

2013 Fall Kickoff Tournament – Round 5

1. This equation's namesake also names the "Heat Theorem," an alternative to the Third Law of Thermodynamics. This equation can be generalized to a simplification of the Tafel equation, known as the Butler-Volmer equation, and it can be generalized through an equation used to determine the reversal potential across a cell membrane, the Goldman Equation. In this equation, the gas constant times temperature over n times Faraday's Constant is multiplied by the natural log of Q . For 10 points, identify this fundamental equation of electrochemistry, named after a German chemist.

ANSWER: **Nernst** Equation

BONUS: One painting by this man shows an unhealthy man in black and a glass of the title substance next to the title woman. For 10 points each:

[10] Name this French painter of *The Absinthe Drinker*, also known for his depictions of race horses.

ANSWER: Edgar **Degas**

[10] In addition to painting *The Absinthe Drinker* and *At The Races*, Degas is noted for numerous illustrations of this type of dance.

ANSWER: **Ballet** [accept word forms like **ballerinas**]

[10] This other Degas painting shows several Louisiana merchants involved in the trade of the title crop.

ANSWER: *The **New Orleans Cotton Exchange*** [also accept *The **Cotton Exchange in New Orleans*** or ***Interieur d'un bureau d'acheteurs de coton a La Nouvelle-Orleans***]

2. One character in this novel is buried "in a corner of the kirkyard" after giving birth to a daughter of the same name. Another character, Frances, also dies after giving birth to a son named Hareton. The novel ends when the two children of the aforementioned characters marry, inheriting the title property and Thrushcross Grange. This novel is a story told to Mr. Lockwood and is primarily narrated by Nelly Dean. For 10 points, identify this novel about the relationship between Catherine Earnshaw and Heathcliff, written by Emily Bronte.

ANSWER: **Wuthering Heights**

BONUS: In response to the Great Depression, President Franklin D. Roosevelt enacted a series of domestic economic programs. For 10 points each:

[10] What name was given to this series of programs aimed at the three R's: Recovery, Relief and Reform?

ANSWER: **New Deal**

[10] Enacted in May 1933, this New Deal corporation was designed to provide navigation, flood control, electricity, fertilization, and economic development to a region especially affected by the depression.

ANSWER: **Tennessee Valley Authority**

[10] Declared unconstitutional in the case *Schechter Poultry Corp. v. United States* is what New Deal law that gave the president power to regulate industry?

ANSWER: **National Industrial Recovery Act** [do not accept "NRA" or "National Recovery Administration"]

3. This man defined a "real" character as one that represents an idea directly and not simply as the word embodying the idea. He portrayed himself as "Theophilus" and John Locke as "Philaethe" in his *New Essays on Human Understanding*. In addition, he also composed his *Discourse on Metaphysics* in 1686. He conceptualized monads in his *Monadology*, and his teachings, embodied by Dr. Pangloss, are satirized in a work by Voltaire. Believing in the "best of all possible worlds," name, for 10 points, this philosopher who discovered calculus independently of Sir Isaac Newton.

ANSWER: Gottfried Wilhelm **Leibniz**

BONUS: This highest peak in the northeastern United States is known for its inclement weather. For 10 points each:

[10] Identify this mountain, the tallest peak in New Hampshire.

ANSWER: Mount **Washington**

[10] Located southeast of Seattle is this stratovolcano. Its large amount of ice is capable of unleashing devastating lahars on Washington residents, and its highest summit is known as Columbia Crest.

ANSWER: Mount **Rainier**

[10] This highest peak east of the Mississippi River is the tallest mountain in the Appalachian Mountains and is located in North Carolina.

ANSWER: Mount **Mitchell**

4. Singles from this band's breakthrough album, released in 2000, were featured in films such as *Dracula 2000*, *Little Nicky*, and *Valentine*. One song by this band, formerly known as Xero, declares that "when life leaves us blind, love keeps us kind." In 2004, its lead vocalist began his own side project, producing the US Billboard Hot 100 hit, *Remember the Name*, under the alias Fort Minor. Years later, the group specifically recorded *New Divide* for the film *Transformers: Revenge of the Fallen*. For 10 points, identify this band starring Mike Shinoda and Chester Bennington with hit singles *In The End*, *One Step Closer*, and *Numb*.

