**LADUE INVITATIONAL SPRING TOURNAMENT 2013**

Round 10

**TOSS-UPS**

**1. This man’s feet are smaller than they should be in a foreshortened depiction of him by Andrea Mantegna. In another painting, a semi-circular slab above a window behind him appears to give him a halo as he sits next to a blue-sleeved man with index finger pointed upwards. This figure’s death is shown in 4 dimensions in Dali’s *Corpus Hypercubus*, and in a Rubens painting, incredibly (\*)** muscular men attempt to lift this man while he is attached to another object. For ten points, identify this long-haired man who appears often in artwork like the Pieta, where his body is held by his mother, the Virgin Mary.  
ANSWER: **Jesus** **Christ** (accept either)  
<MS>  
  
**2. One character in this story says he would “smack [the antagonist] in the face,” and the central group waves to a black boy with “no britches.” After leaving Red Sammy’s diner, this work’s protagonist mentions a house with secret passages. In this story, Bobby Lee leads John Wesley into the woods to be shot, soon followed by John’s father (\*)** Bailey, all thanks to the protagonist’s recognizing a bespectacled man on the family’s trip to Florida. For ten points, identify this short story in which a grandmother and her family are murdered by escaped convict the Misfit, a work of Flannery O’Connor.  
ANSWER: “A **Good Man is Hard to Find**”  
<MS>  
  
**3. This man was accused of aiding the Ustase after he jailed Aloysius Stepinac, and he escaped German forces in the Raid of Drvar. The Treaty of Vis combined this man’s government with that of the exiled king Peter II, and he dethroned the Chetnik leader Draža Mihailović. This proponent of “national communism” worked with (\*)** Nehru and Nasser to create the Non-Aligned Movement years after initiating his split with Joseph Stalin. After his death, a certain Balkan country broke up into countries like Slovenia, Macedonia, and Croatia. For ten points, name this longtime leader of Yugoslavia.  
ANSWER: Josip Broz **Tito** (accept **Josip Broz**)  
<KT>  
  
**4. This metal is found naturally in minerals like rutile and ilmenite, and compounds containing this metal combine with organoaluminum compounds to form polymerizing catalysts named after Giulio Natta and Karl Ziegler. This element was first produced industrially using the Hunter process, but is now formed after being reduced by magnesium in the (\*)** Kroll process. This metal’s nitride is commonly used to coat drill bits, and its dioxide is used as a white pigment. For ten points, name this silver-colored transition metal with atomic number 22 and symbol Ti.  
ANSWER: **titanium** (accept **Ti** before read)  
<EnC>  
  
**5. Carmichael numbers are numbers of this type that satisfy Fermat’s Little Theorem, and the difference between them and their totient is at least two. Arbitrarily long sequences of these numbers can be found by starting at *n*-factorial plus two up through *n*-factorial plus *n*, and there is *no* jump in the function pi of *x* at each of them. These numbers are crossed out in the (\*)** Sieve of Eratosthenes, because they are divisible by a lower, circled number. For ten points, identify these numbers which have a factor besides one and themselves, and are thus not prime.  
ANSWER: **composite** numbers  
<MS>  
  
**6. One general from this country led a campaign called Conquest of the Desert, which resulted in a victory over the Mapuche people. Its presidents have included Bernardino Rivadavia and Leopoldo Galtieri, while one of its governors was Juan Manuel de Rosas. Jorge Videla became the leader of this country after overthrowing (\*)** Isabel, whose husband had led the *descamisados* and married Eva Duarte. This country experienced the Dirty War and invaded some South Atlantic islands in 1982, which sparked a war with the United Kingdom. For ten points, identify this country which fought the Falklands War and was once led by Juan Peron.  
ANSWER: **Argentina** (or **Argentine Republic**)  
<JD>

**7. The de Broglie wavelength of a particle is equal to Planck’s constant divided by velocity times this quantity, and an object’s kinetic energy equals its momentum squared divided by two times this quantity. This quantity for sub-atomic particles is often measured in electronvolts divided by the speed of light squared, which can be derived from (\*)** Einstein’s famous equation.The force of gravity exerted by two objects is proportional to the product of this quantity for each object, and acceleration times this quantity equals force, according to Newton’s second law. For ten points, identify this quantity measured in kilograms and symbolized *m*.  
ANSWER: **mass** (accept linear **momentum** before "velocity" is said)  
<MS>  
  
