

1. **The Fermi satellite discovered that this phenomenon produces positrons. Sprites, elves, and blue jets are harder-to-observe variants of this phenomenon, and the positive type of it is more energetic. The initial stage of it is preliminary breakdown followed by the formation of a stepped ladder. Before this phenomenon occurs, the (*) ground sends up a positive "streamer." It is precipitated by charge separation between the ground and a cloud. For 10 points, name this atmospheric phenomenon of electric discharge, often seen in thunderstorms.**

ANSWER: lightning [or lightning strikes; or other equivalents]

001-09-10-13102

2. **This man's "little tragedies" include *The Stone Guest* and *Mozart and Salieri*. His poem *The Bronze Horseman* is a tale of St. Petersburg. Several of this man's works were later adapted to operas, including (*) *Ruslan and Ludmila*, *The Tale of Tsar Saltan*, and *Boris Godunov*. One of this author's title characters rejects Tatyana, only to fall in love with her later. That title character kills his friend Vladimir Lensky. For 10 points, name this Russian author of *Eugene Onegin* (yoo-JAY-nee on-YAYG-in).**

ANSWER: Alexander Sergeyevich Pushkin

062-09-10-13103

3. **A ship named for this man sunk the British flagship *HMS Hood*, prompting Winston Churchill to give a three-word order to sink that ship. This man helped put in place Adalbert Falk's May Laws as a part of his work against the Catholic Church called the (*) Kulturkampf (COUL-tour-kahmpf). He used Realpolitik (RAY-ahl-POH-loh-tik) on behalf of Wilhelm I (VILL-helm the first) to create the German Empire in 1871. For 10 points, identify this "Iron Chancellor" of Prussia and Germany.**

ANSWER: Otto Eduard Leopold von Bismarck

023-09-10-13104

4. **This author wrote a play about sexual harassment charges filed by a female student against her professor and depicted the strained relationship between Dan Shapiro and Deborah Solomon in *Sexual Perversity in Chicago*. This author of *Oleanna* wrote of the plot to steal a coin collection for a junk shop by Dan, Bob, and (*) Teach. He wrote about a contest set up by Mitch and Murray that requires that Dave and George compete with the has-been Shelley Levine and hotshot Ricky Roma. For 10 points, name this playwright of *Glengarry Glen Ross*.**

ANSWER: David Mamet

022-09-10-13105

5. **During this President's administration, the CIA helped overthrow Guatemala's leader Jacobo Arbenz. His farewell address warned about the dangers of the "military industrial-complex." This man's Vice-President participated in the (*) Kitchen Debate with Nikita Khrushchev and gave a speech discussing the dog Checkers. This man twice defeated Adlai Stevenson on a ticket with Richard Nixon. For 10 points, name this successor of Harry Truman as President, who was the former Supreme Allied Commander in World War II.**

ANSWER: Dwight David Eisenhower

027-09-10-13106

6. **One work by this man explains verbal acts known as "mands." Another work by this psychologist argues that the prevalence of a belief in free will has limited the possibility for social engineering. This psychologist wrote *Verbal Behavior* and (*) *Beyond Freedom and Dignity*. He also invented an air crib for infants and experimented on pigeons. For 10 points, name this American behaviorist, who created a namesake box to research operant conditioning.**

ANSWER: Burrhus Frederic Skinner

058-09-10-13107

7. **This particle's namesake mechanism purports to explain how W and Z particles acquire mass through spontaneous symmetry breaking. Its namesake field is thought to impart mass to the particles of the Standard Model. Known as the (*) "God particle," it is one of the particles being sought using the Large Hadron Collider. For 10 points, name this type of boson that is the only particle in the Standard Model which has yet to be observed.**

ANSWER: Higgs boson

024-09-10-13108

8. **This performer was inspired by Ray Noble's song "Cherokee" to record "Ko-Ko" with his band. His quintet included Duke Jordan, Tommy Potter, Max Roach, and Miles Davis. That quintet performed early (*) be-bop music, which he helped pioneer. Several of his compositions, such as "Ornithology" and "Birdfeathers," have become jazz standards. For 10 points, name this alto saxophonist whose original nickname, "Yardbird", was simplified to "Bird."**

