

1. **This quantity changes the refractive index of a material in the Kerr Effect. It splits spectral lines in the Stark Effect. The product of it and the magnetic field is the Poynting Vector. Its divergence equals charge density over permittivity by Gauss's Law. Equal to charge over (*) radius squared, it is measured in volts per meter. For 10 points, name this vector field symbolized capital *E*.**

ANSWER: electric field

079-11-29-14102

2. **One of these entities is a son of Anu named Teshub. In addition to being a god of death, the Aztec deity Xolotl (show-LOT-ul) is depicted as a god of this type. Another example of one of these figures is a deity in Hindu mythology who was cursed by Gautama and was named Indra. One of these figures battles with the serpent (*) Jormungandr (YOUR-mun-gone-dur) and is the possessor of the hammer Mjolnir (MYOL-need). For 10 points, name this type of god that includes the Norse god Thor.**

ANSWER: gods of thunder [or storm gods]

081-11-29-14103

3. **One president of this country was known as El Manguerazo after the police turned water cannons on his supporters, while another president created the Grupo Calina death squad, which carried about the La Cantuta massacre. In 1996, the Japanese embassy in this nation was taken over by the MRTA. This nation, which was once ruled by Fernando Terry, is also home to an organization which took a group of Techint employees hostage and detonated a bomb on Tarata Street. That Maoist group was led by Abimael Guzman and called (*) Shining Path. For 10 points, name this country which was once presided over by Alberto Fujimori, with capital at Lima.**

ANSWER: Peru

048-11-29-14104

4. **In a work dedicated to the "season of mists and mellow fruitfulness," this poet asked "where are the songs of spring?" This poet asked "what maidens loth?" and "what mad pursuit?" in a poem dedicated to a "still unravish'd bride of quietness." In that poem, this poet of "To Autumn" claimed that (*) "all ye know on earth, and all ye need to know" is that "beauty is truth, truth beauty." For 10 points, name this Romantic British poet who wrote "Ode on a Grecian Urn."**

ANSWER: John Keats

026-11-29-14105

5. **This organelle is structurally homologous to a Type III secretory system. In Gram-negative bacteria, L, P, and MS rings surround its hook and basal body. Eukaryotic ones have a 9+2 arrangement of microtubules and use power from dyenin and ATP to move. Prokaryotic ones (*) rotate like a screw. Like a similar structure, they contain an axoneme (AK-suh-neem), but they are longer than cilia. For 10 points, name these whip-like structures used by sperm cells to move.**

ANSWER: flagellum [or flagella]

079-11-29-14106

6. **This protein is produced through a process called cornification, and it is consumed by the fungus that causes athlete's foot. A beta variety of this protein adds rigidity to the skin of reptiles and contributes to the resilience of porcupine quills and turtle shells. That property is the result of this protein containing an amino acid that forms disulfide bridges with itself through permanent crosslinking, That cysteine-based composition has led to this protein's abundance in human (*) skin, as well as other parts of the body. For 10 points, name this protein that also forms human hair and nails.**

ANSWER: keratin

081-11-29-14107

7. **A July 2007 speech by this man in Senegal offended Africans by referencing "African peasants." This man gained national attention in the early '90s for attempting to negotiate the release of children taken hostage by a man called the Human Bomb. More recently, this man's government was the subject of a scandal in which politicians were alleged to have received cash-stuffed envelopes at the mansion of Liliane Bettencourt. This politician also made the news after his wedding to (*) singer-model Carla Bruni. For 10 points, name this current president of France.**

ANSWER: Nicolas Sarkozy

081-11-29-14108

8. **The value of this constant was originally calculated by Johann Josef Loschmidt, so this constant is sometimes represented by a capital L. It is the Faraday constant divided by the elementary charge, and is also the conversion factor from microscopic to macroscopic units, such as grams. It is defined as the ratio of the number of entities to the (*) amount of a substance, or the number of entities in one mole of a substance. For 10 points, name this chemistry constant which is equal to 6.022 times ten to the twenty-third.**

