1. This man had Juan de Escobedo killed by his secretary, Antonio Perez, and he later signed the Peace of Vervins with France. Troops of this man participated in the Battle of Djerba against Piyale Pasha, and he later appointed Peter von Mansfeld-Vorderort and Alexander Farnese to govern one of his territories. This man sponsored the expedition of his half-brother Don John, which won the Battle of Lepanto, and he married Mary I of England. The launcher of the Spanish Armada, for 10 points, name this Hapsburg king of Spain, the son of Charles V.
ANSWER: **Philip II** of Spain [or **Philip I of Portugal**; prompt on **Philip**; prompt on **Philip I**]

2.This man composed *Primitive* for a dance by Wilson Williams, and in one of his works which precedes his *Freeman Etudes*, he used the *I Ching* to determine which notes he would turn into aggregates. In addition to *Six Melodies* and *Etudes Australes*, he used Balinese gongs, automotive brake drums, and Turkish cymbals in the first of his *Construction* series, while a similarly unorthodox setup involving phonographs and amplifiers is used for his *Imaginary Landscape No. 1*. For 10 points, name this composer of a silent piano work, 4'33".
ANSWER: John Milton **Cage** Jr.

3. One scholar of this faith wrote the commentaries called the *Naryuktis*. Their claim over mount Shatrunjaya was protected by a decree of Jahangir. This faith believes that the earth has different kalpas, or time cycles, and this faith's teachings come from "fordmakers" called the twenty-four tirthankaras. Practicing "ahimsa" and divided into two major sects based on whether nudity is required, for 10 points, name this religion that includes the Svetambaras and Digambaras and was founded by Mahavira on principles of nonviolence.
ANSWER: **Jainism** [or **Jain** dharma]

4. This law gains an acentric factor in the Soave equation, which is central to the Peng-Robinson modification of it. At higher densities, the virial expansion gives corrections to this law. Redlich and Kwong modified this law, which was first improved by the van der Waals equation. It is most accurate when temperatures are high and pressure is low. For 10 points, name this law derived from the laws of Charles and Boyle, which states that PV equals nRT.
ANSWER: **ideal gas** law [accept **Peng-Robinson** equation/law before read; accept **Redlich-Kwong** equation/law before read; accept **van der Waals** equation/law before read]

5. The owner of the Mergui Archipelago and the islands of Cheduba and Ramree, this nation contains the Sittang River which flows into the Gulf of Martaban. Its largest lake, Indawgyi, its highest peak, Hkakabo Razi, and the source of its Mali Hka River lie in the northern state of Kachin where the Hengduan Mountains form its border with the Yunnan province of China. Containing the mouths of the Salween and Irrawaddy Rivers, for 10 points, name this Southeast Asian nation whose largest cities include Naypyidaw, Mandalay and the former capital, Yangon.
ANSWER: Union of **Myanmar** [or **Burma**]

6. The Shakespeare-Fletcher collaboration *Two Noble Kinsmen* is based on this story, and this story itself is based on Boccaccio's *Theseid of the Nuptials of Emilia*. John Dryden modernized this work in a poem named after its two protagonists, Palamon and Arcite. These friends become enemies when they both fall in love with Emily while held in an Athenian prison, and this tale of honor and love is contrasted with the bawdiness of the preceding Miller's Tale. For 10 points name this Canterbury Tale about a nobleman.
ANSWER: The **Knight's** Tale

7. Mesotetradextrine and mesoendodextrine are two components which assist them, and the vomiting center of the body contains high amounts of one of them. In addition to Substance P, another of these is produced by the substantia nigra, whose degeneration can lead to Parkinson's disease. Major inhibitory ones include glycine and GABA, while excitatory ones include serotonin and acetylcholine. For 10 points, name these chemicals used to signal between neurons in the synapse.
ANSWER: **neurotransmitter**s