ANSWER: **Linkin Park**

BONUS: This man used a tune composed by Frederick II for his *A Musical Offering*. For 10 points each:

[10] Name this composer of *The Art of the Fugue*, the *Goldberg Variations*, and *The Well-Tempered Clavier*.

ANSWER: **Johann Sebastian Bach** [prompt on "Bach"; prompt on "Johann Bach"]

[10] This set of six instrumental pieces by J.S. Bach was dedicated to Margrave Christian Ludwig and is named after a German city.

ANSWER: **Brandenburg Concertos**

[10] Bach wrote six sonatas and partitas for this instrument, which was played by musicians such as Itzhak Perlman and Nathan Milstein.

ANSWER: **Violin**

5. Dissonance and rapid scales are used to represent cold, swirling winds in this work. The composer of this work included instructions for instruments to depict drunkenness at a peasant celebration of a harvest and to mimic the sound of a barking dog. The third piece has three movements, alternating between allegro and adagio molto. This set of pieces makes up the first part of their composer's *The Contest Between Harmony and Invention*, and the final section is entitled *L'inverno*. For 10 points, identify this collection of violin concertos illustrating various times of the year by Antonio Vivaldi.

ANSWER: *The Four Seasons*

BONUS: The Protestant Reformation was the schism within Western Christianity over the doctrines, rituals, leadership, and ecclesiastical structure of the Roman Catholic Church. For 10 points each:

[10] Name this document nailed to a Wittenberg Church in 1517 that sparked the reformation.

ANSWER: 95 Theses

[10] This German monk who did not believe in the sale of indulgences, the practice of using God's forgiveness as a means of profit, authored the 95 Theses.

ANSWER: Martin Luther

[10] It was at this imperial diet, held at the Heylshof Garden, that Luther defended his views and was deemed a heretic by Emperor Charles V.

ANSWER: Diet of Worms

6. The Nestorian monk Rabban Sauma was sent as a diplomat to Christian Europe by this ruler who made paper money called "chao" the currency of his nation. He was elected by a kuriltai held at Shang-Tu, which allowed him to preempt his brother, Ariq Boke. He and his brother Mongke thrice tried to invade Vietnam, and after victories at Xianyang and Fencheng, this man conquered the Southern Song and declared himself the ruler of the Yuan Dynasty. For 10 points, name this Mongol ruler visited by Marco Polo, the grandson of Genghis.

ANSWER: Kublai Khan [or Khubilai Khan; prompt on "Khan"; do not accept "Genghis Khan"]

BONUS: Mixtures are material systems made up of two, not chemically combined substances. For 10 points each:

[10] This type of mixture is the intermediate between solutions and suspensions and occurs when one substance is dispersed evenly throughout another.

ANSWER: Colloid

[10] This type of colloid is formed when a liquid is dispersed in another liquid; milk is an example of one.

ANSWER: Emulsion

[10] In this effect, light is scattered by particles in a colloid. It is similar to Rayleigh scattering.

ANSWER: Tyndall Effect

7. The relativistic form of this effect was investigated using a type of Mössbauer spectroscopy by Pound and Rebka. Although it is not time dilation, this effect was tested in the Mössbauer rotor and Ives-Stilwell experiment. The transverse form of this effect involves the redshift or blueshift at the point of closest approach between a moving object and an observer. In the classical form of this effect, the velocity of the wave is divided by the sum of that velocity and the velocity of the source. For 10 points, name this effect in which the frequency of waves from a moving source changes, exemplified by an ambulance siren.

ANSWER: Doppler effect [or Doppler shift; accept gravitational redshift before mention]

BONUS: The Reign of Elizabeth I saw a flourishing of the arts in England. For 10 points each:

[10] This playwright and poet is perhaps the most famous Elizabethan. He is mainly known for plays, including but not limited to *Hamlet*, *Romeo and Juliet*, and *King Lear*.

ANSWER: William Shakespeare

[10] When Shakespeare was not writing plays, he was most likely writing poems in this form.

ANSWER: Elizabethan Sonnet [do not accept or prompt on “Italian Sonnet” or “Petrarchan Sonnet”]

[10] This other famous Elizabethan playwright was probably a spy and died in a very suspicious bar fight. He is most well known for *The Jew of Malta* and *Doctor Faustus*.