ANSWER: Charlie "Bird" Parker

045-09-10-13109

9. **One of these items was discovered in the body of Orochi by Susanoo (soo-sa-NO-wo) in Japanese mythology. Another was forged by Weyland (VIE-lond) and used by Sigurd to defeat Fafnir. Those items were called, respectively, Kusanagi (KOO-suh-NAH-gee) and Gram. Another of these items bears the inscriptions "take me up" and "cast me away" and has its accessory discarded by (*) Morgan le Fay. Another one was pulled from a stone by the son of Uther Pendragon. The Lady of the Lake gave Arthur, for 10 points, what kind of weapon exemplified by Excalibur?**

ANSWER: swords

020-09-10-13110

10. **Benny Goodman commissioned a clarinet concerto from this composer. One of his tone poems is about a "popular type dance hall in Mexico City" and is entitled *El Salon Mexico*. This composer included readings of this Gettysburg address in his *Lincoln Portrait*. One of this composer's ballets includes the sections (*) "Buckaroo Holiday" and "Hoe-Down." Another of his ballets includes an arrangement of the Shaker hymn "Simple Gifts." For 10 points, name this American composer of *Rodeo* and *Appalachian Spring*.**

ANSWER: Aaron Copland

015-09-10-13111

11. **Prince William of Orange successfully defended the crossroads of Quatre-Bras (KWAT-ruh-brah) in this battle. The farm of La Haye Sante (luh EYE sant) was surrounded by Marshal Ney in this engagement, which was won when (*) Blucher's (BLOO-kurz) Prussians entered the fray. This battle ended the Hundred Days after the losing commander returned from Elba. For 10 points, name this 1815 battle in Belgium, at which the Duke of Wellington crushed Napoleon's last army.**

ANSWER: Battle of Waterloo

063-09-10-13112

12. **This country contains the world's largest piece of limestone, the Nullarbor Plain. The Morning Glory Cloud can be seen off the north of this country in the Gulf of Carpentaria. The lowest and highest points in this nation are Lake Eyre and Mount (*) Kosciusko, respectively.** This home of the Great Dividing Range contains the cities of Darwin, Adelaide, and Brisbane and is separated from Tasmania by the Bass Strait. Located next to the Great Barrier Reef is, for 10 points, what country that occupies an entire continent?

ANSWER: Commonwealth of Australia

020-09-10-13113

13. **The Haoma plant plays an important role in this religion. In it, the idea of chaos and disorder is known as Druj and a group of divine spirits is called the (*) Amesha Spenta.** This religion's evil spirit is referred to as Angra Mainyu. Adherents of this religion believe in exposing corpses to the elements, typically in structures known as Towers of Silence. The holy text of this religion is known as the *Avesta*, and its supreme deity is Ahura Mazda. For 10 points, name this dualistic Persian religion, whose founder is alternately called Zarathustra.

ANSWER: Zoroastrianism [accept Zarathustraism until read]

064-09-10-13114

14. **This man used the metaphor of the "tangled bank" in his most famous theory, and later wrote about *The Formation of Vegetable Mould through the Action of Worms*. His ideas were later debated between (*) Bishop Wilberforce and T.H. Huxley, who was known as this man's "bulldog."** This author of *The Descent of Man* noticed variation in the beaks of Galápagos Finches while traveling on the *HMS Beagle*. For 10 points, name this British naturalist who described his theory of natural selection in *On the Origin of Species*

ANSWER: Charles Robert Darwin

001-09-10-13115

15. **The arrangement of this painting's central group was inspired by Raimondi's (rye-MON-deez) engraving of Raphael's *Judgment of Paris*. In the background of this painting, a woman looks downward and dips her bucket into a stream. A man in a flat tasseled hat gestures to his left in this work, which depicts a woman, modeled on Victorine Meurent (mo-RAHNT), who reclines and looks toward the viewer. It depicts a (*) nude woman among two clothed men who are enjoying the title meal.** For 10 points, name this painting of a picnic, by Edouard Manet.

ANSWER: Luncheon on the Grass [or Le déjeuner sur l'herbe]

060-09-10-13116

16. **This novel is the setting of *The Flame Trees of Thika*. In another novel set in this country, Inspector Godfrey attempts to solve the murder of Chui, Kimeria, and Mzigo. That novel, *Petals of Blood*, is by this country's most famous novelist, (*) Ngugi wa Thiong'o.** Another novel set in this country begins, "I had a farm in Africa, at the foot of the Ngong Hills;" parts of that novel depict the author's views toward the Masai, Kikuyu, and other natives of this country. For 10 points, name this present-day country that provided the setting for Isak Dinesen's *Out of Africa*.