8. This team's early stars included Nick Altrock and Happy Felsch. They were known as the "Hitless Wonders" after defeating the Cubs to win the 1906 World Series. Bobby Thigpen saved a then-record fifty-seven games while pitching for this team, who won their division in 2000 thanks to Magglio Ordonez and Frank Thomas. They defeated the Astros to win the 2005 World Series, and formerly played in Comiskey Park. For 10 points, name this team managed by Ozzie Guillen, whose current lineup includes Nick Swisher, Ken Griffey Jr., and Paul Konerko.
ANSWER: Chicago **White Sox** [prompt on **Chicago**]

9. In one of this author's works, a member of a gang of "objectivists" kills Ryuji because he gives up being a sailor. *Spring Snow* and *Runaway Horses* are the first two volumes of a work that focuses on Shigekuni Honda, his *Sea of Fertility* tetralogy. In another of his works, Mizoguchi burns down the title structure. For 10 points, name this author of *Confessions of a Mask* and *The Temple of the Golden Pavilion* who committed seppuku on national television in Japan.
ANSWER: Yukio **Mishima** [or Kimitaki **Hiraoka**; accept either name in reverse order]

10. Springfield, Illinois was originally named after this man, who used his political power to have his son-in-law Thomas Clemson awarded the position of ambassador to Belgium. His wife led the anti-Peggy Eaton faction in Washington during the Petticoat Affair, and this man served as Secretary of State under John Tyler and Secretary of War under James Monroe. Vice-President under both John Quincy Adams and Andrew Jackson, for 10 points, identify this South Carolinian whose protest of the Tariff of Abominations created the Nullification Crisis.
ANSWER: John Caldwell **Calhoun**

2008-2009
Four Quarter Set

Round 5

Second Quarter:
Ten Tossups
with Bonuses

1. During his administration, the writers Yuli Daniel and Andrei Sinyavsky were put on trial. The party leader for Dnipropetrovsk prior to World War II, this man served as First Secretary of both Moldova and Kazakhstan before sharing power with Alexey Kosygin. During his administration, his country was involved in a dispute over Zhenbao Island, leading to a split with China, and this man signed both SALT I and SALT II with the United States. For 10 points, name this leader of the Soviet Union, the predecessor of Yuri Andropov and successor to Nikita Khrushchev.
ANSWER: Leonid Ilyich **Brezhnev**

BONUS. It occurs between the G1 and G2 phases. For 10 points each:
[10] Identify this part of the cell cycle which sees the synthesis of DNA.
ANSWER: **S** phase
[10] A CyclinB/Cdk1 complex promotes this event, which sees the condensing of DNA, moving of the centrosomes to poles, and eventually the formation of two daughter cells via cytokinesis.
ANSWER: **mitosis**

2. Emil Filla, Josef Capek and Otto Gutfreund led its Czech school, and the Puteaux Group or Golden Section was an offshoot of this movement that practiced Orphism. *Soldier with a Pipe*, *The Sunblind* and *Nudes in the Forest* are works by this movement's members Fernand Leger and Juan Gris, while works of its better known members include *Mandolin*, *Three Musicians*, and *The Old Guitarist*. For 10 points, name this artistic movement, with Analytic and Synthetic phases, that was led by Georges Braque and Pablo Picasso.
ANSWER: **Cubism**

BONUS. For 10 points each, name these works of Jean Paul Sartre.
[10] Hell is described as "other people" in this play, in which Garcin, Ines, and Estelle meet up after death.
ANSWER: *__No Exit__* [or *__Huis Clos__*]
[10] This existentialist tome subtitled "An Essay on Phenomenological Ontology," discusses "Bad Faith" and "The Origin of Negation."
ANSWER: *__Being and Nothingness__* [or *__L'Être et le néant__*]

3. This body introduced the so-called "green chemistry initiative" that would give the Department of Toxic Substances Control the authority to ban dangerous chemicals. 2008 also saw an abortive recall attempt against one of its members, Jeff Denham, and a failed bill that would have mandated spaying or neutering of most cats and dogs in the state it serves. However, those paled in comparison to its widely publicized partisan standoff over a state budget. For 10 points, what group of legislators finally passed a budget, only to see it vetoed by Arnold Schwarzenegger?
ANSWER: **California** state **legislature** [accept **California** state **assembly** only before "Denham" is read]

