2014 Brookwood Invitational Scholars Bowl

Round 5

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1. **This man popularized the sarabande dance in a failed attempt to impress Anne of Austria. This leader financed mercenary Ernst von Mansfeld against Spain, then made peace with the Spanish in the Treaty of Monzón. Gaston, the Duke of Orleans, nearly engineered this man’s downfall on the Day of the Dupes. He personally led a force at La Rochelle that withstood the Duke of** (\*) Buckingham and eventually defeated the Huguenots. This politician is often called the world’s first Prime Minister. For 10 points, name this French statesman known as the “Red Eminence”, an advisor to Louis XIII [13th] who preceded Cardinal Mazarin in office.

ANSWER: Armand-Jean du Plessis Cardinal de **Richelieu**

2. **An effect named for this person is the illusion that she’s looking at a self-reflection, rather than a portrait of the painter. A sculpture of this woman is copied 28 times in Dali’s *Hallucinogenic Toreador*. Velazquez painted this person laying on a bed, looking at a mirror, taking her toilet. In another painting, this person holds her flowing hair in front of her lady parts as she is given a pink cloth by** (\*) Flora. A girl rummages through a chest in a Titian painting named for this figure “of Urbino”. This goddess stands naked, on top of a white seashell, in a 1486 painting. For 10 points, name this goddess whose “birth” was depicted by Sandro Botticelli.

ANSWER: **Venus** [or the **Venus de Milo**; or the ***Toilet of Venus***; or ***Birth of Venus***; or **Aphrodite**]

3. **Excellent cherries are grown on this state’s Door Peninsula, which was the site of a much deadlier fire the same day as Chicago’s 1873 Great Fire. This state’s paper industry developed around the Fox River. The Dells are found on this state’s namesake river. The city of Spring Green in this state is where Taliesin was originally built by** (\*) Frank Lloyd Wright. This state’s largest city is at the confluence of the Kinnickinnic and Menonmonee Rivers and is the home of Harley-Davidson. Its smaller cities include Eau Claire, Racine, and Green Bay. For 10 points, name this “Dairyland” of the US where you’d find Milwaukee.

ANSWER: **Wisconsin**

4. **At the end of a novel by this author, Cornelius betrays the protagonist to a pirate named Gentleman Brown. This author wrote about a member of “the party of the unsound method”, who throws a bloody shoe overboard after getting trapped in an impenetrable white fog. One of this author’s protagonists abandons a ship full of** (\*) pilgrims, then gets court-martialed when the boat doesn’t sink. On a steamboat trip to the Inner Station taken for the Company, a character created by this author is told “The horror! The horror!” by Kurtz. For 10 points, name this author of *Lord Jim* and *Heart of Darkness*.

ANSWER: Joseph **Conrad**

5. **This quantity is on the y-axis of a Mollier diagram. Cp [“C-P”] is the partial derivative of this quantity with respect to temperature. The sign of this quantity determines if an equilibrium constant increases or decreases as temperature changes. In a reaction, the change in this quantity is the total bond** (\*) energy of the reactants minus the bond energy of the products. The change in this quantity equals the heat in a coffee cup calorimeter. Hess’ Law most famously makes this quantity a state function. It increases for endothermic reactions. For 10 points, name this quantity symbolized H.

ANSWER: **enthalpy** [or **H** before it is read; or more specific enthalpies such as **enthalpy of reaction**; don’t accept or prompt on “heat”]

6. **Twice, this man ignored the advice of Polydamas. Athena tricked this man by disguising herself as his brother Deiphobus. Nine men cast lots into a helmet for the honor to fight this hero, who then exchanged his sword for a girdle with the “winner.” This “tamer of horses” and father of Astyanax killed Protesilaus.  This man’s corpse was attached to a** (\*) chariot and driven around for twelve days after his death. Andromache, this man’s wife, was taken as a concubine by Neoptolemus. In revenge for killing Patroclus, this hero loses a duel with Achilles in Book 21 of the *Iliad*. For 10 points, name this son of Priam, the greatest Trojan hero.  
ANSWER: **Hector**

