1. A seashell and cup appear along with the title object in this artist's *Still Life with Black Marble Clock,* and he painted a portrait of his wife appropriately titled *Woman in a Green Hat*. A nude woman lounges on clouds in his *A Modern Olympia*, and two men in hats rest their arms on a bright red table and stare at their hands in his *The Card Players*. One of his most famous works shows fourteen nude women loafing under a bright blue sky and brown trees in *The Bathers*. For 10 points, name this French artist best known for painting about sixty depictions of Mont Saint-Victoire.
ANSWER: Paul **Cézanne**

Bonus: *Bicycle Wheel* and *Fountain* were among his "ready-mades." For 10 points each:
[10] Name this Dada artist, who drew a mustache on the *Mona Lisa* in *L.H.O.O.Q.* and scandalized the Armory Show with *Nude Descending a Staircase Number Two.*
ANSWER: Marcel **Duchamp**
[10] Nine abstract males attempt to send messages to the title woman using machines in this unusual-form work by Duchamp, who decided not to fix the cracks in the medium.
ANSWER: The **Bride Stripped Bare by Her Bachelors, Even** [or The **Large Glass**]

2. Its contribution to the Lorentz force is parallel to its direction, and according to Stokes' theorem, it is conservative and curl free. Its intensity in a material is related to the material's permittivity. Dielectric materials become polarized when placed in this type of region, and its strength can be calculated using Coulomb's Law. For 10 points, name this region of space that surrounds a charged object and can generate an electric force on another charged object.
ANSWER: **electric field**

Bonus: For 10 points each, name these fun results from special relativity.
[10] This concept states that two observers moving relative to each other will each perceive the other's clock as running too slow.
ANSWER: **time dilation**
[10] In this thought experiment of special relativity, two individuals traveling in different inertial frames would experience different time progression. It arises due to time dilation.
ANSWER: **twin paradox**

3. Its independence was fought for by the Friendly Brotherhood, and was secured by the last naval battle fought between wooden ships, at Navarino. For seven years until 1974, it was ruled by "The Colonels," a military junta. Following the British defeat of this nation's Communist Party in 1945, it was ruled by kings Paul I and Constantine II, and it was one of two countries targeted by the Truman Doctrine, along with neighboring Turkey. For 10 points, name this country, which seeks return of the Elgin Marbles to its Parthenon.
ANSWER: **Greece**

Bonus: He put down the 1483 revolt of Henry Stafford and ruled for two years before being dethroned by Henry VII. For 10 points each:
[10] Name this hunchbacked Yorkist king of England.
ANSWER: **Richard III**
[10] Richard III took the throne from Edward V and Richard of Shrewsbury, who were collectively known by this name because of where he imprisoned them.
ANSWER: **Princes in the Tower** [accept equivalents involving princes and towers]

4. In a story by this author, a demon has eyelids that drag on the ground, and the seminarian Khoma has a deadly encounter with a witch. In addition to "Viy," he wrote about a Cossack whose son Ostap is killed by Polish troops. Another of his novels sees a man scam five hundred rubles and admit that he is not the title figure despite Anton's confusion. In addition to *Taras Bulba* and *The Inspector General*, this author wrote about a copyist who becomes a ghost near Kalinkin Bridge after his expensive garment is stolen. For 10 points, name this writer of "The Overcoat."
ANSWER: Nikolai **Gogol**

Bonus: It contains the title section as well as "Revolt," "Wine," "Death," and "Spleen and Ideal." For 10 points each:
[10] Name this French symbolist poetry volume, which had several poems censored and rails against ennui.
ANSWER: Les **Fleurs du mal** [or The **Flowers of Evil**]
[10] *Fleurs du Mal* is the best known work of this French poet, who published those censored poems in *Scraps*.
ANSWER: Charles **Baudelaire**

5. A common complication of this disease results from high acetoacetate levels in the blood and can lead to dangerously low blood pH. One major early indicator of this disease is polydipsia. The secretion of adipokines can contribute to one variety of this disease, and vasopressin deficiency causes the "insipidus" variety. Its adult-onset variety is often caused by obesity, and treatment of the juvenile-onset type requires regular injections of insulin. For 10 points, name this disease in which the body is unable to regulate blood glucose levels.
ANSWER: **diabetes** [accept **diabetes mellitus** until "vasopression"]