BONUS. It was located in modern day Tunisia, and its military might depended on its superior navy and extensive use of mercenaries. For 10 points each:
[10] Name this city, defended in wars with Rome by such figures as Hamilcar and Hannibal.
ANSWER: **Carthage** [or **Cartago**]
[10] Carthage was finally destroyed in this war, which saw Scipio Africanus kill or enslave the entire Carthaginian population.
ANSWER: **Third Punic** War [prompt on **Punic** War]

4. Varying the lengths of an object used in it showed that T1 minus T2 is independent of Lorentz contraction in an experiment performed by Kennedy and Thorndike. Its setup was rotated to ensure that all orientations of the substance under consideration would affect the system equally, and it involved a half silvered mirror which partially reflected light whose differential travel time would result in an interference pattern on the detector. For 10 points, identify this experiment performed by two American scientists, which did not find any trace of the luminiferous ether.
ANSWER: **Michelson**-**Morley** experiment

BONUS. Its distribution is described by the Lorentz curve. For 10 points each:
[10] Identify this quantity whose namesake effect, unlike a change in prices, sees the shifting of a budget constraint.
ANSWER: **income** effect
[10] At the endowment point, the budget constraint is tangent to these concave curves. All points on them have the same utility.
ANSWER: **indifference** curve

5. Partially refuted in a letter to Vilhelm Thomsen, this phenomenon was independently discovered by Friedrich Schlegel and the Dane Rasmus Rask. This concept states that voiceless stops change to voiceless fricatives, voiced stops become voiceless and voiced aspirated stops become voiced fricatives which in turn usually become voiced stops. Sometimes contradicted by Verner's Law, it describes Proto-Indo-European sound shifts into Proto-Germanic. For 10 points, name this law of historical linguistics whose namesake collected fairy tales with his brother Wilhelm.
ANSWER: **Grimm**'s Law

BONUS. Its preface claims that "The United States themselves are essentially the greatest poem." For 10 points each:
[10] Name this poetry collection whose sections include "Children of Adam," "Calamus," and "Drum-Taps."
ANSWER: ***Leaves of Grass***
[10] *Leaves of Grass* was written by this poet, who used free verse for poems such as "I Sing the Body Electric," "O Captain! My Captain!" and "Song of Myself."
ANSWER: Walt **Whitman**

6. A major figure in this ideology defended it in the tract *The Iron Wall*. Vladimir Jabotinsky led the "revisionist" version of this movement, which had larger goals than the "political" wing organized under the Basel Program. The goals of this movement were affirmed by the British Foreign Secretary in 1917's Balfour Declaration and by Harry Truman's promises to Chaim Weizmann. For 10 points, name this movement advocated by Theodor Herzl's newspaper *The Jewish State*, which achieved its chief aim in 1948 at the establishment of the State of Israel.
ANSWER: **Zionism**

BONUS. Fluid flow is often described by the Navier-Stokes partial differential equations. For 10 points each:
[10] This blind Swiss mathematician names a set of equations, a special case of the Navier-Stokes equations which assume negligible viscosity and heat conduction.
ANSWER: **Euler** equations
[10] This number characterizes different regimes of flow by the ratio of inertial forces to viscous ones. The Euler equations are accurate, therefore, for high values of this number.
ANSWER: **Reynolds** number

7. This figure's name appears in the title of a poem in which the persona declares, "I know of nothing more wretched under the sun than you gods!", written by Goethe. The main character of Ayn Rand's *Anthem* renamed himself this. Originally, he bemoans "the grinding anguish that shall waste my strength, Till time's ten thousand years have measured out their length" as he is tied to a rock where an eagle gnaws on his liver. For 10 points, name this mythical character who is "Unbound" in a work by Percy Shelley, and "Bound" in a play by Aeschylus.
ANSWER: **Prometheus**