7. **Massive race riots were triggered across the US on the Fourth of July, 1910, after one of these events. One of these events in 1927 prompted the first use of the phrase, “Honey, I forgot to duck.” A *participant of these events* explained, “I ain’t got no quarrel with them Viet Cong” to explain why he was a conscientious objector. Mobutu Sese Seko shelled out 10 million dollars for one of these events in 1974 in** (\*) Kinshasa. Hitler puppet Max Schmeling participated in one in 1938 at Yankee Stadium. For 10 points, name these events which include “The Thrilla in Manila”, contested by people like Joe Louis and Muhammad Ali.  
ANSWER: **boxing match**es [or obvious equivalents; prompt on **fight**s or similar answers]

8. **This is the final word in Margaret Atwood’s short poem “You Fit Into Me”. “The Hollow Men” mentions these things that “I dare not meet in dreams.” “All that’s best of dark and bright” meet in “her aspect”, and in these objects, according to Byron’s “She Walks in Beauty.” Ben Jonson’s “To Celia” requests (\*)** “drink only” with these objects. Shakespeare’s Sonnet 130 mentions that some of these objects were “nothing like the sun.” This word makes a slant rhyme with “symmetry” in Blake’s “The Tyger” in a line asking “What immortal hand” or one of these things. For 10 points, name these objects which were “watching God” in a Hurston novel title.

ANSWER: **eye**s [accept short poetic quotes that might be completing these lines, so long as the word “eye” is in there]

9. **Bordered pits prevent cavitation from occurring as a result of this process. Potometers measure the rate of this process. Blue light induces this process to occur. A need to prevent this process from occurring too rapidly led to adaptations like a waxy cuticle and crassulacean acid metabolism. The** (\*) cohesion-tension theory explains how this process occurs. This process occurs when the difference in water potential, and capillary action, overcomes the difference in gravitational potential. It occurs through stomata during gas exchange. For 10 points, name this process by which water evaporates from the leaves of a plant.  
ANSWER: **transpiration** [prompt on **water loss**; prompt on **water transport**; prompt on **gas exchange** before it is read; prompt on **evaporation** or **vaporization**]

10. **Republican Michael Grimm represents this city in Congress. In September 2014, this city hosted an international climate change summit. This city’s white mayor has an African-American wife, supports universal pre-K, and beat Joe Lhota in 2013 after squeaking past** Chris**tine Quinn in the primaries. Eric** (\*) Garner was killed in this city.Charlie Rangel’s district is here. This city’s 2013 comptroller elections were contested by a former governor and a madam involved in his prostitution scandal. Anthony Wiener lost to Bill de Blasio in its mayoral race. For 10 points, name this city where the One World Trade Center will soon open.

ANSWER: **New York** City [or **NYC**; accept any specific boroughs of the city]

11. **A precursor to this agreement was targeted by Allan Gregg’s “bombing the bridge” campaign, which caused John Turner to lose a national election. The Zapatistas formed in Chiapas the day that this agreement was signed. Opposition to this policy coined the term “giant** (\*) sucking sound.” This agreement led to the proliferation of maquiladoras. Ross Perot vigorously opposed this agreement, but it was signed by Carlos Salinas, Brian Mulroney, and George HW Bush in 1992 anyways. For 10 points, name this free trade agreement which binds Canada, Mexico, and the US.

ANSWER: **NAFTA** [or the **North American Free Trade Agreement**]

12. **The subtitle of the novel *Max Havelaar* mentions auctions for this commodity. Getulio Vargas put an end to an era of politics named for this commodity. Schlendrian prevents his daughter Lieschen from buying this commodity in a cantata named for it by Bach. This is the only object on the** (\*) table in Edward Hopper’s painting *Automat*. This substance was sold at the Procope in Paris, where Diderot compiled the *Encyclopedia*. Mormons are forbidden to consume this foodstuff, which was declared *haraam* in Islam in the early 1500s because of its popularity. For 10 points, name this beverage, the vast majority of which is grown today in Brazil.