ANSWER: Avogadro's number

081-11-29-14109

9. **In 2007, this NFL team's head coach resigned thirteen games into the season to become the head coach at the University of Arkansas. That coach, Bobby Petrino, was replaced the next season by this team's current head coach, Mike Smith. Smith named as his starter this team's rookie quarterback from (*) Boston College, who led the team to a surprising 11-5 record and second place in the NFC South. For 10 points, name this NFL team whose offense features Michael Turner, Roddy White, and Matt Ryan.**

ANSWER: Atlanta Falcons [or Atlanta Falcons]

023-11-29-14110

10. **This artist painted a boy in baggy red pants and a decorative hat playing the title instrument in *The Fifer*. He painted the lower legs of a trapeze artist in the upper left corner of a painting in which several bottles of alcohol sit next to a bowl of oranges on the title structure. He painted a black cat and an African servant holding flowers standing next to a reclining nude who looks defiantly at the viewer. This artist of *The Bar at the Folies Bergeres* painted two clothed men (*) dining with a nude woman in another work. For 10 points, name this French impressionist painter of *Olympia* and *Luncheon on the Grass*.**

ANSWER: Edouard Manet

015-11-29-14111

11. **A nuclear facility constructed during the rule of this man was destroyed during Operation Opera. Tariq Aziz was a longtime advisor and international spokesman for this leader. A U.N. program designed to supply his people with humanitarian aid was known as Oil-for-Food. This man's sons Uday and Qusay held high government positions. This man was criticized for using (*) chemical weapons against the Kurdish population following a disastrous invasion of Kuwait. For 10 points, name this ruling leader of the Ba'ath party, the longtime dictator of Iraq.**

ANSWER: Saddam Hussein al-Tikriti

064-11-29-14112

12. **This artist painted his Moorish servant, Juan de Pareja, in preparation for a painting of a man in red sitting on a golden throne. Another of his works shows an array of lances in the top right-hand corner and Ambrosio de Spinola receiving a key from Justin Nassau. This painter of (*) *The Surrender of Breda* and *Portrait of Innocent X* also depicted himself painting in the background of another work, in which dwarves and servants play with the Infanta Margarita. For 10 points, name this Spanish artist of *Las Meninas*.**

ANSWER: Diego Rodríguez de Silva y Velázquez

080-11-29-14113

13. **One virtuoso on this instrument was a German conductor who married Liszt's daughter and played the premier of his Sonata in B minor. The Canadian Glenn Gould transcribed and played much of Bach's music on this instrument. In addition to composing a famous Second Concerto for this instrument, Sergei (*) Rachmaninoff played it well. Other players of this instrument include Vladimir Horowitz, Anton Rubinstein, and Clara Schumann. For 10 points, name this instrument which plays Beethoven's "Für Elise," a successor to the harpsichord and popular modern keyboard instrument.**

ANSWER: pianoforte

015-11-29-14114

14. **This man gained prominence while questioning Jimmy Hoffa and the Teamsters Union about their use of Union funds. During the Cuban Missile Crisis, he closely advised the president while serving as the Attorney General. His run for the Democratic nomination in the (*) 1968 presidential election was cut short in the Ambassador Hotel after the Palestinian nationalist Sirhan Sirhan assassinated him. For 10 points, name this brother of John F. Kennedy.**

ANSWER: Robert Fitzgerald Kennedy [or Bobby Kennedy; or RFK; prompt on Kennedy]

080-11-29-14115

15. **The Palmer and Coalman Glaciers are located on the slopes of this mountain; the most common ascent route to the peak of this mountain involves traversing those glaciers and passing through the so-called Pearly Gates. Its native name Wy'east, is drawn from the legend of two brothers who both loved the same woman, while its current name was bestowed by William Broughton, a member of a party led by George (*) Vancouver. Volcanically inactive for nearly 200 years, for 10 points, name this peak in the Cascade Range, the tallest summit in Oregon.**

ANSWER: Mount Hood

040-11-29-14116

16. **This character is named for the day he is found, the Sunday after Easter. He is elected Pope of the Fools during the Festival of the Fools. In an epilogue, his skeleton is found intertwined with that of his unrequited love. This character is adopted by Archdeacon Frollo, whom he kills after learning of the death of the (*) gypsy dancer Esmeralda. For 10 points, name this deaf and hunchbacked bell ringer of Notre-Dame in a Victor Hugo novel.**