BONUS. Its title character is actually the wife of a prisoner, having taken the title name and identity of a prison guard to try to rescue him. For 10 points each:
[10] Identify this opera, which opens to Marzelline, the jailer's daughter, confiding in the jailer's assistant Jaquino that she's fallen in love with the title character.
ANSWER: ***Fidelio***
[10] *Fidelio* is the only opera by this composer of nine symphonies, including the *Eroica* and *Pastoral*.
ANSWER: Ludwig van **Beethoven**

8. One part of this poem describes a "tubercular sky" in Harlem, where some people are surrounded by "orange crates of theology." It refers to people who were "listening to the crack of doom on the hydrogen jukebox" in "desolate Fugazzi's." A line about a man "who threw potato salad at CCNY lectures on Dadaism" describes the dedicatee of this poem, which also describes some angelhead hipsters "burning for the ancient." For 10 points, identify this poem, whose speaker "saw the best minds of [his] generation destroyed by madness," written by Allen Ginsberg.
ANSWER: ***Howl***

BONUS. For 10 points each, name some historic Supreme Court cases dealing with civil rights.
[10] This 1954 unanimous decision claimed that "separate educational facilities are inherently unequal" and led to integration.
ANSWER: ***Brown** v. Board of Education of Topeka, Kansas*
[10] This 1967 case overturned *Pace v. Alabama* and ended any restrictions on interracial marriages.
ANSWER: ***Loving** v. Virginia* [or *Virginia v. **Loving***]

9. This god struck Hanuman in the jaw for trying to eat the sun, and this god rides the white elephant Airavata. In Jainism, this god received the hair of Mahavira, and he is aided by the Rudras. In the Puranas, the cowherders of Gokula cease worshiping this god, and Krishna lifted Mount Govardhana to protect the sheepherders from this god's rain. The father of Arjuna, for 10 points name this lightning bolt wielding king of the gods in Hindu mythology, the slayer of the dragon Vritra.
ANSWER: **Indra**

BONUS. The capital of this country was once known as Leopoldville and is home to an unfinished building memorializing Patrice Lumumba. For 10 points each:
[10] Kinshasa is the capital of what nation, south of the Central African Republic and the Sudan?
ANSWER: **D**emocratic **R**epublic of the **Congo** [prompt on **Congo**; do not accept or prompt on "Republic of (the) Congo" by itself]
[10] The Democratic Republic of the Congo's Atlantic coast is directly south of this Angolan enclave, which has been rocked by guerillas fighting for its independence.
ANSWER: **Cabinda**

10. Lithopone is a pigment containing zinc sulfide as well as a sulfide of one of *these*, which can be isolated from the rare gem benitoite. Two of them form the durable AJ62 alloy. The lightest one is often used to increase the thermal conductivity of uranium dioxide nuclear fuel pellets, while quicklime is the oxide of another of these elements. Including one whose sulfate is used in Epsom salts, for 10 points, name this family of elements containing strontium, barium, calcium, and magnesium.
ANSWER: **alkaline earth** metals [accept **barium** or **Ba** until "another"]

BONUS. Identify these tormented figures of Greek myth, for 10 points each:
 [10] This son of Phlegyas used his entrance to Mount Olympus to try raping Hera, who made him conceive the Centaurs with a cloud. He was then bound to an ever turning fiery wheel.
ANSWER: **Ixion**
[10] This Corinthian king chained up Hades to stave off death, then after dying was able to return back to life to punish his wife Merope, and was sentenced to constantly roll a stone up a hill.
ANSWER: **Sisyphus**

Choices: GREEN
                BLUE

GREEN
The following round will have clues or answers with the word "green" in them.

