey and George Wallace in the 1968 presidential election. For ten points each:
[10] Name this president who was interviewed by David Frost in 1977. During his term, he signed the SALT I treaty and initiated a policy of detente towards the Soviet Union.
ANSWER: Richard **Nixon**
[10] Nixon also created this agency, which initially enforced the Clean Air Act of 1970. Its responsibilities were later expanded by the Wilderness and Water Quality acts.
ANSWER: **E**nvironmental **P**rotection **A**gency
[10] As a vice-presidential candidate under Dwight Eisenhower, Nixon gave this 1952 speech defending himself against accusations of corrupt campaign funding. It was partially inspired by the "Fala" speech of FDR.
ANSWER: **Checkers** Speech
<KT>

10. Bonus: Answer the following about Australian literature, for ten points each:
[10] Perhaps the most famous Australian work is Thomas Keneally's novel about this figure's "Ark," which was adapted into a Spielberg movie about his "List." This German factory owner saved hundreds of Jews from the Nazis.
ANSWER: Oskar **Schindler**
[10] This only Australian Nobel laureate wrote of a friendship between Laura Trevelyan and the title explorer in *Voss*. He also penned *The Vivisector* and *The Twyborn Affair*.
ANSWER: Patrick **White**
[10] In a Patrick White novel titled after one of these objects, Mary, Alf, Ruth, and Mordecai Himmelfarb all see the same vision of the title fiery scene from the Book of Ezekiel. A notable race of them in the Circus Maximus occurs in *Ben-Hur*.
ANSWER: **chariot**s
<MS>

11. Bonus: This function is the integral of one over *x*. For ten points each:
[10] Identify this function, which for a base *b* and input *x* outputs the power to which *b* must be raised to yield *x*. It is the inverse of exponentiation.
ANSWER: **log**arithm (accept specific kinds like natural **log**arithm)
[10] Logarithms were used before the advent of calculators to make arithmetic easy; the usage of tables was feasible because log of *a* plus log of *b* can be more concisely written as the logarithm of what quantity?
ANSWER: **_ab_** (or **the product of _a_ and _b_** or **_a_ times _b_**)
[10] Logarithms can also be used to estimate partial sums of series. For example, the harmonic series tends to the natural log of *n* plus this constant, equal to about 0.577 and symbolized gamma.
ANSWER: **Euler**-Mascheroni **constant** (prompt on **Euler**; do not accept "Euler's number)
<MS>

12. Bonus: The breadth-first method of searching them involves traversing all the nodes at one level before moving to a deeper level. For ten points each:
[10] Name these data structures, a recursively defined collection of nodes. Its topmost node is called the root, and nodes which don't have child nodes are called leaves.
ANSWER: **tree**s
[10] AVL and red-black trees can demonstrate how the "weight" type of this property does not imply the "height" type. Trees with the latter form of this property satisfy that no two leaves differ in depth from the root by more than 1.
ANSWER: **balance**d (accept word forms like **balance**dness, as well as things like **self-balancing** or **height-balanced**)
[10] This data structure is a complete binary tree in which each node is greater than or equal to its children. Fibonacci ones can perform unions in constant time, and they can be used to implement priority queues.
ANSWER: **heap**s
<HX>

13. Bonus: This character interns under magazine editor Jay Cee. For ten points each:
[10] Identify this character who is given some money by Philomena Guinea. She is prescribed electric shock therapy by Dr. Nolan.
ANSWER: **Esther** **Greenwood** (accept either)
[10] Esther Greenwood compares her depression to being stuck under the title object of this novel, of which she is the protagonist.
ANSWER: The ***Bell Jar***
[10] *The Bell Jar* is a novel by this author, who committed suicide by sticking her head in an oven. Her collection *Ariel* includes the poems "Daddy" and "Lady Lazarus."
ANSWER: Sylvia **Plath**
<MS>

14. Bonus: Procopius's *Secret History* chronicled this man's reign. For ten points each:
[10] Identify this 6th century Byzantine emperor who issued the *Corpus Juris Civilis* and built the Hagia Sophia. His wife was Theodora.
ANSWER: **Justinian the Great** (or **Justinian I**; prompt on "Justinian")
[10] Before being replaced by Narses, this general of Justinian the Great suppressed the Nika Riots and defeated the Vandal king Gelimer at the Battle of Tricamarum.
ANSWER: **Belisarius**
[10] In 546, Belisarius was unable to prevent the Ostrogoths under Totila from performing this action, which had previously been done by Alaric I in 410 and Geiseric in 455.
ANSWER: **sack**ing **Rome** (accept synonyms of "sack" like "capture;" accept clear equivalents)
<JD>

15. Bonus: He included the tracks "Acknowledgement" and "Resolution" on his album *A Love Supreme*. For ten points each:
[10] Name this jazz musician, who also recorded *Giant Steps* and *My Favorite Things*. Ira Gitler famously described his music as "sheets of sound."
ANSWER: John **Coltrane**
[10] Coltrane played the tenor variety of this instrument, the alto and soprano types of which were played by Charlie Parker and Kenny G.
ANSWER: **sax**ophone
[10] This saxophonist won the 2007 Pulitzer Prize for Music with his album *Sound Grammar*. This leader of the "Free Jazz" movement had released *The Shape of Jazz to Come* and *Tomorrow Is the Question!* nearly fifty years earlier.
ANSWER: Ornette **Coleman**
<MM>