ANSWER: Republic of Kenya

003-09-10-13117

17. **The sixth ruler of this empire reinstated the jizya (JEEZ-ya) tax and was named Aurangzeb (AH-rung-zeb). Another ruler of this empire lost most of its lands to Sher Shah Suri and was named Humayun (HOO-mah-yuhn). A (*) mausoleum was built after the death of Mumtaz, the wife of this empire's ruler, Shah Jahan. This empire was founded by Babur and reached its greatest height under the rule of Akbar. For 10 points, name this Muslim empire that ruled over India.**

ANSWER: Mughal Empire

023-09-10-13118

18. **One problem that occurs in this organ involves the blocking of its neck in Hartmann's pouch. Along with affecting the pancreas, the secretion of cholecystokinin (KOHL-uh-SIS-toh-KEE-nin) causes this organ to release its contents into the (*) small intestine. This pear-shaped organ is located in a fossa, or a small depression, that places this organ directly beneath another with which it shares a common duct. For 10 points, name this organ that is found directly underneath the liver, and is responsible for the storage of bile.**

ANSWER: gallbladder

023-09-10-13119

19. **One poem by this author declares "East is East and West is West, and never the twain shall meet." This man wrote a story in which the title character, "the oldest Old Thing in England" meets the children Dan and Una. One novel by this author of "Puck of Pook's Hill" focuses on a character who grows up on the streets of (*) Lahore and becomes a spy for the British. In another of his works, Akela sings a death song to Mowgli. For 10 points, name this British author of *Kim* and *The Jungle Book*.**

ANSWER: Joseph Rudyard Kipling

030-09-10-13120

20. **The third section of this poem features the Smyrna merchant Mr. Eugenides (yoo-JEN-id-eez). Other characters in this poem include Tiresias, who is described as having "wrinkled dug," and Madame (*) Sosostri. Its final section, "What the Thunder Said," ends with the repetition of the Sanskrit word "shantih." It also contains sections titled "The Burial of the Dead" and "A Game of Chess." For 10 points, name this poem which begins by characterizing April as "the cruellest month" and was written by T. S. Eliot.**

ANSWER: "The Waste Land"

024-09-10-13121

21. **A character in this novel goes to London to get a haircut, earning the ire of another character, who condemns the protagonist for scolding Miss Bates. This novel sees a woman from Bath marry Mr. Elton after he is rejected by the protagonist. Its protagonist tries to (*) set up her best friend with Frank Churchill, who is secretly engaged to Jane Fairfax. This novel's protagonist, a friend of Harriet Smith, marries Mr. Knightley. For 10 points, name this novel about the matchmaking antics of the titular Miss Woodhouse, a work by Jane Austen.**

ANSWER: Emma

058-09-10-13122

1. For 10 points, name these things that were set on fire.

[10] These objects were considered to be indecent, decadent, or immoral and were burned in a 1497 bonfire in Florence.

ANSWER: **vanities** [or **bonfire of the vanities**]

[10] This building was set on fire by Martinus van der Lubbe on February 27, 1933. Despite the complicity of Nazis in the event, the Nazi party used it as the basis for a Communist witch hunt.

ANSWER: **Reichstag** building [or **burning of the Reichstag**; or **Reichstagsbrand**; prompt on **German parliament**]

[10] This English cathedral was the most prominent building burnt down during the Great Fire of London in 1666. It was subsequently rebuilt, in an entirely different style, by Christopher Wren.

ANSWER: Old **St. Paul's** Cathedral

003-09-10-13201

2. The cancer drug taxol works by inhibiting this structure. For 10 points each:

[10] Name this apparatus consisting of microtubules organized by a centrosome. Its function is to pull apart chromosomes into the daughter cells.

ANSWER: **spindle** apparatus [or mitotic **spindle**; or meiotic **spindle**]

[10] Sensory receptors in this tissue are called "spindles." This tissue is composed of units called sarcomeres and the proteins actin and myosin.