ANSWER: **coffee** [or **cafe**; or **cafe com leite**; or **coffee with milk**; or the ***Coffee Cantata*** ;or a cup of **coffee**]

13. **A piece by this composer accompanies the charge of the Ku Klux Klan into battle in Act III of DW Griffith’s *The Birth of a Nation*. One of this man’s works beginning with a 136-measure prelude contains a part for 18 tuned anvils. In an opera by this composer, the heroine mistakenly asks her husband what his name is, after he arrives in a swan boat, and they are united during the (\*)** “Bridal Chorus.” The Bayreuth festival celebrates this composer of *Lohengrin*. For 10 points, name this German composer of “The Ride of the Valkyries”, which appears in his massive four-opera *Ring* *Cycle*.

ANSWER: Richard **Wagner**

14. **This story’s narrator scorns those who “practice imposture upon the British and Austrian MILLIONAIRES.” A character in this story shouts out, “For the love of God!” and is told in response, “Yes, for the love of God.” As this story is set during the “supreme madness of the Carnival season”, one character wears a lot of jingling bells. It begins by mentioning the (\*)** “thousand injuries... I had borne as best I could.” This story’s narrator recalls that, after fifty years, nobody has found a corpse walled up inside the catacombs. For 10 points, Fortunato follows the succor of an elegant wine, and is killed by Montresor, in what Edgar Allan Poe story?

ANSWER: “The **Cask of Amontillado**”

15. **Kai Siegbahn developed photoemission spectroscopy using this form of radiation to measure core electron binding energy. Scorpius X-1 emits this type of radiation. When electrons are accelerated through a field and collide with metal, this type of radiation is released. von Laue proposed using this radiation to detect lattice constants of ionic solids. Bragg’s Law governs that form of** (\*) crystallography. The first Nobel Prize in Physics was given to Wilhelm Roentgen for discovering these waves. For 10 points, name this form of radiation slightly less energetic than gamma rays, which is used to diagnose broken bones.

ANSWER: **X-ray**s

16. **Mandaenism is popular in this nation’s Khuzestan province. *The Four Books* were written by religious scholars in this country. The concept of *velayat-e faqih* is unique to this country. This nation’s parliament grants five seats each to Christians, Jews, and Zoroastrians. The Bab was shot in this nation in 1850 even though it was where** (\*) Baha’i was founded. There are more Jews in this country than any other Muslim country. This is the largest country with a predominantly Twelver, Shi’a population. For 10 points, name this country where the Supreme Leader runs a theocratic Islamic state.

ANSWER: Islamic State of **Iran**

17. **This event was the subject of a history by Bernal Diaz del Castillo, as well as the twelfth book of the Florentine Codex. The Battle of Otumba took place during this larger campaign. Panfilo de Narvaez failed to stop this event from occurring. To impede loyalists to Diego Velazquez, the leader of this campaign scuttled 30 ships. The night after a massacre at the** (\*) Templo Mayor during it was called La Noche Triste. The Tlaxcala and La Malinche aided the success of this endeavor. Its success was aided by a legend about Quetzalcoatl. For 10 points, name this expedition which killed Montezuma and sacked Tenochtitlan, which was led by Hernan Cortes.

ANSWER: the **conquest** of the **Aztec** Empire [or obvious equivalents such as synonyms for **conquest**; or **Tenochtitlan** instead of Aztecs; or Hernan **Cortes**’ expedition before his name is read; or the Spanish **conquest** of **Mexico**]

18. **A circle of radius one-fourth is centered at this value in the complex plane when plotting the Mandelbrot set. In two’s complement notation, this number consists of all ones. Swapping rows an odd number of times multiplies a matrix’s determinant by this value. This number is the lower bound of the domain of the arcsine function. By Euler’s identity,** (\*) e to the i times pi equals this number. The product of the slopes of two perpendicular lines is this number. For an odd function f, f of this number times x equals this number times f of x. For 10 points, name this value equal to i squared, the greatest negative integer.

ANSWER: **negative one** [or **-1**]

19. **While premiering one of this composer’s pieces, David Tudor closed the piano lid at the end of each of the three movements. Many works by this composer were set to dances by his partner Merce Cunningham. To give a percussive feel to Syvilla Fort’s dance “Bacchanale,” this man used weatherstripping material to alter an instrument’s sound. This man’s collection (\*)** *Sonatas and Interludes* was written for his prepared piano.This composer of many *Imaginary Landscapes* is best-known for a piece in which the performer sits in silence for the title duration of time. For 10 points, name this American avant-garde composer of *4’33*”.