[10] This painting of Jean De Dintville and Georges de Selve, with an anamorphic skull, has a green curtain in the background.
ANSWER: The **Ambassadors** [or The **French Ambassadors**]

[10] This country, led by Muammar al Gaddafi and with capital Tripoli, has a plain green flag.
ANSWER: **Libya**

[10] Green's theorem is a special case of this theorem which relates the surface integral curl of a force-field to the line integral of the loop that encloses the surface.
ANSWER: **Stokes**' Theorem

[10] Fort Ticonderoga was captured by this group of Vermont soldiers led by Ethan Allen.
ANSWER: **Green Mountain Boys**

[10] The Green House is a work by this Peruvian author of Aunt Julia and the Scriptwriter.
ANSWER: Mario **Vargas Llosa**

[10] This farmer-based party, which succeeded the Greenback party, co-nominated William Jennings Bryan for President in 1896, along with the Democrats.
ANSWER: **Populist** party or **People's** Party

[10] The phrase "colorless green ideas sleep furiously" was coined by this MIT linguist to show a sentence that lacked any meaning though it had perfect grammar.
ANSWER: Avram Noam **Chomsky**

[10] In a work thought to be written by the Pearl Poet, this mighty member of King Arthur's round table beheads the Green Knight.
ANSWER: Sir **Gawain**

[10] This author wrote about the caddy-turned-businessman Dexter Green in "Winter Dreams" in addition to writing The Great Gatsby.
ANSWER: Francis Scott Key **Fitzgerald**

[10] This pigment absorbs 680 and 700 nanometer wavelength light, and thus helps in converting light energy to food in photosynthesis.
ANSWER: **chlorophyll**

BLUE
The following round will have clues or answers with the word "blue" in them.

[10] This Spanish painter's Blue Period preceded his Rose Period. His works include *Les Desmoisells d'Avignon*.
ANSWER: Pablo Ruiz y **Picasso**
[10] Mr. Blanc, Billie, and a Swede visit the title structure owned by Pat Scully in this short story by Stephen Crane.
ANSWER: "The **Blue Hotel**"
[10] Bromothymol blue is one of these substances which change color with certain pH values. Other examples include phenolphthalein.
ANSWER: pH **indicator**s
[10] The *Blue and Brown Books* are a collection of lecture notes on language construction by this author of *Tractatus Logico-Philosophicus*.
ANSWER: Ludwig **Wittgenstein**
[10] *Blue Trousers* is a section of this work which describes the title character's affairs with Kaoru and Utsusemi, among others, and was written by Lady Murasaki.
ANSWER: The **Tale of Genji** [or **Genji Monogatari**]
[10] The symbol of the National Recovery Administration was a blue bird of this type, which can be found on the Seal of the US with the phrase *E pluribus unum*.
ANSWER: **eagle**
[10] The Rayleigh type of this process, which involves the change in the motion of a photon, explains why the sky is blue. It also comes in the Raman type.
ANSWER: **scattering**
[10] The *Blue Danube* is a waltz by this man who composed an opera about a party hosted by Baron Eisenstein in *Die Fledermaus*.
ANSWER: **J**ohann **Strauss**, **Jr.** [prompt on **J**ohann **Strauss**]
[10] The blue chariot-racing faction at the Hippodrome counted among its fans this Byzantine ruler, who is best known for his code of laws.
ANSWER: **Justinian** I [or **Justinian** the Great; or Flavius Petrus Sabbatius **Iustinianus**]
[10] This state is home to the Blue Mountains, and its Willamette River flows through the city of Portland.
ANSWER: **Oregon**

1. One character in this book proudly declares that "nobody has to be ashamed of being a Hoosier," probably because Hoosiers are a *granfalloon*. In this novel, the sun and the moon are sometimes referred to as *Borasisi* and *Pabu*, and a common practice is called *bokumaru*, and consists of two people touching at the feet. One character, Felix Hoenikker, developed a configuration of water that is solid at room temperature, ice-nine. For 10 points, identify this novel about San Lorenzo's religion of Bokononism and the end the world, by Kurt Vonnegut.
ANSWER: **Cat's Cradle**

2. One work by this man was inspired by Lucian's *Essay on Slander*, while another depicts six figures under a myrtle tree. In addition to *The Calumny of Apelles* and *Venus and Mars*, this man created two works which center on a certain fruit, *Madonna of the Magnificat* and *Madonna of the Pomegranate*. A pupil of Fra Filippo Lippi, late in life this man became a follower of Savonarola and destroyed many of his works in the Bonfire of the Vanities. For 10 points, name this artist of *Primavera*, who showed a goddess riding a seashell in *The Birth of Venus*.
ANSWER: Sandro **Botticelli** [or Alessandro di Mariano di Vanni **Filipepi**]