ANSWER: Quasimodo [prompt on "Hunchback of Notre-Dame"]

015-11-29-14117

17. **Holy Roman Emperor Sigismund presided over this meeting, which produced a proclamation of papal infallibility called *Haec santa*. This meeting followed the Council of Pisa and was called by supporters of Anti-Pope John XXIII. Gregory XII abdicated during this meeting, which sought to end a divide started by the (*) Avignon Papacy. Martin V was elected during this meeting, which also saw a Bohemian heretic burned at the stake. For 10 points, name this church council of the early 1400's that executed Jan Hus (yawn HOOS) and ended the Western Schism.**

ANSWER: Council of Constance

064-11-29-14118

18. **This author's most famous work features a socialist philosopher named Nicholas Schliemann. This author wrote the novel *The Presidential Agent*, which, like his earlier novel *Dragon's Teeth*, features the character Lanny Budd. His novel *Oil!* formed the basis for the film *There Will Be Blood*. He is best known for a novel about (*) Jurgis Rudkus which was an indictment of the Chicago meat packing industry. For 10 points, name this author of *The Jungle*.**

ANSWER: Upton Sinclair

024-11-29-14119

19. **One clan that sacrificed to this god mingled human entrails with that of an animal's at Mount Lykaion (LIKE-ey-on). This deity was granted one attribute out of gratitude for release from imprisonment by the Cyclopes. Guises assumed by this deity include a shower of gold and a swan. Children of this deity include Helen of Troy, along with Castor and Pollux. This god forced his father, (*) Cronus, to vomit up this deity's siblings, which included Demeter, Hades, Poseidon, and his wife, Hera. For 10 points, name this thunder god and head of the Greek pantheon.**

ANSWER: Zeus

081-11-29-14120

20. **This man wrote of the cousin of Ralph Touchett, a woman who is courted by Lord Warburton before marrying Gilbert Osmond in one work, and of Miles and Flora, who are cared for by an unnamed governess, in another work. Yet another work by this man features a woman who refuses the affections of (*) Winterbourne before dying of malaria, which she catches at the Coliseum. For 10 points, name this author of *The Portrait of a Lady*, *The Turn of the Screw*, and *Daisy Miller*.**

ANSWER: Henry James

081-11-29-14121

21. **One character in this opera wings a song about an elf as she makes a wreath. The central characters of this work are put to sleep by the Sandman and woken up by the Dew Fairy. The only baritone in this opera is a broom-maker whose wife becomes frustrated at the breaking of a jug of milk and sends her children to collect strawberries. In the final scene of this opera, the title characters wake up a group of (*) gingerbread children after shoving a witch into an oven. For 10 points, name this Engelbert Humperdinck opera about a pair of siblings from Grimm's fairy tales.**

ANSWER: Hansel and Gretel [or Hänsel und Gretel]

015-11-29-14122

22. **During this battle, part of the 1st Panzer Division murdered 84 American POWs, which is known as the Malmedy Massacre. The resistance at Bastogne and the eventual arrival of Patton's Third Army from the south resulted in an Allied victory at this battle. The German code name for the offensive during this fight was the (*) "Watch on the Rhine." Begun in December 1944, for 10 points, name this battle of World War II so named because of the large incursion into Allied lines.**

ANSWER: Battle of the Bulge [or Ardennes Offensive]

084-11-29-14123

23. This man proposed a theoretical framework called “principles and parameters,” and he reduced transformations to the operation “move alpha” before reducing them further to “internal Merge.” He criticized behaviorist views of language in a review of B.F. Skinner’s work *Verbal Behavior*. He discussed the concept of (*) generative grammar in *Syntactic Structures*, and discussed the “language acquisition device” he theorized to be innate in children. For 10 points, name this linguist who works at MIT.

ANSWER: Avram Noam Chomsky

027-11-29-14124

1. The legality of this practice was reaffirmed in *U.S. v. Eichman*. For 10 points each:

[10] Name this action commonly associated with antigovernment protests, a similar action to which was protested by Barbara Frietchie in a Whittier poem.

ANSWER: **flag burning** [accept equivalents like **flag desecration**]

[10] This earlier Supreme Court case ruled unconstitutional a set of laws that prohibited the desecration of the U.S. flag.