ANSWER: John **Cage**

20. **A character in this novel uses the name Vandeleur to found a school, though it fails when his partner Fraser dies of tuberculosis. Selden is chased off a cliff after disguising himself with another character’s clothes in this novel. While searching through the Grimpen Mire, the protagonists only find an old boot and conclude that this novel’s antagonist (\*)** drowned in the swamp. In this novel, the naturalist Stapleton murders Sir Charles. Uniquely, Watson does most of the investigating in this mystery novel. For 10 points, name this Sir Arthur Conan Doyle novel in which Sherlock Holmes investigates a phosphorus-covered, demonic dog.

ANSWER: *The* ***Hound of the Baskervilles***

**TB: The Salonika Trial condemned Apis to death by firing squad for his role in this event. Defective cyanide tablets prevented two men from committing suicide in its aftermath. The chapter “Outbreak” in Barbara Tuchman’s *The Guns of August* describes this event. The July Ultimatum was issued after it. The man who committed this crime was** (\*) sitting at a food shop near the Latin Bridge after a failed bombing, when a royal motorcade took a wrong turn. A member of the Black Hand, Gavrilo Princip, committed this murder in Sarajevo in July 1914. For 10 points, name this assassination of an Austro-Hungarian noble which sparked World War I.

ANSWER: **assassination** of Archduke **Franz Ferdinand** of Austria [prompt on partial answer; accept synonyms for **assassination**; prompt on “the **start of World War I**” or similar answers]

1. The largest of these regions has a name which literally translates as “Ocean of Storms.” For 10 points each:

[10] Name these vast, dark, low plains composed of basalt. They were probably formed after volcanic eruptions, and were once thought to be filled with water.

ANSWER: lunar **maria** [or **mare**; or lunar **sea**s]

[10] This 1994 NASA mission gave a topographic view of the moon, including the maria. Its bistatic radar mission looked for water near the Moon’s poles.

ANSWER: **Clementine** [or **Deep Space Program Science Experiment**; or **DSPSE**]

[10] The surface of the moon is also littered with these objects, which are indentations in the lunar surface formed from impacts with other large objects.

ANSWER: lunar **crater**s

2. The UN Security Council unanimously passed Resolution 82, opposing the invasion sparking this war. For 10 points each:

[10] Name this 1950s war which left an Asian peninsula divided into two countries separated at the 38th parallel.

ANSWER: **Korean** War

[10] This North Korean leader authorized the initial invasion of South Korea in 1950. He’s known as the country’s Eternal President.

ANSWER: **Kim Il-sung** [prompt on **Kim**]

[10] The success of Resolution 82 was partly due to the fact that the Soviet delegation was boycotting the UN, to protest this other Asian country’s permanent seat on the Security Council. It lost its seat in 1971.

ANSWER: **Taiwan** [or the **Republic of China**; or **ROC**; do not accept or prompt on just “China”]

3. The name of one of these objects is the surname of Peter, the owner of the Spouter Inn in Nantucket. For 10 points each:

[10] Name these objects. Ishmael is saved from the destruction of the *Pequod* by clinging to one of these objects  which is used instead of a life buoy.

ANSWER: **coffin**s

[10] The coffin that saves Ishmael’s life was built by this character when he was ill. This character becomes Ishmael’s blood brother and the first harpooner aboard the *Pequod*.

ANSWER: **Queequeg**

[10] Queequeg’s coffin helps Ishmael survive the torment of this white whale, the title character of a Herman Melville narrative.

ANSWER: **Moby Dick** [prompt on partial answer]

*Moderator note: Technically, in Spanish, the consonant “v” is pronunced like a “b”*.

4. In the preterite, this verb is conjugated identically to *ser* [pr. “SAIR”]. For 10 points each:

[10] Name this irregular Spanish verb which, in the present tense, is conjugated as “voy”, “vas”, “va”, “vamos”, and “van.”