Bonus: For 10 points each, name these other effects of diabetes mellitus.
[10] This disease, the hardening of blood vessels, occurs more rapidly in diabetics than in healthy humans.
ANSWER: **atherosclerosis** [accept **arteriosclerosis**]
[10] A long-term effect of diabetes mellitus is the degeneration of a "sheath" composed of this fatty protein, which surrounds neurons. That sheath is also destroyed in multiple sclerosis.
ANSWER: **myelin**

6. An army from what is now this country ended the expansion of the Toungoo dynasty at the Battle of Nong Sa Rai. In 1932, its People's Party seized power from this country's king under the Promoters Revolution. Its current line of kings came to power after the insane Taksin was deposed by the first ruler of the Chakri Dynasty. It has since been ruled by nine kings named Rama and endured another eighteen military coups. For 10 points, name this country, the only Southeast Asian state to avoid being colonized, which was once known as Siam.
ANSWER: **Thailand** [accept **Siam** before it is read]

Bonus: Juan Pablo Duarte is known as the father of this country's independence. For 10 points each:
[10] Name this country, which was ruled from 1930 to 1961 by the dictator Rafael Trujillo.
ANSWER: the **Dominican** Republic
[10] Trujillo was abandoned by his international allies in 1960 after attempting to assassinate Romulo Betancourt, the president of this country now led by Hugo Chavez.
ANSWER: **Venezuela**

7. Joseph Schumpeter introduced a paradox stating that this law is trivially easy to understand, but no one understands it. An early form of it was stated by Theognis in his *Maxims*, and it was first attributed to its namesake, an adviser to Elizabeth I, by H. D. Macleod. One stipulation of this law is that the entities involved in it must exchange for the same price. This law was analyzed by David Hume in "On the Balance of Trade," in a section discussing the introduction of paper currency. For 10 points, name this law that colloquially states, "Bad money drives out the good."
ANSWER: **Gresham**'s Law

Bonus: One work contrasts this with Science and Religion, and fifteen varieties of it were discovered among the Trobriand islanders. For 10 points each:
[10] Name this concept of invoking the supernatural through means like witchcraft, incantations, or other rituals.
ANSWER: **magic**
[10] This man wrote *Magic, Science, and Religion*, as well as *Coral Gardens and their Magic* as part of his research on the Trobriand Islanders. He also wrote *Argonauts of the Western Pacific.*
ANSWER: Bronislaw **Malinowski**

8. This mythical figure won a battle at Menevia over Pasgen. He defeated King Gilloman in Ireland to retrieve the Giant's Ring so that his brother, Ambrosius Aurelianus, could build Stonehenge, and he led a rebellion against Vortigern. He fought another conflict with Gorlois, and infiltrated Tintagel Castle in order to seduce Gorlois's wife Igraine after being enchanted to look like Gorlois with the help of Merlin. In exchange, he promised Merlin the son born of the union, who later ruled from Camelot. For 10 points, name this father of King Arthur.
ANSWER: **Uther** Pendragon [prompt on **Pendragon**]

Bonus: Taliesin is sometimes considered the "Chief" of them. For 10 points each:
[10] Name these people that went around playing the lyre and collecting tales of heroism and praise, which figure prominently in Celtic myth.
ANSWER: **bard**s
[10] Perhaps the closest Greek equivalent of the bard was this musician, who unfortunately looked back at his wife Eurydice just before returning from the underworld and lost her forever.
ANSWER: **Orpheus**

HSAPQ
High School Academic Pyramid Questions

Arts
Current Events
Geography
History
Literature
Math Calculation
Philosophy
Social Science

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9. One of this author's posthumous works is narrated by a ten-year-old black child named Pictorial Review Jackson, and his other late works include *Vanity of Duluoz* and *Desolation Angels*. He wrote a novel about a man who meets Japhy Ryder and converts to Buddhism, Raymond Smith. A character in another novel by this author lives with a Mexican farm worker named Terry and with Remi Boncoeur in San Francisco, periodically reuniting with a man based on Neal Cassady, Dean Moriarty. For 10 points, name this author of *The Dharma Bums* and *On the Road*.
ANSWER: Jack **Kerouac**