ANSWER: **muscle** tissue [or word forms like **muscular**]

[10] Along with K-Complexes, non-REM sleep is defined by regions of condensed peaks called "sleep spindles" on a readout from this machine, which is used to record brain waves.

ANSWER: **EEG** [or **electroencephalogram**; or **electroencephalography**]

026-09-10-13202

3. It first appears through the fog and is compared to "a Christian soul, hailed...in God's name." For 10 points each:

[10] Identify this bird, which travels with a ship that is escaping the Antarctic ice until it is abruptly shot with a crossbow.

ANSWER: the **albatross**

[10] The albatross is hung around the neck of the title figure in this Samuel Taylor Coleridge poem, in which that character tells his story of redemption to a wedding-guest.

ANSWER: "The **Rime of the Ancient Mariner**"

[10] Following the killing of the albatross, this supernatural female figure, whose "skin was as white as leprosy" and who "thicks man's blood with cold," wins the Mariner's soul in a dice game with Death.

ANSWER: **Life-in-Death**

019-09-10-13203

4. This religion celebrates the festivals of Diwali and Holi. For 10 points each:

[10] Name this religion, which has over nine hundred million adherents in India.

ANSWER: **Hinduism**

[10] A major tenet of Hinduism is this notion, the belief that the moral value of actions make impressions on the soul that carry over into the next life.

ANSWER: **karma**

[10] Believers in Hinduism can only escape this cycle of death and rebirth through moksha.

ANSWER: **samsara**

022-09-10-13204

5. The election of the Sajudis party here made it the first Soviet republic to be proclaimed independent. For 10 points each:

[10] Name this Baltic state, which triggered independence declarations in Estonia and Latvia soon after it defied the USSR.

ANSWER: Republic of **Lithuania** [or **Lietuva**; or **Lietuvos Respublika**]

[10] Under the early modern Union of Lublin, Lithuania was joined to this country, which was later the location of Auschwitz and birthplace of John Paul II.

ANSWER: Republic of **Poland** [or Rzeczpospolita **Polska**]

[10] This dynasty of Polish rulers was the architect of the union with Lithuania under its expansionary member Ladislaw II.

ANSWER: **Jagiellon** [or **Jagiellonian** Dynasty]

022-09-10-13205

6. This language is commonly written in either Bokmål or Nynorsk. For 10 points each:

[10] Name this language, which bears some resemblance to Danish.

ANSWER: **Norwegian** [or **Norsk**]

[10] Norwegian is reasonably mutually intelligible with Swedish, but not with this language in which the Kalevala was compiled.

ANSWER: **Finnish** [or **Suomi**]

[10] Finnish's dissimilarity is reflected in its classification as a Uralic language. Another Uralic language is this eastern European language spoken by Magyars (MAH-yours).

ANSWER: **Hungarian**

022-09-10-13206

7. She wrote about a man in segregated Louisiana who discovers he is part-black in "Desiree's Baby." For 10 points each:

[10] Name this author who created the ennui-addled New Orleans wife Edna Pontelier in *The Awakening*.

ANSWER: Katherine O'Flaherty "Kate" **Chopin** [or Katherine **O'Flaherty**]

[10] In this Chopin story, Louise Mallard first hears that her husband has died in a train crash, and then dies of a heart attack when he walks into the door.

ANSWER: "The **Story of an Hour**"

[10] Another American feminist writer from the turn of the twentieth century was this author of *Herland* and *What Diantha Did*, who described an institutionalized female writer in "The Yellow Wallpaper."

ANSWER: Charlotte Anna Perkins Stetson **Gilman** [or Charlotte Anna **Perkins**; or Charlotte Anna Perkins **Stetson**]

019-09-10-13207

8. A 2009 sequel for the Wii built on the success of this 2006 Nintendo DS game. For 10 points each:
[10] Identify this game, which reintroduced the original side-scrolling mechanic for Nintendo's flagship character.

ANSWER: **New Super Mario Brothers**

[10] *New Super Mario Brothers* was, by some accounts, the first side-scrolling Mario game since a 1992 Gameboy release in which Mario must retrieve six "golden" examples of these items. In most Mario games, collecting a hundred of these earns an extra life.

ANSWER: **coins**

[10] In *New Super Mario Brothers*, Mario gains a dash ability and near-invulnerability while crouching after picking up one of these items. In the *Mario Kart* series, a spiny one of these homes in on the first-place racer.