ANSWER: **ir** [pr. “EAR”; prompt on “to **go**”]

[10] Using the word *ir* with the preposition *a* [“AH”] generates this tense in Spanish. It’s a similar construction as the phrase “going to” to represent this tense in English.

ANSWER: **future** tense

[10] To form the future tense in German, you must conjugate this verb, which roughly means “to become.” This verb should only be used for potentially uncertain actions or to describe actions far away in the future.

ANSWER: **werden** [something like “VERD-EN”]

5. Egeria legendarily taught a man with this political position. For 10 points each:

[10] Name this position held by seven men, including Numa Pompilius. The first person to hold this office killed his brother for attempting to jump over a wall.

ANSWER: **king** of **Rome** [prompt on partial answer]

[10] The first king of Rome was this man, who saw twelve vultures during the competition with his brother Remus.

ANSWER: **Romulus**

[10] The monarchy in Rome was legendarily ended by the heroic sacrifice of this woman, who killed herself after being raped by Sextus Tarquinius. She’s the namesake of an narrative poem by Shakespeare.

ANSWER: **Lucretia**

6. “Greensleeves” is sometimes misattributed to being one of this man’s works, though he did write the piece “Pastime with Good Company.” For 10 points each:

[10] Name this man whose skill at the lute, organ and the virginal made music a hobby of his when he was not doing his main job of serving as the king of England from 1509 to 1547.

ANSWER: King **Henry VIII** of England

[10] This other English Renaissance composer wrote the 40-piece motet “Spem in alium.” His *Tunes for Archbishop Parker’s Psalter* was the basis for a “Fantasia” on a theme of *his* by Ralph (“rafe”) Vaughan Williams.

ANSWER: Thomas **Tallis**

[10] During the Renaissance secular music became progressively more popular, most commonly in this form. This form of music was a favorite of Monteverdi and Palestrina and is often performed by unaccompanied vocalists.

ANSWER: **madrigal**s

7. Russian authors weren’t especially thrilled with modernization. For 10 points each:

[10] Trains play a symbolic role in this Leo Tolstoy novel, especially after the title character jumps in front of one. On the other hand, Protagonist No. 2 Konstantin Levin is perfectly happy on his farm.

ANSWER: ***Anna Karenina***

[10] In this novel by Ivan Turgenev, Arkady and Bazarov shock Nikolai and Pavel Kirsanov with their fancy talk about nihilism and opposition to the bourgeoisie.

ANSWER: ***Fathers and Sons*** [or ***Otcy i Deti***]

[10] In this short story set in St. Petersburg, Major Kovalyov is infuriated that the title character, dressed in an officer’s uniform, is promoted ahead of him in the emerging nonsensical Russian bureaucracy.

ANSWER: “The **Nose**” [or “**Hoc**”]

8. The first elected holder of this office was Foreign Minister for the Norwegian government headquartered in London during WWII. For 10 points each:

[10] Name this office held by Trygve Lie. Another holder of this office, Dag Hammarskjold, died in a plane crash to the Congo.

ANSWER: United Nations **Secretary-General** [prompt on **leader of the United Nations** or similar answers]

[10] The United Nations was established in October of this year, the same year that World War II ended.

ANSWER: **1945**

[10] In 1964, a still ongoing UN Peacekeeping mission was launched in this European nation, which had a coup in 1974 and was subsequently invaded in Operation Attila. A UN buffer zone divides this country in two.

ANSWER: Republic of **Cyprus**

9. This principle disproved phlogiston theory, and was shown by Lavoisier, when he combusted wood inside a sealed container. For 10 points each:

[10] Name this principle which states that the number of grams of starting material will equal the number of grams of product in any chemical reaction. It’s the basis of stoichiometry.

ANSWER: law of **conservation of mass** [or equivalents like **mass conservation**]

[10] This quantity is defined as the number of moles of product divided by the number of moles of the limiting reactant.

ANSWER: fractional **yield** [or percentage **yield**; or relative **yield**; or fractional **conversion**]

[10] An unrelated quantity, quantum yield, is defined as the ratio of photons emitted, divided by photons absorbed, during this process by which an excited electronic state decays to a ground state, emitting a photon of lower energy.