ANSWER: Christopher Marlowe

8. This man ordered the construction of the West Point military academy, and one of this president’s foreign policy actions was mocked in the “O-grab-me” political cartoon featuring a snapping turtle biting at a man. This supporter of the Embargo Act also authored the Kentucky Resolutions, stating that the Alien and Sedition Acts were unconstitutional, and many of this man’s scientific ideas can be found in his *Notes on the State of Virginia*. Perhaps his greatest contribution, however, is stating that “we hold these truths to be self-evident,” as the chief author of the *Declaration of Independence*. For 10 points, name this third President of the United States.

ANSWER: Thomas Jefferson

BONUS: This man opens one of his works, *In Vino Veritas*, during “one of the last days in July, at ten o'clock in the evenin’.” For 10 points each:

[10] Name this subject of ridicule by the newspaper *The Corsair* and author of *Fear and Trembling*.

ANSWER: Søren Kierkegaard

[10] One of Kierkegaard’s best known works is this one where he discusses the title choice between the aesthetic and the ethical life, subtitled *Fragment of Life*.

ANSWER: Either/Or

[10] This other Kierkegaard work was published under the pseudonym Anti-Climacus and concluded that despair is homologous with sin.

ANSWER: *The Sickness Unto Death* [or Sygdommen til Døden]

9. A minor character in this work is named Allan Grey and shoots himself, rendering him long dead before the play begins. Later, a Mexican woman is heard yelling in the street, "Flores, flores para los muertos," while two characters have a falling out. Another character is described as being animalistic and ends up striking his wife and raping his sister-in-law. The old southern estate, Belle Reve, is said to be lost in this work by a character claiming to have "always relied on the kindness of strangers," Blanche DuBois. For 10 points, identify this play set in New Orleans revolving around the life of the Kowalskis by Tennessee Williams.

ANSWER: **A Streetcar Named Desire**

BONUS: Chemical analysis is the separation, identification, and quantification of the chemical components of a material. For 10 points:

[10] This type of chemical analysis is used to determine the concentration of a known analyte; it is also called volumetric analysis.

ANSWER: **Titration** [or **Titrimetry**]

[10] This commonly used indicator in titrations has the chemical formula C₂₀H₁₄O₄ and turns a pink color in basic solutions.

ANSWER: **Phenolphthalein**

[10] In a titration, this long piece of glassware with a stopcock is used to dispense precise amounts of a chemical solution.

ANSWER: **Burette** [or **Buret**]

10. The oak sculpture *King of Kings* was created by this man for a "Temple of Meditation" that was never built, and he created an oval-shaped bronze head on its side in *Sleeping Muse*. He created a sculptural rendition of the French princess, Marie Bonaparte, depicting her gazing downward, and one of his works is a number of the same geometric form stacked atop one another, *Endless Column*. Another piece by this man was taxed in customs by the United States for six hundred dollars. For 10 points, name this Romanian-born sculptor of *Bird In Space*.

ANSWER: Constantin **Brancusi**

BONUS: Leon Trotsky and Joseph Stalin were Russian leaders engaged in a power struggle that eventually resulted in the death of the former. For 10 points each:

[10] Surrounding the lives of various livestock, what allegorical novella represents Trotsky and Stalin's struggle and the events leading up to the Russian Revolution of 1917?

ANSWER: **Animal Farm**

[10] *Animal Farm* was written by this author of *Nineteen Eighty-Four*, whose real name is Eric Arthur Blair.

ANSWER: George **Orwell**

[10] This loyal, gullible workhorse in *Animal Farm* is eventually sold off, slaughtered, and turned into glue. He represents the betrayed Russian working class.

ANSWER: **Boxer**

HALFTIME – Announce the score and allow teams to substitute

11. This goddess caused Hephaestus to have to craft an ivory shoulder for Pelops after she absentmindedly consumed it, and this goddess had a fling with the Titan Iasius in a field causing her to birth the child Ploutos. This goddess may be better known, however, for giving birth to Despoina after unsuccessfully hiding from Poseidon's advances among a group of horses and giving Triptolemus a chariot pulled by snakes to teach the world agriculture. This is, for 10 points, what mother of Persephone and goddess of the harvest?