10. In 2003, a satellite of this object, "Complex H," was discovered to have a retrograde orbit, and in 2006, University of California at Berkeley researchers found that a "warp" in this object is vibrating with three modes. Its center is inhabited by the supermassive black hole candidate Sagittarius A* ("a star"). The Canis Major Dwarf Galaxy is its nearest neighbor, and it also interacts with the nearby Large and Small Magellanic Clouds. For 10 points, name this galaxy, which contains the only planet known to support life, Earth.
ANSWER: **Milky Way** Galaxy

11. Newer areas in this city include Rochapea and Milagrosa. Boroughs in this city include San Nicolas and Cernin, the latter named for San Saturnino, who evangelized this city. Made capital by Sancho III, this city is known as Irunya in one language. Its first bishop was San Fermin, and this city's most notable event begins on the eve of his feast day in July. For 10 points, name this former Navarrese capital, most famous for the Running of the Bulls.
ANSWER: **Pamplona** [accept **Irunya** early]

12. An 1829 gold rush near this state's Lumpkin County was one of the first ever, and during Reconstruction, this state moved its capital from Milledgeville. George Thomas was the "rock" of one battle that occurred in this state, and a campaign here saw the twisting of railroad tracks known as one man's namesake neckties. A president born in this state presided over the Camp David Accords and the Iran Hostage Crisis. For 10 points name this U.S. state in which Sherman marched to the sea, the birthplace of Jimmy Carter.
ANSWER: **Georgia**

13. This team dealt Keith Bogans for Tyronn Lue during the 2008-09 season. Shaquille O'Neal dubbed this team's coach the "Master of Panic" after that coach derided Shaq for flopping during a matchup with the Suns. This team's first-time All-Star point guard missed the game with a torn labrum in his shoulder. This team puts up the most three-point attempts per game in the NBA behind the free-launching forwards Hedo Turkoglu and Rashard Lewis, and its leading scorer is also the NBA's leading shot blocker and rebounder. For 10 points, name this NBA franchise led by center Dwight Howard.
ANSWER: the **Orlando** **Magic** [accept either]

14. A man on the back of a bucking white horse slashes his sword behind him in this artist's *The Charging Chasseur*, and late in his career, he painted a series of psychiatric patients, including a kidnapper, a gambling addict, and a kleptomaniac. This artist of *Race for the Derby at Epsom* painted a man waving a balled-up red shirt above his head as several other, pale figures on the same craft reach forward and into the air, in a painting which controversially depicted the aftermath of a real shipwreck. For 10 points, name this French artist of *The Raft of the Medusa*.
ANSWER: Theodore **Gericault**

Arts: His operas include *Mademoiselle Fifi*, and he also wrote a suite called *Kaleidoscope* for violin and piano. For 15 points, name this composer, a lesser member of the Mighty Five.
ANSWER: Cesar **Cui**

Current Events: It is now served only by the *Times*, following the March 2009 end of the print edition of its other major newspaper. For 15 points, name this city, formerly home to the *Post-Intelligencer*.
ANSWER: **Seattle**

Geography: Its center of industry is fixed around the Besshi copper mine. Mount Ishizushi is the highest point on this island, and Naruto City connects it to the main body of the country. For 15 points, name this smallest of the four main islands of Japan, home of the Japanese space program's launch facility.
ANSWER: **Shikoku** [accept **Iyo-shima** , **Iyo-no-futana-shima**, or **Futana-shima**]

History: In this incident, sailors, angered with the War Communism of Civil War Russia, rose up near Petrograd. For 15 points, name this 1921 revolt put down violently by Trotsky.
ANSWER: **Kronstadt** Mutiny [accept equivalents with **Kronstadt**]

Literature: This author wrote about Etsuko's daughters in *A Pale View of Hills*, and about Kathy H.'s life as a donor in *Never Let Me Go*. For 15 points, name this British-Japanese author of *The Remains of the Day*.
ANSWER: Kazuo **Ishiguro**

Math Calculation: A piecewise function is given by $y = x^2+4x$ from $x = 0$ to $x = 3$, and $y = x^3$-6 from $x = 3$ to $x = 5$. For 15 points, calculate the area under that piecewise function from $x = 0$ to $x = 5$.
ANSWER: **151** units [27 units under the first piece and 124 units under the second piece]