3. This process is studied using the Fermi-Kurie plot, and one form of this process is used to generate annihilation photons detected in PET scans. That form can only occur when the generated energy is greater than two times the speed of light squared times the mass of a certain particle. Its mechanism typically involves a flavor change, and types include electron capture and positron emission. For 10 points, identify this form of radioactive decay associated with an increase in atomic number, which can penetrate further than alpha decay.
ANSWER: **beta decay**

4. When using the Schulze method of this, the Floyd-Warshall algorithm is typically applied. The Bucklin form of this is also known as the Grand Junction method, though it enjoys limited use because it fails a criterion named for Condorcet. An illustration that no system of this can always turn a set of individual preferences into a single community preference is known as Arrow's Impossibility Theorem. First-past-the-post is a common system of, for 10 points, what fundamental act of democratic political participation?
ANSWER: **voting** [accept word forms]

5. During this conflict, Henry Glass of the *Charleston* captured a strategic island. Precipitated by the atrocities of Governor Valeriano "Butcher" Weyler, this conflict featured victory for the commander of the USS *Olympia*, while another battle saw William Shafter victorious on Kettle Hill. Resulting in the victory of George Dewey at the Battle of Manila Bay and the Rough Riders at San Juan Hill, for 10 points, name this conflict which was triggered by Yellow Journalism and the explosion of the *USS Maine* in 1898.
ANSWER: the **Spanish-American** War

6. One character in this play pretends to break off a fictional relationship with someone in her diary, and that character's governess is the author of several romance novels. Cecily Cardew and Gwendolyn Fairfax are the love interests of the two protagonists who later turn out to be brothers. Confusion ensues when both men take up the practice of "bunburying." For 10 points name this play in which both Algernon Moncreif and Jack Worthing assume the title name, a work of Oscar Wilde.
ANSWER: The **Importance of Being Earnest**

7. This man wrote an unfinished opera based on Shakespeare's *Twelfth Night* called *Viola*, and in another work he wrote a tenor role for Lukáš, who succeeds in winning Vendulka. Budivoj's arrival prevents the title character from signaling Milada by violin in his opera *Dalibor*. He wrote of Kruschina, who tries to marry off his daughter Mařenka to Micha's son Vašek to settle a debt, in his best known opera. For 10 points, name this Czech composer of *The Bartered Bride*, whose instrumental work *Má vlast* contains a depiction of a river, "The Moldau."
ANSWER: Bedřich **Smetana**

8. When all of the elements of a phyllotaxis are uniform, they approximate the shape of this man's spiral. Albert Fleck pointed out a major error in Ferdinand von Lindemann's second attempt to prove this man's theorem about a certain kind of Diophantine equation. He hypothesized that an integer taken to the power of a prime minus that integer will be divisible by the prime in his "Little" Theorem. Andrew Wiles finally proved, for 10 points, the Last Theorem of which French mathematician?
ANSWER: Pierre de **Fermat**

9. Most of the stories about this man originate from a late fifteenth-century minstrel known as Blind Harry. He first became active in politics after the deposition of John de Balliol by Edward I by burning the town of Lenark. Despite being overwhelmingly outnumbered, he used a narrow bridge to defeat John de Warenne the Earl of Surrey at the Battle of Stirling, before losing at Falkirk and being drawn and quartered 1305. For 10 points, name this thirteenth-century Scottish rebel.
ANSWER: Sir William **Wallace**

10. He discussed the colonization of India in his *Considerations on Representative Government*, and his ideas of associationism influenced his essay arguing against legal inequality, *The Subjection of Women*. An example about saving a man from crossing a faulty bridge figures into his discussion of the "harm principle," and he also wrote a work that explains a philosophy advocating the greatest good for the greatest number of people. For 10 points, name this author of *Principles of Political Economy*, *On Liberty*, and *Utilitarianism*.
ANSWER: John Stuart **Mill**