**8. Gifts called *zawadi* are given on this holiday’s final day, and libations are poured from a “Unity Cup” on its penultimate day, during the ritual of *tambiko*. This holiday’s *Nguzu Saba*, or Seven Principles, include *imani* and *kuumba*, meaning faith and creativity, respectively, and the (\*)** seven-branched *kinara* is used during it. This holiday was created in 1966 by Maulana Karenga, and includes the lighting of three red, three green, and one black candle. For ten points, identify this week-long holiday in late December, which celebrates African-American culture.  
ANSWER: **Kwanzaa**  
<MS>  
  
**9. An aquarium stands in a “Sahara of” this stuff in “For the Union Dead,” and Emily Dickinson will drink until “seraphs swing” hats covered in this substance. “The eye of a blackbird” was the only moving thing among the mountains of this type in a Wallace Stevens poem, while Ipek is loved by the Turkish Ka in a novel of this title by Orhan Pamuk. In a Hans Christian Anderson tale, Gerda saves Kai from the (\*)** Queen of this substance, and in another poem with this substance in the title, a “little horse must think it queer / to stop without a farmhouse near.” For ten points, give this weather phenomenon that describes the evening on which the narrator stops by woods in a Robert Frost poem.  
ANSWER: **snow**y (accept word forms)  
<MS>  
  
**10. One character on this television series starred on the fictional show Mac and C.H.E.E.S.E, and declares that he wants “girls on bread.”  One character on this series owns the monkey Marcel who was stolen by Mr. Heckles, and that character is the focus of Gunther’s jealousy. Another character on this series frequently encounters his ex-girlfriend (\*)** Janice,while another character was once married to a lesbian, and defends his cheating by saying “We were on a break.”  For ten points, name this series with the theme song “I’ll be There For You,” about the companions Ross, Rachel, Chandler, Monica, Joey, and Phoebe, who spend their time together in New York City.  
Answer: ***Friends***  
<CC>

**HALFTIME**

**11. To maximize profit, firms should advertise until the ratio of advertising costs to sales revenue equals the ratio of two measures of elasticity of this concept. One variety of this concept is plotted on the *y*-axis of a Keynesian cross, and the cross-price elasticity of it is the change in it for one good when another’s price changes. As income increases, this quantity for (\*)** normal goods also increases, and Giffen goods are exceptions to the law of this quantity, which states that it goes down when price increases. For ten points, identify this quantity from economics, which is negatively related to supply.  
ANSWER: **demand** (accept more specific answers like aggregate **demand**)  
<MS>  
  
**12. Fawn Hall helped one man involved in this event destroy evidence, and Mehdi Hashemi was probably executed for bringing it to light. William Casey became ill hours before he was to testify about it, and the commission formed to investigate this event was composed of Edmund Muskie, Brent Snowcroft, and John Tower. Though he violated the Boland Amendment, (\*)** Oliver North was not convicted, unlike National Security Advisor John Poindexter. During this event, the U.S. government assisted the Contras in their war against the Sandinistas. For ten points, identify this Reagan-era scandal, in which funds from Middle Eastern arms sales were diverted to Nicaraguan rebels.  
ANSWER: **Iran-Contra** Scandal  
<MS>  
  
**13. Along with Republican Susan Collins, this politician sponsored the bill that repealed Don’t Ask, Don’t Tell, and was chairman of the Homeland Security committee after her. Obama had to prevent him from being stripped of his seniority after he supported McCain. This politician was the first (\*)** Jew named to a major-party presidential ticket. Former WWE President Linda McMahon was defeated trying to take his seat, which is now currently held by Democrat Jim Murphy. For ten points, identify this vice presidential candidate of Al Gore, a now-retired Independent senator from Connecticut.  
ANSWER: Joseph **Lieberman**  
<DA>  
  
**14. This goddess granted Biton and Cleobis death after they pulled their mother’s chariot for miles to a statue of this figure. The giant Porphyrion tried to rape this goddess before being struck by lightning and killed by an arrow. At her wedding, she received a tree that bore the Golden Apples of the Hesperides, and this figure was once (\*)** hung upside down with gold chains by her husband for rebelling against him. In the Judgment of Paris, she offered him rule over all of Europe and Asia. This goddess sent a gadfly to torment a woman disguised as a cow and threw her son off Olympus because of his ugliness. For ten points, name this mother of Hephaestus and wife of Zeus.  
ANSWER: **Hera**<BZ>  
  