ANSWER: **Demeter** [or **Ceres**]

BONUS: This man emerged victorious at the battles of Uhud and Badr. For 10 points each:

[10] Identify this man who is believed by Muslims to be the last prophet sent to Earth by God.

ANSWER: **Muhammad** ibn Abdullah

[10] Recorded in the Qur'an are the teachings of God delivered to Muhammad over a series of years by this angel.

ANSWER: **Gabriel**

[10] After beginning to spread God's messages, Muhammad and his followers were forced to leave Mecca for this city. The move to this city also marks the beginning of the Islamic calendar.

ANSWER: **Medina**

12. A disease affecting this organ causes an overproduction of mucus and an overall enlargement of the organ as a whole and is known as Ménétrier disease. Necessary for the absorption of vitamin B12, a glycoprotein, intrinsic factor, is produced by this organ's parietal cells. Rennin or chymosin is an enzyme obtained from this organ in newborn ruminant animals and is used in cheesemaking. When food exits this organ and enters the small intestine, it is called chyme. Aided in its primary function by hydrochloric acid, for 10 points, name this organ of the digestive system.

ANSWER: **Stomach**

BONUS: The bloodiest war in American history, the Civil War resulted in the abolition of slavery and the preservation of the union. For 10 points each:

[10] This general commanded troops during the capture of Vicksburg and forced Lee's surrender at Appomattox Court House. He later became President of the United States.

ANSWER: Ulysses S. **Grant**

[10] This man who led Union troops at the Battle of Antietam was relieved of his duties afterward and went on to run against Lincoln in the 1864 presidential election.

ANSWER: George B. **McClellan**

[10] Robert E. Lee defeated this Commander of the Army of the Potomac at Chancellorsville. This man was relieved of his duties just prior to the Battle of Gettysburg.

ANSWER: Joseph **Hooker**

13. On the eve of this battle, the attacking forces congregated in the town of McConkey's Ferry. Near the end of this battle, Edward Hand stopped the Knyphausen Regiment from retreating across the Assunpink Creek. Future President James Monroe was wounded in this battle, which claimed the life of the losing commander, Johann Rall. A Christmas evening celebration by Hessian troops occurred the night before, for 10 points, what Revolutionary War battle preceded by George Washington's crossing of the Delaware River?

ANSWER: Battle of **Trenton**

BONUS: Identify these heroes from Greek mythology for 10 points each.

[10] This hero's armor was fought over by Odysseus and Ajax. He died in battle when an arrow was shot into his heel.

ANSWER: **Achilles**

[10] This man's wife, Eurydice, was killed by a nest of vipers as she was escaping the threat of a satyr; overwhelmed from grief, he set out to rescue Eurydice from the underworld armed only with his lyre.

ANSWER: **Orpheus**

[10] This hero sowed a field with dragon's teeth and was the founder of Thebes.

ANSWER: **Cadmus**

14. Awaji, a small island in this nation, is known for the fine quality of its onions. One island in this country contains Lake Biwa, which is drained by the Yodo River into the Inland Sea; that island is also home to the Hida and Akaishi mountain ranges. This country has recently suffered a devastating earthquake and tsunami near its Fukushima region, nearly causing a nuclear disaster. For 10 points, the Kanto plain is located in this land of the rising sun whose four main islands are Shikoku, Kyushu, Hokkaido, and Honshu.

ANSWER: **Japan**

BONUS: This show focuses on a group of seven who begin as a Spanish class study group. For ten points each:

[10] Jeff, played by Joel McHale, attends Greendale College in order to return to practicing law on what NBC show?

ANSWER: **Community**

[10] This fellow study group member was once thrown a *Pulp Fiction* themed birthday party and is commonly heard saying, "Cool, cool, cool."

ANSWER: **Abed Nadir** [accept either underlined part]

[10] Although not a study group member, this character does attend Greendale for business and appears to be around a hundred years old.