ANSWER: **fluorescence** [or word forms; do not accept or prompt on “luminescence”; prompt on **light**]

10. The University of Louisville has the original cast made from this sculpture. For 10 points each:

[10] Name this nude sculpture in bronze which was originally placed above the door panels of the sculpture group *The Gates of Hell*.

ANSWER: *The* ***Thinker*** [or *Le* ***Penseur***]

[10] *The Thinker*, as well as the rest of *The Gates of Hell*, was sculpted by this Frenchman.

ANSWER: Francois-Auguste-Rene **Rodin**

[10] Rodin’s *Thinker* was based on this sculptor’s depiction of Lorenzo de Medici titled *Il Penseroso*. In 1497, this man was commissioned by a French cardinal to sculpt a sitting woman wearing an undulating, folded dress.

ANSWER: **Michelangelo** Buonarotti

11. *Note to moderator: Emphasize the italicized word in the third bonus part.*

The pseudonymous “Brutus” who wrote these works is believed to be Robert Yates. For 10 points each:

[10] Name these writings opposing the ratification of the Constitution. Unlike its 85-section, pro-Constitution counterpart, this set of papers was not formally published together.

ANSWER: the “**Anti-Federalist Papers**”

[10] Speeches by this Virginia governor are sometimes included in modern publications of the “Anti-Federalist Papers.” He cried out “Give me liberty or give me death!” in a speech at the Virginia Convention.

ANSWER: Patrick **Henry**

[10] A man with this surname is believed to have written as “Cato” in the “*Anti-Federalist* Papers,” and served as James Madison’s Vice President. Another politician with this name lost to Madison in the Election of 1812.

ANSWER: **Clinton** [or George **Clinton**; or DeWitt **Clinton**]

12. Answer the following about Hardy-Weinberg equilibria, for 10 points each:

[10] The equilibrium assumes that this phenomenon is not present. Darwin theorized that evolution occurred through this mechanism, in which the fittest organisms survive to reproduce and pass down genes.

ANSWER: **natural selection** [prompt on partial answer]

[10] These *two* letters of the alphabet are used to designate the frequency of two different alleles in a population in the Hardy-Weinberg equation. Their sum must equal 1.

ANSWER: **p** and **q** [or either order; no points for getting just one correct]

[10] To determine if a population is following a Hardy-Weinberg equilibrium, you can use this hypothesis test, which is useful for determining if a sample is obeying a specified frequency distribution.

ANSWER: Pearson’s **chi-square**d test

These artworks were located in between the cornice and the architrave. For 10 points each:

[10] Name these decorative carvings on ancient Greek columns. A very well-known elaborate example of these sculptures at the Parthenon is 160 meters long and depicts a procession of men and gods.

ANSWER: **frieze**s

[10] This Norwegian artist made a series of paintings called *The Frieze of Life*, but he’s best-known for painting *The Scream*.

ANSWER: Edvard **Munch**

[10] This Austrian painter made the Greek-myth-inspired *Beethoven Frieze*. He used gold leaf in his painting *The Kiss*.

ANSWER: Gustav **Klimt**

14. Name some author power-couples, for 10 points each:

[10] This husband-wife team included Robert, the author of “My Last Duchess”, and Elizabeth Barrett, who rhapsodized to her husband in a poem beginning, “How do I love thee? Let me count the ways.”

ANSWER: Robert and Elizabeth Barrett **Browning** [or the **Browning**s]

[10] This American novelist married Zelda, the author of *Save Me the Waltz*, then analogized her descent into insanity in his own novel *Tender is the Night*.

ANSWER: Francis Scott **Fitzgerald**

[10] Peter Orlovsky had a relationship with this more famous poet, and gave the title for a poem by this author about “angelheaded hipsters” who “jumped off the Brooklyn Bridge this actually happened and walked away unknown.”

ANSWER: Allen **Ginsberg** [the poem is “Howl”]

15. Kent Brantly tested positive for this disease while working in Liberia. For 10 points each:

[10] Name this deadly disease which broke out in West Africa in July 2014, killing thousands of people in its worst-ever outbreak.