**15. One equation that models the behavior of these molecules divides the product of Vmax (“V sub max”) and S by the sum of Km (“K sub M”) and S, and that equation is part of the Michaelis-Menten kinetics describing these molecules. Their activity can be controlled via allosteric regulation and by (\*)** competitive and noncompetitive inhibitors. The induced-fit model is a more accurate variant of the “lock and key” model that describes how their active sites bond with substrates in order to lower the activation energy of a reaction. For ten points, name these proteins that catalyze biological reactions.  
ANSWER: **enzyme**s (prompt on “catalysts” until mentioned)  
<BZ>  
  
**16. Of the two most popular keys for tin whistles, this one has the most sharps. Scriabin associated this key with a golden color. Mozart’s first horn concerto is in this key, and most trumpet concertos were written in this key before Haydn wrote one in E-flat major. This key was considered the “key of glory” during the Baroque era Handel’s “Hallelujah” chorus is in it. Joseph Joachim was the dedicatee of Brahms’ (\*)** violin concerto in this key, and Leopold Auer refused to perform Tchaikovsky’s violin concerto in this key. Pachelbel’s *Canon* in this key, whose leading tone is C sharp and whose tonic is the second lowest string on a violin. For ten points, name this key with two sharps, the relative major of B minor.  
ANSWER: **D major** (prompt on **D** before “major”)  
<HX>  
  
**17. One of this river’s headstreams flows through Lakes Bangweulu and Mweru. This river forms the Malebo Pool, and its source is the Chambeshi River. Boyoma Falls lies on this river, and after it reaches Kisangani, it is no longer called the Lualaba. This river’s mouth lies downstream of Boma, which is located south of Cabinda. Livingstone Falls is located on this river, which receives the Kasai and Ubangi Rivers. This river, which flows through (\*)** Katanga and receives water from Lake Tanganyika, separates the cities of Brazzaville and Kinshasa. For ten points, name this African river which flows through a namesake Democratic Republic.  
ANSWER: **Congo** River (or **Zaire** River; accept **Lualaba** River until “Malebo”)  
<JD>  
  
**18. In one of this author’s plays, Lichas tries to convince another character that the siege of Oechalia was not to obtain Iole, but Deianeira kills Hercules anyway. Another play by this author of *Women of Trachis* sees Haemon kill himself after the title character is not allowed to (\*)** bury her brother’s body. In one of this man’s plays, the chorus warns that no man should be considered fortunate until after his death, and that play’s title character had answered the sphinx’s riddle with “man.” This author’s most famous protagonist blinds himself after learning he married his mother. For ten points, identify this Athenian playwright of *Antigone* and *Oedipus Rex*.  
ANSWER: **Sophocles**  
<MS>

**19. The lead and water in amazonite give it this property rather than copper, as originally thought, and jets of hadrons are produced because of a process named after another property of this name. In an iodine clock reaction, this characteristic of the solution changes regularly, and in a type of confinement named after it, subatomic particles with this property cannot be isolated. Acid-base titrations are typically (\*)** stopped when this characteristic of the solution suddenly changes, and this property of a streak can be used to easily tell pyrite and gold apart. A prism splits light with different values of, for ten points, what characteristic, which the human eye perceives as a combination of red, green, and blue?  
ANSWER: **color** (or **color** charge)  
<MS+HX>  
  
**20. While under the command of his son, this man’s navy won the Battle of the Hellespont. This father of Crispus defeated Licinius at the Battle of Chrysopolis and had earlier fought under Galerius, who was a member of the original Tetrarchy. This ruler later called a meeting that denounced Arianism, and he defeated Maxentius at the Battle of (\*)** Milvian Bridge after seeing a vision of a shining cross in the sky. This ruler convened the First Council of Nicaea and issued the Edict of Milan, which provided toleration for Christians. For ten points, name this Roman emperor who moved his capital to the modern-day city of Istanbul.  
ANSWER: **Constantine the Great** (or **Constantine I**; prompt on “Constantine”)  
<JD>