ANSWER: *Texas v. Johnson* [or *Johnson v. Texas*]

[10] William J. Brennan wrote in the opinion of *Johnson* that flag burning was protected under the right to free speech given by this amendment to the Constitution.

ANSWER: **First** Amendment

081-11-29-14201

2. This composer experimented with the waltz form in *Valse triste*. For 10 points each:

[10] Name this composer of the *Karelia Suite* and the *The Swan of Tuonela*.

ANSWER: Jean **Sibelius**

[10] Sibelius may be best known for this patriotic piece which was the national anthem of Biafra.

ANSWER: ***Finlandia***

[10] Sibelius' best chamber work may be his Concerto in D major for this instrument. Virtuosi of this instrument include Joseph Joachim.

ANSWER: **violin**

015-11-29-14202

3. This author wrote about a character who "did a lazy sway" in "The Weary Blues." For 10 points each:

[10] Name this Harlem Renaissance poet who wrote "I, too, Sing America" and "Mother to Son."

ANSWER: Langston **Hughes**

[10] Hughes wrote "My soul has grown deep" like the title objects of this poem that mentions the Euphrates and Nile.

ANSWER: "The **Negro Speaks of Rivers**"

[10] Hughes wrote about a desire to "fling my arms wide in some place of the sun" in a poem about these "variations." In another poem, Hughes wondered of one "Does it stink like rotten meat?"

ANSWER: **dreams**

015-11-29-14203

4. Events in this novel include the Yellow Turban Rebellion and the Battle of Red Cliffs. For 10 points each:

[10] Name this 14th-century historical novel.

ANSWER: ***Romance of the Three Kingdoms***

[10] *Romance of the Three Kingdoms* was written by Luo Guanzhong, an author from this country.

ANSWER: People's Republic of **China**

[10] *Romance of the Three Kingdoms* is one of this many "great classical novels" of Chinese literature.

ANSWER: **four**

024-11-29-14204

5. This man gave Telephus a wound that would not heal, and refused to fight the Trojans after an insult by Agamemnon. For 10 points each:

[10] Name this son of the nymph Thetis that gained his most famous trait after having been held by his heel while submerged in the river Styx.

ANSWER: **Achilles**

[10] During the Trojan War, this Prince of Troy made the mistake of killing Patroclus, leading Achilles to kill him in battle and drag this man's body around the walls of Troy in a chariot.

ANSWER: **Hector**

[10] This Amazonian that accidentally slayed her sister Hippolyta fought alongside the Trojans and was also killed by Achilles, who fell in love with her after her death.

ANSWER: **Penthesilea**

002-11-29-14205

6. In a photograph by Philippe Halsman, this painter is depicted levitating next to some cats and chairs. For 10 points each:

[10] Name this Spanish surrealist who painted melting timepieces in *The Persistence of Memory*.

ANSWER: Salvador **Dali**

[10] Dali included the image of an eyeball being sliced in this sixteen minute 1929 silent film.

ANSWER: *Un* **Chien Andalou** [or *An* **Andalusian Dog**]

[10] This man was Dali's collaborator on *Un Chien Andalou*. He included a scene from *120 Days of Sodom* in his film *The Golden Age*.

ANSWER: Luis **Bunuel**

015-11-29-14206

7. Name some Shakespeare history plays for 10 points each.

[10] This play includes the St. Crispin's Day Speech which is given by the title character just before the battle of Agincourt.

ANSWER: **Henry V**

[10] The title character of this play orders the death of his brother Clarence and shouts "a horse, a horse, my kingdom for a horse!" during a battle.

ANSWER: **Richard III**

[10] The title character of this play curries disfavor by banishing Bolingbroke and Mowbray and seizing the property of John of Gaunt.

ANSWER: **Richard II**

015-11-29-14207

8. Name some European philosophers, for 10 points each.

[10] This philosopher believed Germany to be the pinnacle of history and formulated the master-slave dialectic in his book *Phenomenology of Spirit*.

ANSWER: Georg Wilhelm Friedrich **Hegel**

[10] This Frenchman and author of *Emile* claimed that in nature, man is free but in current society he is "in chains" in his book *The Social Contract*.