ANSWER: **ebola** virus

[10] Also worrying, though garnering fewer headlines, is the spread of this viral infection related to SARS. An outbreak of it in Saudi Arabia killed a few hundred people.

ANSWER: **MERS** [or **Middle East respiratory syndrome**]

[10] In January 2014, a Canadian died of this disease, marking its first fatality in the Western Hemisphere, after it has killed a few people in East Asia. This disease is caused by the strain H5N1, and mostly kills chickens.

ANSWER: **avian** in**flu**enza [or **avian flu**; or **bird flu**; prompt on **flu** or **influenza** alone]

16. Name some physical laws that take similar functional forms, for 10 points each:

[10] According to an uncommon formulation of this law, the current density equals the electrical conductivity times the electric field. This law more commonly sets the drop in electric potential as proportional to the current.

ANSWER: **Ohm**’s Law

[10] This other law, which applies to heat conduction, states that heat flux per unit area equals the conductivity times the gradient of temperature. It was named for the Frenchman who discovered the greenhouse effect.

ANSWER: **Fourier**’s Law [or Joseph **Fourier**]

[10] The shear stress on a fluid element is directly proportional  to the strain rate by this quantity, which is high for “sticky”, not-very-deformable fluids like honey.

ANSWER: **viscosity** [or **dynamic viscosity**; or **kinematic viscosity**]

17. This speech notes that, “All our yesterdays have lighted fools the way to dusty deaths.” For 10 points each:

[10] Name this soliloquy which calls life a “walking shadow, a poor player that struts and frets his hour upon the stage” and “a tale told by an idiot full of sound and fury, and signifying nothing.”

ANSWER: “**Tomorrow and tomorrow and tomorrow**”

[10] The soliloquy appears in Act V of this Shakespeare play about a murderous king of Scotland who will stop at nothing to win the throne--except for babies born in Caesarean sections, he can’t handle them.

ANSWER: ***Macbeth***

[10] The soliloquy comes in response to the death of Lady Macbeth, who in an earlier sleepwalking scene, proclaimed that, “All the perfumes of Arabia will not sweeten” this object. She believes it is covered in blood.

ANSWER: her **hand**s

18. A heavily Tolkien-inspired song by this band describes meeting a girl “in the darkest depths of Mordor” and having her stolen away by Gollum and Sauron. For 10 points each:

[10] Name this English rock band who performed “Ramble On”. Their second self-titled album includes a song that begins “You need coolin’, baby, I’m not foolin’.”

ANSWER: **Led Zeppelin**

[10] Led Zeppelin’s most famous song is this one about “a lady who’s sure all that glitters is gold … buying” the title object. Hilariously, it was investigated for supposedly containing a Satanic message when played backwards.

ANSWER: “**Stairway to Heaven**”

[10] A Led Zeppelin song with this title begins with the news that “Annie’s back in town” and is notable for its opening guitar riff. A Pat Benatar song with this title calls the addressee a “dream maker” and a “love taker”.

ANSWER: “**Heartbreaker**”

19. The Council of Four Hundred was established by this man in the seventh century BCE. For 10 points each:

[10] Name this Greek reformer who proposed a namesake harsh law code.

ANSWER: **Draco**n

[10] The Draconian constitution granted the right to vote and serve in the council to these main infantry soldiers of Athens. They normally fought in a phalanx formation with a spear.

ANSWER: **hoplite**s

[10] The phalanx formation was developed by this Greek city-state which fought Athens in the Peloponnesian War.

ANSWER: **Sparta**

20. Schopenhauer gained early fame for an essay responding to a prompt asking if this concept could be proven from self-consciousness. For 10 points each:

[10] Name this philosophical idea which is rejected by determinism.

ANSWER: **free will** [or the **freedom of the will**]

[10] This philosophy completely rejects compatibilism, arguing that free will is impossible in an deterministic universe. It shares its name with a right-wing political philosophy advocating complete personal freedoms.

ANSWER: **libertarian**ism

[10] William James mocked compatibilism as being this type of determinism. This adjective also describes the “power” used by nations through diplomacy rather than outright war, in a theory concocted by Joseph Nye.

ANSWER: “**soft**” determinism [or **soft** power]