**End of regulation, only proceed if tied**

**21. In one of his works, the speaker urges to “grow old along with me!” since the “best is yet to be”, while the speaker of another of his poems initially thinks that the “hoary cripple, with malicious eye” had “lied in every word.” This poet of “Rabbi Ben Ezra” wrote a poem which states, “You need not clap your torches to my face,” part of his collection (\*)** *Men and Women*. In addition to “Childe Roland to the Dark Tower Came” and “Fra Lippo Lippi”, this author wrote a poem which tells of a woman whose heart was “too soon made glad” and whose portrait was painted by Fra Pandolf. For ten points, name this English author and husband of poet Elizabeth who wrote “My Last Duchess”.  
ANSWER: Robert **Browning**  
<KT>  
  
**22. These compounds react with a Lewis acid to produce a ketone in the Fries rearrangement. Its beta-keto variety is formed when two of these compounds react in the Claisen condensation, and they can be hydrolyzed under basic conditions to form soaps. Nitroglycerin is an explosive one of these compounds, and (\*)** ethyl acetate is another one found in wines. In the presence of an acid catalyst, these compounds can be synthesized by reacting a carboxylic acid with an alcohol in a process named after Fischer. For ten points, identify these organic compounds which are notable for their fruity scents.  
ANSWER: **ester**s  
<EnC>

**BONUSES**

1. Bonus: The Mesabi Range lies in this state’s northeast. For ten points each:  
[10] Name this state which contains Lake Itasca as well as the cities of Duluth, St. Paul, and Minneapolis.  
ANSWER: **Minnesota**  
[10] This river forms the border between Minnesota and North Dakota. Another river of the same name forms the border between Oklahoma and Texas and flows into the Mississippi River in Louisiana.  
ANSWER: **Red** River (of the North)  
[10] This lake that lies on Minnesota’s border with Canada contains the Northwest Angle, the northernmost point in the contiguous 48 states.  
ANSWER: **Lake of the Woods**  
<JD>  
  
2. Bonus: Answer some questions about PC gaming, for ten points each:  
[10] This indie game developed by Mojang Inc. was created by Markus Persson, also known as Notch. It features one by one meter blocks to form the gameplay world.  
Answer: ***Minecraft***  
[10] This battle arena game, developed by Riot Games, features a spawn point called the “spawning pool” and includes such features as Nexuses and Turrets.  
Answer:***League of Legends*** (or ***LOL***)  
[10] This Valve software allows users to download games directly from the internet. It was developed alongside *Half-Life 2*.  
Answer: **Steam**  
<MM>  
  
3. Bonus: One character in this story is deceived about a sick patient back at a hotel. For ten points each:  
[10] Identify this short story, in which Dr. Watson’s return to that inn sets the stage for a climactic battle at Reichenbach Falls.  
ANSWER: “The **Final Problem**”  
[10] “The Final Problem” is one of many stories about this character created by Arthur Conan Doyle. He also appears in works like *A Study in Scarlet* and *The Hound of the Baskervilles*.  
ANSWER: Sherlock **Holmes**  
[10] This arch-nemesis of Holmes and “Napoleon of Crime” goes off the falls with him in “The Final Problem,” though it is revealed that Holmes survives and this man did not in “The Adventure of the Empty House.”  
ANSWER: Professor James **Moriarty**  
<MS>  
  
4. Bonus: Name these American third-party candidates who lost presidential elections, for ten points each:  
[10] This man, whose biography of Patrick Henry may be the source of “Give me Liberty or give me Death!”, ran as the anti-Masonic candidate in the 1832 election after the first ever nominating convention.  
ANSWER: William **Wirt**  
[10] This Californian, nicknamed “The Pathfinder,” was the first Republican nominee for president and lost the 1856 election to James Buchanan, though he did better than Millard Fillmore and the Know-Nothing party.  
ANSWER: John Charles **Fremont**  
[10] The most successful third-party candidate in history was this “Bull Moose” who split with his successor, William Taft. He once led the Rough Riders, and, as president, he spoke softly and carried a big stick.  
ANSWER: **T**heodore **Roosevelt** (accept **TR** or **Teddy Roosevelt**; prompt on “Roosevelt”)  
<MS>

5. Bonus: Apollo and Poseidon built the massive walls that surrounded this city. For ten points each:  
[10] Name this city in Asia Minor that was conquered and destroyed by the Greeks in a war chronicled by a Homeric epic. The army of this city was led by Hector.  
ANSWER: **Troy** (or **Ilium**, or **Ilion**, or **Ilios**)  
[10] This king ruled Troy at the time of the Trojan War and was the father of Hector. He was killed by Neoptolemus during the sack of Troy, after which his wife Hecuba was sold as a slave to Odysseus.  
ANSWER: **Priam** (accept **Podarces**)  
[10] This king of Troy and father of Priam ordered Apollo and Poseidon to build Troy’s walls. This man was killed after refusing to give his immortal horses to Heracles.  
ANSWER: **Laomedon**  
<BZ>  
  