ANSWER: **blue Koopa shell** [or **blue shell**; prompt on Koopa **shell**]

019-09-10-13208

9. Conditions for this to hold include side angle side and side side side. For 10 points each:

[10] Name this relationship between two triangles that is stronger than similar and implies that they have the same size and shape.

ANSWER: **congruent** triangles

[10] This type of triangle named for the degree of its angles has sides of length one half x, one half x times the square root of three, and x for a given x.

ANSWER: **30-60-90** [accept anything that includes those three angles]

[10] This special case of the inscribed angle theorem named for a Greek philosopher states that if for triangle ABC, if AB is the diameter of a circle and C is on that circle, then angle ACB is 90 degrees.

ANSWER: **Thales' Theorem**

001-09-10-13209

10. While studying for an army career, he published the *Port-Ensign Polka*. For 10 points each:

[10] Name this member of the Russian Five, who was inspired by the death of painter Victor Hartmann to create the piano suite *Pictures at an Exhibition*.

ANSWER: Modest Petrovich **Mussorgsky**

[10] This Mussorgsky piece, which exists in orchestral and choral versions, depicts a witches' sabbath. Its "black mass" section parodies an Orthodox service in the violas.

ANSWER: *St. John's* **Night on the Bald Mountain** [or *St. John's* **Night on the Bare Mountain**; or **Ivanova noch na Lysoy gore**]

[10] This composer rewrote *Night on Bald Mountain*. His other works include one based on Orthodox hymns, the *Russian Easter Overture* and *Capriccio Espagnole* (kuh-PREE-chee-yo ess-pan-YOLE).

ANSWER: Nikolai Andreyevich **Rimsky-Korsakov**

015-09-10-13210

11. Name these sea gods from Greek mythology for 10 points each.

[10] This brother of Zeus and Hades was known as Neptune to the Romans and was the husband of Amphitrite.

ANSWER: **Poseidon**

[10] This shape shifter was known as the "Old Man of the Sea" and was sought out by Aristaeus upon the death of his bees.

ANSWER: **Proteus**

[10] This son of Poseidon was a half-man, half-fish figure who carried a trident and a horn, which was a conch shell that could control the waves.

ANSWER: **Triton**

015-09-10-13211

12. The Israeli army occupied this city in 1982. For 10 points each:

[10] Identify the city where terrorists killed over 200 United States marines in 1983. Christian militias controlled its East portion and Muslims its West section during parts of a long inter-ethnic conflict.

ANSWER: **Beirut**

[10] This country experienced a long civil war that began in 1975. Syria and Israel competed for influence in this nation, which has a tree on its flag and its capital at Beirut.

ANSWER: **Lebanon**

[10] This religious sect in Lebanon traces its roots to eleventh century Cairo. This group's leader Kamal Jumblatt led the Progressive Socialist Party until his 1977 assassination.

ANSWER: **Druze**

063-09-10-13212

13. Long-period ones are believed to originate in the Oort Cloud. For 10 points each:

[10] Name these objects that, when near the sun, eject gases and other material to form a tail.

ANSWER: **comet**

[10] This term refers to the atmosphere of a comet, which is formed from gas and dust coming off of the nucleus.

ANSWER: **coma**

[10] This comet, named for two people, was first observed in 1995, and was the most prominent comet observable from Earth in 1997.

ANSWER: **Hale-Bopp** [or **C/1995 O1**; prompt on **The Great Comet of 1997**]

001-09-10-13213

14. James K. Polk's slogan "Fifty-four forty or fight" referred to his intention to make that latitude line the northern border of this territory. For 10 points each:

[10] Name this territory, which was home to Jason Lee's settlers in the Willamette river valley before it became a state.

ANSWER: **Oregon**

[10] The trail to Oregon began in this state's city of Independence, which is a suburb of Kansas City. Many natives of this state participated in the nearby Bleeding Kansas war.

ANSWER: **Missouri**

[10] This fort on the Oregon trail in modern day Wyoming was the location that names an 1868 peace treaty between the U.S. government and the Sioux tribes that was quickly broken.