ANSWER: Jean-Jacques **Rousseau**

[10] This German philosopher who examined the states of mortality and Angst in his outline of *Dasein* in the book *Being and Time*.

ANSWER: Martin **Heidegger**

005-11-29-14208

9. It began at the Battle of Port Arthur and concluded with a treaty negotiated by Teddy Roosevelt. For 10 points each:

[10] Name this war fought over Manchuria by the two namesake countries.

ANSWER: **Russo-Japanese** War

[10] This aforementioned treaty ended the Russo-Japanese War and is named for the New Hampshire city near which it was signed. In this treaty, both countries agreed to leave Manchuria.

ANSWER: Treaty of **Portsmouth**

[10] This large land battle during the war resulted in tens of thousands of casualties for both sides. Named for a Manchurian city that is now called Shenyang, the ferocity of the fighting here precluded much further land engagement for the rest of the war.

ANSWER: Battle of **Mukden**

081-11-29-14209

10. This geographical feature is shown under the Mannen Bridge, below a flying kite, and under a torii gate. For 10 points each:

[10] Name this geographical feature, the subject of paintings depicting "thirty-six" views of it.

ANSWER: Mount **Fuji**

[10] This Japanese master of ukiyo-e (OOH-kee-OH-ay) painted the *Thirty-Six Views of Mount Fuji*.

ANSWER: Katsushika **Hokusai**

[10] Perhaps the most enduring of the *Thirty-Six Views* is one that shows Fuji in the trough of a "great" one of these natural phenomena "off Kanagawa."

ANSWER: a **wave**

026-11-29-14210

11. People associated with this party included William Henry Harrison and Daniel Webster. For 10 points each:

[10] Name this American political party formed to oppose Andrew Jackson and the Democrats and named for an English party.

ANSWER: **Whig** party

[10] This Virginian was William Henry Harrison's vice presidential candidate and as president put down Dorr's Rebellion.

ANSWER: John **Tyler**

[10] One of the most major events in the Tyler presidency was the explosion of this ship which killed the Secretaries of State and the Navy.

ANSWER: USS **Princeton**

015-11-29-14211

12. Cells in this organ that produce digestive enzymes are called acinar cells due to their tendency to form bundles resembling clusters of grapes. For 10 points each:

[10] Name this organ in which insulin is produced in the beta cells of the islets of Langerhans.

ANSWER: **pancreas**

[10] Pancreatic juice, a combination of digestive enzymes, is collected by the duct of Wirsung and dumped into this part of the small intestine, which is succeeded by the jejunum.

ANSWER: **duodenum**

[10] This pancreatic hormone is created by the alpha cells in the islets of Langerhans, and directly opposes the action of insulin. It stimulates the breakdown of glycogen via glycogenolysis which leads to an increase in glucose levels in the blood.

ANSWER: **glucagon**

066-11-29-14212

13. Subjects found guilty by this institution could be subject to a public penance ceremony called auto-da-fe. For 10 points each:

[10] Name this famously anti-Jewish Catholic tribunal established in its namesake country in 1478, that officially ran until 1831.

ANSWER: **Spanish Inquisition** [prompt on **inquisition**]

[10] This first Spanish Inquisitor General was so hated that he traveled with bodyguards, and continued the cruel methods of the Inquisition despite a papal bull by Sixtus IV condemning his actions.

ANSWER: Tomas de **Torquemada**

[10] The group by this name, used to describe Christians who were formerly Jews, were harshly persecuted during the Inquisition. Torquemada's own grandfather was a member of this group, some of whom continued to practice Judaism in secret.

ANSWER: **conversos**

081-11-29-14213

14. Seven sports were considered for filling the two empty slots at the 2016 Summer Olympics in Rio. For 10 points each:

[10] Name the last sport added. Its players include Pdraig Harrington, Michelle Wie, and Phil Michelson.

ANSWER: **golf**

[10] The "sevens" version of this sport was added. Teams in this sport can form rucks and mauls and attempt to maintain possession through scrums.

ANSWER: **rugby**

[10] This sport was considered but not added. It is played on courts surrounded by four walls, and although it has a "hardball" variant, it is named for the softness of its ball.