6. Bonus: Name some German poets, for ten points each:  
[10] This man described a “daughter of Elysium” in his *Ode to Joy*. He also penned the plays *The Robbers* and *William Tell*.  
ANSWER: Friedrich **Schiller**  
[10] Lady Gaga has a line from this man’s *Letters to a Young Poet* tattooed on her arm, but he is better known for a collection beginning “Who, if I cried out, would hear me among the angelic orders?,” his *Duino Elegies*.  
ANSWER: Ranier Maria **Rilke**  
[10] Szymborska wrote a poem beginning “Dear mermaids, it was bound to happen” titled after this German author of *Buddenbrooks* and *The Magic Mountain*.  
ANSWER: Thomas **Mann**  
<MS>  
  
7. Bonus: This opera’s title character sings *O Patria Mia* at the beginning of Act III.  For ten points each:  
[10] Identify this opera, in which Radames sings *Ritorna vincitor* while Amneris vies with the title princess for his love.  
ANSWER: ***Aida***  
[10] This Italian composer of *Rigoletto* and *La traviata* composed *Aida*. His totally awesome requiem is dedicated to writer Alessandro Manzoni.  
ANSWER: Giuseppe **Verdi**  
[10] Aida and Radames sing *La fatal pietra* and *Morir! Si pura e bella!* while awaiting their death in this manner, the punishment for Radames’ treason.  
ANSWER: being **buried** alive in the temple vault (accept anything that shows they know they’re getting buried)  
<MiP>  
  
8. Vytautas the Great was one ruler of this country. For 10 points each:  
[10] Name this country which joined with its western neighbor in the 1569 Union of Lublin. In the 20th century, this Baltic state was the first to declare its independence from the Soviet Union.  
ANSWER: Grand Duchy of **Lithuania** (accept Republic of **Lithuania** or **Lietuvos** Respublika)  
[10] This country joined with Lithuania in the 1569 Union of Lublin. This country was home to the Piast and Jagiellon dynasties, and its current capital is Warsaw.  
ANSWER: Republic of **Poland** (or Rzeczpospolita **Polska**; accept **Poland-Lithuania**n Commonwealth**)**  
[10] The Union of Lublin was signed after one ruler of this name, the last Jagiellon, left no heirs. The third Polish ruler of this name was a member of the House of Vasa who conquered large areas of Russia before being driven back.  
ANSWER: **Sigismund**  
<BZ>

9. Bonus: This fourth largest Asian economy just elected its first female president. For ten points each:  
[10] Name this Asian nation with its capital at Seoul.  
ANSWER: **South Korea**  
[10] The winner of the presidential election was this daughter of South Korea’s former military ruler Chung-hee, who was assassinated in 1979.  
ANSWER: **Park** Geun-Hye  
[10] Park is part of this ruling conservative party that was previously known as the Grand National Party until a February 2012 name-change.  
ANSWER: **New Frontier** Party (or **Saenuri** Party)  
<DA>  
  
10. Bonus: The magnitude of this force equals twice the mass times angular velocity of the frame crossed with particle velocity. For ten points each:  
[10] Identify this force that deflects moving objects when observed in a rotating reference frame.  
ANSWER: **Coriolis** force or effect  
[10] This dimensionless number gives the ratio of inertial force to Coriolis force. A small value for this quantity identifies a system strongly affected by the Coriolis force.  
ANSWER: **Rossby** number (accept **Kibel** number)  
[10] The Ekman layer is where this force is balanced against the pressure gradient and Coriolis force. It is responsible for slowing an object’s motion through a fluid and opposes thrust.  
ANSWER: **drag** force  
<EnC>  
  
11. Bonus: The Redmond-Sun conjecture concerns intervals with at least one of these numbers in them. For ten points each:  
[10] Identify these numbers, divisible only by one and themselves. Goldbach’s Conjecture posits that every even integer greater than two can be written as a sum of two of them.  
ANSWER: **prime** numbers  
[10] Another unsolved problem in mathematics is this one, which states that the real part of any non-trivial zero of its namesake’s zeta function is one-half.  
ANSWER: **Riemann** hypothesis  
[10] The unsolved Collatz Conjecture deals with multiplying odd numbers by this number before adding one. There is no general solution to the *n*-body problem for *n* greater than or equal to this number.  
ANSWER: **three**  
<MS>  
  