ANSWER: Fort **Laramie**

027-09-10-13214

15. The theft of this novel's title object is perpetrated by a sleepwalking Godfrey Abelwhite. For 10 points each:

[10] Name this novel, whose title gemstone is sought after by three Hindus after Colonel Herncastle stole it from an Indian shrine.

ANSWER: *The* **Moonstone**

[10] This British author of *Woman in White* pioneered detective fiction with his *The Moonstone*.

ANSWER: William Wilkie **Collins**

[10] This author published Collins's works in his magazine *Household Words*, and also emulated Collins with his *Mystery of Edwin Drood*, written after such novels as *Great Expectations* and *A Christmas Carol*.

ANSWER: Charles **Dickens**

026-09-10-13215

16. This artist showed a flower up close in his still-life *Rose and Driftwood*. For 10 points each:

[10] Name this photographer who is famed for his depictions of the American west in black and white.

ANSWER: Ansel Easton **Adams**

[10] Ansel Adams produced an "illustrated guide" to this national park, which Adams captured in images of its landmarks like Bridalveil Falls and Half-Dome.

ANSWER: **Yosemite** National Park [accept **Yosemite** Valley]

[10] Adams also documented this Japanese internment camp on film. Adams concentrated on depicting farm workers at this California camp.

ANSWER: **Manzanar**

026-09-10-13216

17. Answer these questions about waterfalls, for 10 points each.

[10] Recently renamed Kerepakupai-Merú by Hugo Chavez, it is the world's tallest waterfall.

ANSWER: **Angel** Falls

[10] Dropping into the Zambezi Gorge, it is the largest curtain of water in the world at 5600 feet wide.

ANSWER: **Victoria** Falls

[10] The Reversing Falls, in St. John, New Brunswick, are caused by the powerful tides in this body of water.

ANSWER: Bay of **Fundy**

062-09-10-13217

18. This author wrote of the rise of businessman George Duroy in his novel *Bel-Ami*. For 10 points each:

[10] Name this French author better known for short stories like "The Horla" and one in which Madame Loisel loses the title object.

ANSWER: Henri Rene Albert Guy de **Maupassant**

[10] In this aforementioned Maupassant story, the Loisels spend their lives working to pay for an object they later learn is fake.

ANSWER: "The **Necklace**" [or "The Diamond **Necklace**"; or "La **Parure**"]

[10] The title character of this Maupassant story feeds the travelers of a stagecoach but is ostracized after sleeping with a Prussian officer at their behest.

ANSWER: "**Ball of Fat**" [or "**Boule de Suif**"]

015-09-10-13218

19. One formulation of this quantity includes the Madelung constant. For 10 points each:

[10] Name this quantity given by the Kapustinskii Equation and Born-Haber Cycle, a measurement of the strength of bonds in an ionic solid, such as sodium chloride.

ANSWER: **lattice energy**

[10] The Born-Haber cycle applies this principle, which states that the energy change for a process is independent of the pathway or number of steps taken to complete the process.

ANSWER: **Hess**'s law

[10] The effect of polarization in calculating lattice energy figures into the equation for this compound with formula FeS₂, which many people think is gold.

ANSWER: iron **pyrite** [prompt on **fool's gold**]

020-09-10-13219

20. This man's last paintings were entitled *Scnt* and *Search*. For 10 points each:

[10] Name this American painter who used "action painting" to create his compositions. He was known as "the Dripper."

ANSWER: Paul Jackson **Pollock**

[10] Pollock was influenced by David Alfaro Siqueiros. Siqueiros specialized in painting these types of works, which were found in many Mexican public places in the 1930s.

ANSWER: **murals**

[10] This Mexican muralist of *Man at the Crossroads* was the husband of the painter Frida Kahlo.

ANSWER: Diego **Rivera** [accept Diego María de la Concepción Juan Nepomuceno Estanislao de la **Rivera** y Barrientos Acosta y Rodríguez]

052-09-10-13220

21. This quantity is equal to the rate at which work is done in a system. For 10 points each:

[10] Name this physical quantity, often measured in watts.

ANSWER: **power**

[10] In circuits, power is equal to this power of the voltage divided by the resistance.

ANSWER: **2** [or **two**]

[10] The power of a star can be found using this type of surface integral, which measures the amount of energy passing through a surface. The derivative of the magnetic type is proportional to emf.

ANSWER: **flux**

022-09-10-13221