Philosophy: A poem known as the title character's Roundelay appears twice in this book. For 15 points, name this work by Freidrich Nietzsche, which discusses the will to power and the ability to deal with eternal recurrence as important qualities for prospective Übermensch, or overmen, to possess.
ANSWER: **Thus Spoke Zarathustra**: A Book for All and None [or **Thus Spake Zarathustra**: A Book for All and None; or **Also sprach Zarathustra**: Ein Buch für Alle und Keinen]

Social Science: This effect was demonstrated by Leon Festinger in subjects who were more enthusiastic about making a boring task sound exciting when paid twenty dollars than when paid one dollar. For 10 points, name this inner conflict caused by holding two contradictory beliefs at the same time.
ANSWER: **cognitive dissonance**

15. The husband of one Englishwoman in this film has his wallet stolen, and another character, whose English is "not so good," toasts with his wife to America. Because the central character "despises" another character, he is entrusted some letters by Ugarte at its beginning, and in one of its scenes, "The Watch on the Rhine" is drowned out by "La Marseillaise" in a song duel. An order to "round up the usual suspects" in this film is issued by Captain Renault, allowing Victor and Ilsa to fly away. For 10 points, name this 1942 film starring Ingrid Bergman and Humphrey Bogart.
ANSWER: **Casablanca**

Bonus: For 10 points each, answer the following about elements that lie on the Zintl border.
[10] Those elements are usually denoted by this term, indicating that they are neither truly metals nor nonmetals.
ANSWER: **metalloid**s [accept **semimetal**s]
[10] Wafers of this metalloid are often etched in the production of integrated circuits.
ANSWER: **silicon** [accept **Si**]
[10] Silicon can be doped with gallium and arsenide to form an even better version of this kind of material, which has electrical properties midway between that of a conductor and an insulator.
ANSWER: **semiconductor**s

16. A person of this name led the sieges of Ochakov and Bendery and built the Kherson arsenal. That person was the architect of the "Greek project," which attempted to reconstitute the Byzantine Empire, and was said to have built sham "villages" to impress touring officials. A ship named for that man fired on Odessa while mutinying over maggot-laden meat during the Revolution of 1905. For 10 points, name this Russian statesman and lover of Catherine the Great, whose name was lent to a "battleship" that became the subject of a Sergei Eisenstein film.
ANSWER: (Grigory) **Potemkin**

Bonus: The narrator of this novel marries Charlotte Haze to live with the title character. For 10 points each:
[10] Name this novel narrated from prison by Humbert Humbert.
ANSWER: **Lolita**
[10] This author of *Invitation to a Beheading* and *Pale Fire* wrote *Lolita*.
ANSWER: Vladimir **Nabokov**
[10] This Russian professor appears briefly in *Pale Fire*. He titles another Nabokov novel about his adventures at Waindell College.
ANSWER: Timofey **Pnin**

17. The thiosulfate of this element can be used to extract gold and to help develop paper. Its emission spectrum is characterized by the D-line, and this element is produced at the cathode of a Downs cell. This element is found in the minerals kernite and halite, and the bicarbonate of this element is also known as nahcolite and can be used to treat dyspepsia. This alkali metal produces an extremely bright yellow result in the flame test. For 10 points, name this element with atomic number 11 and symbol Na.
ANSWER: **sodium** [accept early **Na**]

Bonus: The Treaty of Union extended this legislation's scope to Scotland. For 10 points each:
[10] Name this 1701 Act that made the senior descendent of Electress Sophia of Hanover the automatic heir to the British crown.
ANSWER: Act of **Settlement**
[10] The first ruler to ascend under the Act of Settlement was this British queen, who ruled from 1702 until 1714, and also saw the passage of the Act of Union with Scotland in 1707.
ANSWER: Queen **Anne**
[10] This man succeeded Queen Anne as King of Britain. This first Hanoverian monarch was supposedly unable to speak more than broken English.
ANSWER: **George I** [prompt on **George**; accept **George Louis**; accept **Georg Ludwig**]