12. Bonus: Oskar Kokoschka painted one of these “of the Wind”. For ten points each:  
[10] Identify these types of people, a Jewish one of which was painted by Rembrandt.  
ANSWER: **bride**s  
[10] This artist took eight years to complete *The Bride Stripped Bare By Her Bachelors, Even*. He painted *Nude Descending a Staircase No. 2*, and signed a urinal “R. Mutt” and dubbed it *Fountain*.  
ANSWER: Marcel **Duchamp**  
[10] The bride is on the right in this artist’s *Arnolfini Wedding*. This Flemish painter collaborated with his brother Hubert on the *Ghent Altarpiece*.  
ANSWER: Jan **van Eyck**  
<MS>

13. Bonus: These elements have electrons in the 5f orbital. For ten points each:  
[10] Name this group of 15 radioactive elements that includes uranium and plutonium. This row of elements lies directly below the lanthanides.  
ANSWER: **actinide** series (or **actinoid** series)  
[10] This transuranic element with atomic number 95 is used as a neutron source and is widely found in smoke detectors.  
ANSWER: **americium** (accept **Am**)  
[10] This man co-discovered the elements plutonium through nobelium, along with element 106, which was named in his honor. He also proposed putting the actinide series below the lanthanide series on the periodic table.  
ANSWER: Glenn Theodore **Seaborg**  
<EnC>  
  
14. Bonus: This novel’s protagonist is punched by Sunny’s pimp Maurice. For ten points each:  
[10] Identify this novel chronicling the exploits of Holden Caulfield after he leaves Pencey Prep.  
ANSWER: *The* ***Catcher in the Rye***  
[10] This author of *The Catcher in the Rye* included “For Esme -- With Love and Squalor” and “Just Before War with the Eskimos” in his collection *Nine Stories*.  
ANSWER: J. D. **Salinger**  
[10] Holden spends a night sleeping on the couch of this former English teacher of his, but leaves when he finds him patting his head in a “flitty” manner.  
ANSWER: Mr. **Antolini**  
<MS>  
  
15. Bonus: One of its causes was the distribution of Enfield rifle cartridges that were greased with pig and beef fat. For ten points each:  
[10] Name this 1857 rebellion against a certain British trade company, which began in Meerut soon after the death of Mangal Pandey.  
ANSWER: **Sepoy** Rebellion (accept **Sepoy** Mutiny, **Indian Rebellion of 1857**, **Indian Mutiny**, or other terms that combine **India** with some sort of revolt)  
[10] The Sepoy Rebellion occurred in this country, where battles occurred at Cawnpore, Jhansi,  and Delhi.  
ANSWER: Republic of **India**  
[10] A siege in this city’s Residency area started in the beginning of the Sepoy Rebellion. British leaders killed in this city include Henry Havelock and Henry Lawrence, and refugees in this city were taken to Dilkusha Park.  
ANSWER: **Lucknow**  
<MM>  
  
16. Bonus: These objects may be approximated by considering a small hole in the wall of a closed container, although the resulting radiation may not be in thermal equilibrium with the container. For ten points each:  
[10] Identify these idealistic objects that absorb all incident electromagnetic radiation, making it appear the namesake color.  
ANSWER: **black body**(s)  
[10] This doubly eponymous law describes the intensity of radiation emitted by a black body. It can be derived from Planck’s Law, but fails at short wavelengths of energy, resulting in the ultraviolet catastrophe.  
ANSWER: **Rayleigh-Jeans** law  
[10] This Austrian scientist’s name appears second in a law that relates radiated energy to the fourth power of temperature. His namesake constant is approximately 1.38 times ten to the negative 23rd joules per Kelvin.  
ANSWER: Ludwig Eduard **Boltzmann**  
<EnC>