ANSWER: **Lenard Rodriguez** [accept either underlined part]

15. This artist once almost got in a fight with Thelonious Monk, which helped give him a reputation of having a quick temper. This man's first quintet released four albums from a two day recording session but broke up due to the band member's drug problems. This artist teamed up with Gil Evans to produce some of his most famous music, and they teamed up with Joaquin Rodrigo to produce *Sketches of Spain*. He reformed his sextet to record his most famous modal jazz album. For 10 points, name this jazz trumpeter who fused jazz and rock n' roll in his album *Bitches Brew* and whose most popular album is *Kind of Blue*.

ANSWER: Miles **Davis**

BONUS: Newland Archer decides to remain in a loveless marriage with his wife May after he learns of her impending pregnancy. For 10 points each:

[10] Newland and May Archer are characters in *The Age of Innocence*, a novel written by this author who also wrote *The House of Mirth*.

ANSWER: Edith **Wharton**

[10] Wharton also penned this 1917 novel centered on the love triangle of Mattie, Zeena, and the title character in the New England town of Starkfield.

ANSWER: **Ethan Frome**

[10] In *Ethan Frome*, Zeena is enraged when she learns this object has been broken callously by Mattie and Ethan. It is said to symbolize her relationship with Ethan ending.

ANSWER: **Pickle Dish** [accept anything with "pickles"]

16. In one story by this author, the paranoid Garamov is housed in a mental institution run by Dr. Ragin. In another story, this author wrote of Dmitry Gurov and Anna von Diederitz's love affair. This author of "Ward Number Six" and "The Lady with the Dog," wrote about Andrey Prozorov's attempts to marry off Masha, Olga, and Irina in one work and about Konstantin Treplev committing suicide after killing the title character in another. Lopakhin purchases the Ranevskaya's estate in a work by, for 10 points, what author of *The Three Sisters*, *The Seagull*, and *The Cherry Orchard*?

ANSWER: Anton Pavlovich **Chekhov**

BONUS: Answer these questions about changes in allele frequencies, for 10 points each.

[10] This phenomenon referring to the chance variations in allele frequency is one of the influences that can cause deviation from Hardy-Weinberg equilibrium.

ANSWER: **Genetic drift**

[10] This effect describes how the gene pool is reduced drastically when the population is reduced by fifty percent or more.

ANSWER: **Bottleneck** Effect

[10] Ernst Mayr formulated this effect, a special type of bottleneck in which reduced genetic variation arises due to a small group separating from the original population.

ANSWER: **Founder** Effect

17. This man served as an economic advisor to Ronald Reagan where he recommended the appointment of one of his disciples, Alan Greenspan, to the post of Chairman of the Federal Reserve. After 1960, this man posited that Social Security was creating “welfare dependency” and argued that the entire system should be replaced with a negative income tax. While reflecting on the causes of the Great Depression, this economist argued that bad Federal Reserve policy had exacerbated the recession in his work *A Monetary History of the United States*. For 10 points, name this conservative economist who was also a member of the Chicago School of Economics.

ANSWER: Milton **Friedman**

BONUS: The Little Red Book was a collection of quotations by this man. For 10 points each:

[10] Name this first leader of Communist China who opposed the Chinese Nationalist Party led by Chiang Kai-Shek.

ANSWER: **Mao** Zedong [or **Mao** Tse-tung]

[10] The construction of over six thousand backyard steel furnaces was a part of this economic policy by which Mao planned for China to modernize in a short period of time.

ANSWER: **Great Leap Forward** [also accept **Second Five-Year Plan** or **Dayuejin**]

[10] A large portrait of Mao overlooks this location in the center of Beijing. It was also the location of a notable protest in 1989.

ANSWER: **Tiananmen Square**

18. The Soave equation adds an acentric factor to this statement, and the virial equation measures deviations from this law using a compressibility factor. This law derived by Benoit Clapeyron can account for density in its "dirty mop" form, and when A and B terms are added to account for the volume and interactions between particles, it is called van der Waals equation. Containing a namesake constant that is Boltzmann's constant times Avogadro's number is, for 10 points, what law usually stated as $PV = nRT$?

ANSWER: **Ideal Gas** Law

BONUS: For 10 points each, answer these questions about art.

[10] This painting contains a train traveling over a bridge with a single boat to its left and a rabbit before it. It is seen by many as almost proto-impressionist in style.