18. One character in this work, jealous of Peter's engagement to his sister, commits suicide before he can complete a history of his family's crimes. The gardener Seth reveals that Captain Adam Brant is the daughter of Ezra's brother Dave, which only serves to increase Lavinia's distrust of her mother, Christine. Orin eventually avenges his father's death, leading to the decline of the Mannon family. For 10 points, name this trilogy by Eugene O'Neill, based on Aeschylus' *Oresteia*, whose title alludes to the grief of a daughter of Agamemnon.
ANSWER: ***Mourning Becomes Electra***

Bonus: For 10 points each, name these figures from Hinduism.
[10] This god wears the jewel Kaustubha, and his consorts include Lakshmi and Bhumidevi. He is famous for having avatars.
ANSWER: **Vishnu**
[10] This vahana, or mount of Vishnu, is a bird and the nephew of the sun god Surya. He gives his name to Indonesia's national airline carrier.
ANSWER: **Garuda**
[10] The god Harihara was a syncretism of Vishnu and this deity, associated with the lingam, whose sons included Ganesha and Skanda.
ANSWER: **Shiva**

19. Close relatives of this creature include Gorosaurus and the smaller Albertosaurus, both of which lived contemporaneously with the unrelated Hadrosaurs. The largest known skeleton of this dinosaur is found at the Field Museum in Chicago and is named Sue. Jack Horner argues that this therapod was unable to run because of its heavy head, and that it must have therefore been a scavenger. Much speculation about this dinosaur focuses on its tiny arms. For 10 points, name this carnivorous dinosaur of the Cretaceous, whose name translates as "tyrant lizard king".
ANSWER: **Tyrannosaurus** rex [accept **T**yrannosaurus **rex**]

Bonus: With Miles Davis, this man composed the jazz standard *Donna Lee*. For 10 points each:
[10] Name this composer of *Koko*, *Anthropology*, *Yardbird Suite*, and *Ornithology*, a jazz musician often known simply by the sobriquet "Bird."
ANSWER: Charlie "Bird" **Parker**, Jr.
[10] Parker's standards were influential in developing this form of jazz, characterized by its quick tempo and use of improvisation. It grew from Kansas City swing jazz.
ANSWER: be**bop**
[10] This bebop jazz trumpeter was a pioneer of the Afro-Cuban jazz movement and best known member of "The Quintet," who composed "A Night in Tunisia" and had horn-rimmed glasses.
ANSWER: John Birks "Dizzy" **Gillespie**

20. The beta star of Perseus is named after one of these figures, and the nasnas is an edible descendant of one of these and a human found in Yemen. The sil'ah is one type of these that encourages men to dance. Another of these, which can also be identified as a qutrub, is known for being a man-eater. Also consisting of mar'id and ifrit, they predate the existence of Adam, and the most famous of their ranks is Iblis. These creatures made of smokeless fire inhabit a parallel world to the human world. For 10 points, name these magic-using creatures from Islam.
ANSWER: **genie**s [or d**jinn**i; or **djann**]

Bonus: They absorb all incident radiation, and maximally emit radiation in all directions and at all frequencies. For 10 points each:
[10] Name these objects governed by Wien's Law.
ANSWER: **black bodies** [or **blackbody**]
[10] Ehrenfest coined this term for the failure of the Rayleigh-Jeans law governing blackbody radiation once the radiation reached a certain part of the frequency spectrum.
ANSWER: **ultraviolet catastrophe**
[10] One example of blackbody radiation is the cosmic microwave background radiation, which gives evidence for this event, supposedly the start of the universe, theorized by George Gamow.
ANSWER: **Big Bang**

21. In the wake of the Action Program instituted by this movement, the Boy Scouts were restarted and such clubs as KAN and K231 formed. At the end of this event, its chief instigator was demoted to inspector of the forest service, and Gustav Husak took power. Advocated in the manifesto "Two Thousand Words," this movement claimed to offer "socialism with a human face," but it was crushed when Soviet tanks arrived to depose Alexander Dubček. For 10 points, name this 1968 attempt to liberalize Czechoslovakia.
ANSWER: **Prague Spring**