ANSWER: **squash**

015-11-29-14214

15. The fact that this quantity is conserved allows a figure skater to increase the speed of his rotation as he pulls in his arms. For 10 points each:

[10] Name this physical quantity, typically calculated as the cross product of position and linear momentum.

ANSWER: **angular momentum**

[10] One property of elementary particles is this type of angular momentum, for which electrons have either a value of plus one-half or minus one-half.

ANSWER: **spin**

[10] These eponymous matrices define the operators for spin associated with spin one-half particles. Each have values only on one of the diagonals, and those values are all plus or minus one or plus or minus i.

ANSWER: **Pauli** matrices

081-11-29-14215

16. This man wrote about the Reverend Lawrence Shannon in *The Night of the Iguana* as well as the Pollitt family in *Cat on a Hot Tin Roof*. For 10 points each:

[10] Name this American playwright who also wrote a memory play about the Wingfield family.

ANSWER: Tennessee **Williams**

[10] Name that aforementioned Williams play, in which Amanda recruits a gentleman caller for her daughter, who in dancing breaks a member of the titular group of objects.

ANSWER: **The Glass Menagerie**

[10] This daughter of Amanda and sister of Tom acquired the nickname "Blue Roses" in high school and meets Jim O'Connor before learning he is engaged.

ANSWER: **Laura** Wingfield (prompt on "Wingfield")

081-11-29-14216

17. Name these cities in Missouri for 10 points each:

[10] This large city is the site of the “Walk of Fame” and the Gateway Arch.

ANSWER: **St. Louis**

[10] This most populous city in Missouri is nicknamed the “City of Fountains.”

ANSWER: **Kansas City**

[10] This southern city is known for its series of tourist attractions such as Dolly Parton's Dixie Stampede and the Hollywood Wax Museum.

ANSWER: **Branson**

015-11-29-14217

18. This man produced vaccines for rabies and anthrax. For 10 points each:

[10] Name this 19th century French scientist whose namesake process is used to kill bacteria in milk.

ANSWER: Louis **Pasteur**

[10] Pasteur helped disprove this theory by showing that boiled broths did not become contaminated unless exposed to the air. This theory held that life forming from nonliving matter was an everyday occurrence.

ANSWER: **spontaneous generation**

[10] Pasteur also showed that this process which causes the souring of milk was caused by microorganisms. This process is responsible for the production of wine.

ANSWER: **fermentation**

001-11-29-14218

19. This man wrote that conservatism “leads nowhere, it satisfies no ideal; and it conforms to no intellectual standard” in his essay “Am I a Liberal?” For 10 points each:

[10] Name this economist who wrote *The General Theory of Employment, Interest and Money* and advocated governments using their resources who influence the economy.

ANSWER: John Maynard **Keynes**

[10] Keynes’ book *The Economic Consequences of the Peace* presciently attacked this treaty.

ANSWER: Treaty of **Versailles**

[10] In the *General Theory* Keynes explained the preference for money with this property. This term refers to the readiness to which an asset can be converted to cash.

ANSWER: **liquidity**

015-11-29-14219

20. Hydroxides of these elements can anisotropically etch silicon, and these elements can be used to reduce ammonia in the Birch reduction. For 10 points each:

[10] Name this family of metals that reacts violently with water.

ANSWER: **alkali** metals [or Group **1**; or Group **IA**]

[10] This alkali metal burns bright yellow in a flame test and its bicarbonate is baking soda.

ANSWER: **sodium** [or **Na**]

[10] The Solvay process uses table salt, limestone, and heat to create this industrially important product, also known as soda ash.

ANSWER: **sodium carbonate** [or **Na₂CO₃**]

079-11-29-14220

21. This man's back-story is explored in *The Mysterious Island*. For 10 points each:

[10] Name this captain of the *Nautilus* who interacts with Ned Land and Pierre Aronnax in an 1869 novel.

ANSWER: Captain **Nemo** [or Prince **Dakkar**]

[10] Nemo appears in *Twenty-Thousand Leagues Under the Sea*, a work by this French author of *Around the World in Eighty Days*.

ANSWER: Jules **Verne**

[10] In Verne's *From the Earth to the Moon*, a group of men are launched to the moon by one of these devices.

ANSWER: a **cannon** [or **gun**]

015-11-29-14221