ANSWER: **Rain, Steam and Speed** - *The Great Western Railway*

[10] *Rain, Steam and Speed* was created by this notable English, romanticist painter.

ANSWER: Joseph Mallard William **Turner**

[10] Turner also painted this scene based on the account of the Zong Incident. It was made to further the efforts of the abolitionists.

ANSWER: *The **Slave Ship*** [or ***Slavers Throwing Overboard the Dead and Dying** - Typhoon Coming On*]

19. In one short story by this author, a soldier contracts gonorrhea while in a taxi, while another short story features the wounded gambler Cayetano. This author of “A Very Short Story” and “The Gambler, the Nun, and the Radio” also wrote a work in which Harry Morgan runs contraband. This author of many short stories about Nick Adams wrote about Robert Cohn beating up Pedro Romero over Lady Brett Ashley, as well as Maria falling in love with Robert Jordan during the Spanish Civil War. For 10 points, name this author of *The Sun Also Rises*, *For Whom the Bell Tolls*, *A Farewell to Arms*, and *The Old Man and the Sea*.

ANSWER: Ernest Miller Hemingway

BONUS: The AC equivalent of this property is called impedance. For 10 points each:

[10] Name this property that measures opposition to the flow of direct electrical current.

ANSWER: Resistance

[10] This law relates the resistance to the voltage and current and is most often expressed as V equals IR .

ANSWER: Ohm's Law

[10] This other law analyzing circuits states that the sum of currents flowing into any node in an electrical circuit must be equal to the sum of the current flowing out of that node.

ANSWER: Kirchhoff's Junction Rule [also accept Kirchhoff's Current Law or Kirchhoff's First Law or Kirchhoff's Point Rule; prompt on “Kirchhoff's Law/Rule”]

20. This man tried to shoot himself in the head after jumping out the window of the Hotel de Ville but only managed to shatter his jaw. His ally George Couthon was also unable to escape due to his paralysis. Earlier, this man opposed the atheist Hebertists by trying to establish the Cult of the Supreme Being; however, he is most famous for replacing Georges Danton and supporting countless murders of noblemen. This is, for 10 points, what leader of the Committee of Public Safety during the Reign of Terror?

ANSWER: Maximilien Francois Marie Isidore de Robespierre

BONUS: Oronte is insulted when another character insults a sonnet he wrote. For 10 points each:

[10] Name this play where Celimene is loved by Alceste even though he views her behavior as detestable.

ANSWER: *The Misanthrope* [or *The Cantankerous Lover*]

[10] *The Misanthrope* was written by this French satirist who also is famous for writing *The School for Wives* and *The Imaginary Invalid*.

ANSWER: Moliere [or Jean-Baptiste Poquelin]

[10] This other Moliere play features the title character swindling Orgon by turning him against his family so he can marry his daughter.

ANSWER: Tartuffe [or *The Imposter*]

END OF MATCH – Announce final score and do not read tiebreaker tossup(s) unless the score is tied

Tiebreaker Tossups – If the match is tied, read one tossup at a time until the score changes (correct answer or neg).

21. One man with this surname was the only Vice President to ever to have his inauguration take place on foreign soil, occurring in Cuba twenty days after Franklin Pierce was inaugurated as President. Another man with this surname won an election in 1927 to become president of Liberia. A third man with this surname began his career in radio broadcasting in Miami before hosting a nightly “Live” news program on CNN. For ten points, identify this surname also shared by a man who was famous for his civil disobedience during the Civil Rights Movement and is famous for his “I Have a Dream” speech.

ANSWER: **King** [William R., Charles, Larry, Martin Luther]

22. This author’s first novel, *Almayer*, centered around a Dutch trader in the jungles of Borneo and his relationship with his daughter Nina. F. Scott Fitzgerald stated that he would have written one of this man’s novels more than any other novel. That novel is set in the fictitious South American country, Costaguana. A man attempts to blow up Greenwich Observatory in this man’s other novel, *The Secret Agent*. This author’s most well-known novel revolves around Kurtz and Marlow traveling down the Congo River. For 10 points, name this Polish-born author of *Nostromo* and *Heart of Darkness*.

ANSWER: Joseph **Conrad** [or Józef Teodor Konrad **Korzeniowski**]