17. Bonus: Identify the following authors who wrote about war in Vietnam, for ten points each:  
[10] This author’s *The Quiet American* centers on journalist Thomas Fowler, who covers the French war in Vietnam, and the title character Alden Pyle. This author also wrote *The Power and the Glory* and *The Heart of the Matter*.  
ANSWER: Graham **Greene**  
[10] This South African author’s first novel, *Dusklands*, begins with the “Vietnam Project” section, about psychological warrior Eugene Dawn. He later penned *Waiting for Barbarians* and *The Life and Times of Michael K.*  
ANSWER: J. M. **Coetzee**  
[10] *The Things They Carried* is a collection of short stories by this American author, who served in Vietnam. He also published the autobiographical *If I Die in a Combat Zone, Box Me Up and Ship Me Home*.  
ANSWER: Tim **O’Brien**  
<MS>  
  
18. Bonus: The Expedition of the Thousand targeted this island. For ten points each:  
[10] Identify this island, whose capital is now Palermo. It is separated by the Strait of Messina from the southwest coast of Italy.  
ANSWER: **Sicily** (or **Sicilia**)  
[10] This leader of Italian unification led the Expedition of the Thousand. He also led forces in the Uruguayan Civil War, earning him the nickname “Hero of Two Worlds.”  
ANSWER: Giuseppe **Garibaldi**  
[10] This Genoan founded the Young Italy movement and spent some time working with Garibaldi. The British captured him in 1843, and he annoyed world leaders by proposing a “United States of Europe.”  
ANSWER: Giuseppe **Mazzini**  
<MS>  
  
19. Bonus: Two slightly different forms of it appear in chapter 6 of Matthew and chapter 11 of Luke.  For ten points each:  
[10] Name this Christian prayer which asks the title figure to “forgive us our trespasses” and to “lead us not to temptation, but deliver us from evil”.  
ANSWER: The **Lord’s Prayer**  (accept **Our Father** or **Pater Noster**)  
[10] The Lord’s prayer is often said before this sacrament, whose participants take bread and wine that, according to the Catholic and Orthodox churches, have been transubstantiated into the body and blood of Christ.  
ANSWER: Holy **Communion** (or **Eucharist)**  
[10] This document is also frequently recited before Communion, and was drafted by the first ecumenical council. Among its declarations include “We believe in one god” and that Jesus Christ “suffered, was crucified, was buried.”  
ANSWER: **Nicene Creed**  (or **Symbolum Nicenum**)  
<MiP>  
  
20. Bonus: It is produced only in epidermal cells and can help prevent water loss. For ten points each:  
[10] Name this waxy outer layer of plants which protects against outside agents like viruses and fungi.  
ANSWER: **cuticle**  
[10] The cuticle surrounds these plant organs abundant in chlorophyll, which fall to the ground in a process called abscission. Pine trees contain a form of these called needles.  
ANSWER: **leaves** (or **leaf**)  
[10] Leaf veins connect to this vascular tissue, which carries sugars and other organic compounds from the leaf to the rest of the plant.  
ANSWER: **phloem**  
<KT>

21. Bonus: Its section 4.31 is cited as the invention of truth tables. For ten points each:  
[10] Name this philosophical work comprised of seven propositions, such as “the world is everything that is the case” and “whereof one cannot speak, thereof one must be silent.”  
ANSWER: ***Tractatus Logico-Philosophicus***  
[10] This Austrian philosopher wrote *Tractatus Logico-Philosophicus* and described the “beetle in a box” thought experiment in his posthumously published *Philosophical Investigations*.  
ANSWER: Ludwig **Wittgenstein**  
[10] Wittgenstein’s beetle is used to argue against the private type of this concept, an often verbal means of communication. Study of this concept encompasses such elements as grammar and semantics, or meaning.  
ANSWER: **language**  
<HX>   
  
22. Bonus: Nick Adams recount stories of his encounters with Trudy Gilby in one story of this title. For ten points each:  
[10] Identify this title. The best-known work titled it sees Arkady Kirsanov espouse the nihilism of his friend Bazarov.  
ANSWER: ***Fathers and Sons*** (accept ***Fathers and Children*** or ***Otcy i Deti***)  
[10] That novel was written by this Russian author, who wrote another work sharing a title with Hemingway, *The Torrents of Spring*. He also penned *The Diary of a Superfluous Man* and *A Month in the Country*.  
ANSWER: Ivan **Turgenev**  
[10] This Turgenev collection contains short stories like “Raspberry Water” and “The District Doctor.” Its first story is a dialogue between the peasants Khor and Kalinych.  
ANSWER: *A* ***Sportsman’s Sketches*** (accept ***The Hunting Sketches*** or ***Sketches From a Hunter’s Album***)  
<MS>