Bonus: Its most famous line mentions "A Jug of Wine, a Loaf of Bread – and Thou." For 10 points each:
[10] Name this twelfth-century set of quatrains.
ANSWER: the **Rubaiyat**
[10] Name the Persian author of the Rubaiyat.
ANSWER: Omar **Khayyam**
[10] Robert Browning wrote a poem responding to this first person to translate the Rubaiyat into English, who "thanked God [Browning's] wife was dead."
ANSWER: Edward **FitzGerald**

22. This author's title characters include the painter Eugene Witla and a man who marries Aileen Butler. This author of *The "Genius"* wrote three novels about Frank Cowperwood, including *The Titan* and *The Financier*. The drowning of Roberta Alden leads to the execution of Clyde Griffiths in another novel by this author, who first gained attention for a novel about the rise of the lover of Hurstwood, Caroline Meeber. For 10 points, name this pioneer of American naturalism, the author of *An American Tragedy* and *Sister Carrie*.
ANSWER: Theodore **Dreiser**

Bonus: His career was documented by the works of Robert Caro. For 10 points each:
[10] Name this thirty-sixth president of the United States, who became president following the death of John F. Kennedy.
ANSWER: Lyndon Baines **Johnson**
[10] Johnson's initiatives, including Medicare, education reform, and the "War on Poverty," are often grouped under this umbrella term taken from a 1964 speech.
ANSWER: **Great Society**
[10] One of Johnson's great Civil Rights successes was signing this bill, which followed the Civil Rights Act and echoed the 15th amendment in its prohibition of literacy tests and poll taxes.
ANSWER: **Voting Rights Act** of **1965** [prompt on **Voting Rights Act**]

1. Homogeneous and heterogeneous nucleation returns substances to this value after they have exceeded it. The depression of this value is dependent on the van't Hoff factor and the molality of the solution, making it a colligative property. The removal of energy from a material equal to the latent heat of fusion typically occurs at this value. For 10 points, name this temperature at which liquids undergo a phase change to solids, which typically occurs for water at zero degrees on the Celsius temperature scale.
ANSWER: **freezing point** [or **melting point**; prompt on **freezing**]

2. Despite the fact that he was ordained as a priest, this composer had numerous affairs with students and admirers. Pieces like "La Campanella" and "La Chasse" appear in another set of his virtuoso works, *Grandes Etudes de Paganini*. He drew from the story of Faust for his *Mephisto Waltz*, and this composer is also known for the etude *Un sospiro*. The piano tells the story of a titular Ukranian in "Mazeppa," the fourth of this man's *Transcendental Etudes*. For 10 points, name this composer who recalled his home country in his *Hungarian Rhapsodies*.
ANSWER: Franz **Liszt**

3. This author refuted the pamphlet *Eikon Basilike* in *Eikonoklastes*. He endorsed the regicide in *The Tenure of Kings and Magistrates*, and wrote "Hence vain deluding joyes" in his poem about the melancholy man, "Il Penseroso." He wrote "they also serve who only stand and wait" in the sonnet "On His Blindness," and lambasted the Licensing Act in his defense of a free press, *Areopagitica*. The antagonist of his longest poem proclaims "Better to reign in Hell, than serve in Heav'n." For 10 points, name this poet, who depicted the fall of man in *Paradise Lost*.
ANSWER: John **Milton**

Extra 20-point Bonus:
This limit is achieved when a body reaches 1.44 solar masses. For 10 points each:
[10] Name this limit above which a star is no longer supported by electron degeneracy pressure, named for an Indian physicist.
ANSWER: the **Chandrasekhar** limit
[10] Bodies lighter than the Chandrasekhar limit exist as this type of faintly luminous star that gives off light in most of the visual spectra.
ANSWER: **white dwarf**s [prompt on **degenerate dwarf**s]

Extra 30-point Bonus:

One member of this family, Ludovico, was known as "the Moor" for his dark skin. For 10 points each:

[10] Name this family that began ruling a certain Italian city-state in 1450 under Francesco.

ANSWER: the **Sforza**s

[10] The Sforzas ruled this city, which was also the capital of Napoleon's Cisalpine Republic.

ANSWER: **Milan**

[10] This other Milanese ruling family preceded the Sforzas, and held power under such rulers as Gian Galeazzo.

ANSWER: the **Visconti**s