16. Bonus: The Egyptians believed that this god's laughter caused earthquakes. For ten points each:
[10] Name this god of the earth and father of Osiris, Set, Isis, and Nepthys. This son of Shu and Tefnut married his sky-goddess sister.
ANSWER: **Geb** (accept **Gebeb**, **Keb**, or **Kebeb**)
[10] Due to a restriction put in place by Ra, Geb's wife Nut could not give birth on all 360 days of the year, so this divine scribe and god of wisdom gambled with Khonsu for 5 extra days in the year during which Nut could give birth.
ANSWER: **Thoth** (accept **Djehuty**, **Tahuti**, or **Zehuti**)
[10] Khonsu was the god of this nighttime celestial object, whose crescent phase was represented by Thoth's curved ibis beak.
ANSWER: **Moon**
<BZ>

17. Bonus: This play's character Firs is locked up in the abandoned house. For ten points each:
[10] Name this play in which Ranevskaya finally sells her estate to Lopakhin, who chops up the title trees to build cottages.
Answer: The **Cherry Orchard**
[10] This Russian playwright wrote *Uncle Vanya* and *The Seagull* in addition to writing *The Cherry Orchard*.
Answer: Anton **Chekhov**
[10] This Chekhov short story is set in Yalta, where Dimitri Gurov meets and subsequently has an affair with Anna, the title character.
Answer: "The **Lady With The Dog**" (also accept "**Lady with a Lapdog**", "**Lady with Little Dog**"or "**Dama s Sobachkoy**")
<MM>

18. Bonus: The United States commonly uses one called the M1 Abrams. For ten points each:
[10] Identify these armored battle vehicles which typically have a turreted main gun and move around on treads. They were first used in World War I at the Battle of the Somme.
ANSWER: battle **tanks**
[10] The tanks central to the Nazi technique of Blitzkrieg during World War II were typically referred to by this name, the German word for "armor."
ANSWER: **Panzer**s
[10] This battle on the Eastern Front was the largest tank battle in history and occurred after the Battle of Stalingrad. A Russian submarine named after it exploded in 2000.
ANSWER: Battle of **Kursk**
<MS>

19. Bonus: Characters in this TV show have visited the CDC, an untouched farm, and an abandoned prison. For ten points each:
[10] Name this show in which Rick Grimes leads a group on the run from zombies in northern Georgia.
ANSWER: The **Walking Dead**
[10] This network broadcasts Th*e Walking Dead*, *Mad Men*, and *Breaking Bad*.
ANSWER: **AMC** (accept **American Movie Classics**)
[10] This character on *The Walking Dead* is the son of Rick and has to kill his mother Lori so she does not turn into a walker after dying in childbirth.
ANSWER: **Carl** Grimes
<DA>

20. Bonus: This statement explains the rising phase of an action potential through positive feedback on membrane potential and permeability. For ten points each:
[10] Identify this equation used to determine the equilibrium potential across a cell membrane given all present ions.
ANSWER: **Goldman**–Hodgkin–Katz voltage equation (accept **GHK** equation)
[10] This other equation is a special case of the Goldman equation that applies to only one ion. It can be used to determine the equilibrium reduction potential of a half-cell.
ANSWER: **Nernst** equation
[10] The change in Gibbs free energy is equal to the negative of chemical potential times the Faraday constant times n, which symbolizes the number of these negatively charged particles transferred.
ANSWER: **electron**s
<EnC>

21. Bonus: Answer the following about failed end-of-the-world predictions. For ten points each:
[10] This civilization's calendar entered its 13th *baktun* on December 21, which some people thought might make the world end.
ANSWER: **Maya**ns
[10] This president of Family Radio predicted that the Rapture would happen on May 21, 2011, based on some Bible math he made up.
ANSWER: Harold **Camping**
[10] Many people like to connect their end-of-the-world predictions to the quatrains of this French apothecary, who wrote *Les Propheties*. His meaningless writings can also be interpreted to have predicted 9/11 and Hitler.
ANSWER: **Nostradamus** (or Michel de **Nostredame**)
<DA>

22. Bonus: He depicted the marriage of St. Catherine of Alexandria in his *Bardi Altarpiece*. For ten points each:
[10] Name this Italian Mannerist who painted St. John pointing heavenward in his *Vision of St. Jerome*. He also depicted a woman cradling an infant Jesus in *Madonna of the Long Neck*.
ANSWER: **Parmigianino** (accept Girolamo Francesco Maria **Mazzola**)
[10] Parmigianino often used Chiaroscuro type of this artform, which was also utilized by Albrecht Durer in his *Knight, Death, and the Devil* and by Katsushika Hokusai in ukiyo-e prints such as *The Great Wave off Kanagawa*.
ANSWER: **woodcut**s (accept **woodblock**s)
[10] Hokusai, creator of *Thirty-Six Views of Mount Fuji*, is an artist from this country. Renzo Piano designed its Kansai International Airport off the coast of its island of Honshu.
ANSWER: **Japan** (accept **Nihon**-koku and **Nippon**-koku)
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