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TOSSUPS

1. These events can be indirectly observed through the measurement of oxygen isotope levels and stratigraphy of varves. Shorter examples of these periods are termed stadials, and the Wisconsinan episode created Cape Cod from a terminal moraine during one of these periods within the Pleistocene ("PLY"- "stow"- "seen") Epoch. A (*) "little" one of these ended Norse settlement of Greenland following the Medieval era. These periods often see the opening of land bridges due to decreased sea levels, and the evolution of physically larger animals, such as the woolly mammoth. For 10 points, name these long periods of decreased temperatures.

ANSWER: ice ages [accept stadials before mentioned]

2. This ethnic group's interests are backed by the left-wing HDP party, which supports talks with this ethnic group's imprisoned rebel leader Abdullah Ocalan. Massoud Barzani's (bar-ZAH-nee's) government, which has been receiving weapons from the U.S. since 2014, currently controls an autonomous region for this ethnic group based in the city of Erbil. In January 2015 a four-month siege of the border town of (*) Kobani (koh-BAH-nee) was lifted by this group's *peshmerga* militias. Over the summer of 2014, this group's fighters helped retake the city of Kirkuk and the Mosul Dam from ISIS. For 10 points, name this ethnic minority in southeastern Turkey and northern Iraq.

ANSWER: Kurds [or Kurdish people]

3. The colony that became this U.S. state was founded after its leader argued to John Cotton that all Christians should be able to vote, not just church members. In 1636 the preacher Thomas Hooker founded this state, whose charter was legendarily hidden in an oak tree after James II attempted to annex it into the Dominion of New England. This state's (*) "Fundamental Orders" may have been the first written constitution in Western history. It includes the former territory of the New Haven Colony, where Yale College was founded in 1701. For 10 points, name this state originally based around the Hartford Colony.

ANSWER: Connecticut

4. This compound is reacted with chloramine in the synthesis of hydrazine ("HYDRA"-zeen), and can be reacted with sodium hypochlorite to create monochloramine. This compound is used along with an alkali metal to reduce benzene to cyclohexane in a reaction named for Birch. The most common process for creating this compound originally used an osmium catalyst, but has since switched to less expensive (*) iron. That process, the most commonly performed in the world, produces this compound at high temperature and pressure for inclusion in fertilizer. This product of the Haber process is created from hydrogen and nitrogen gas. For 10 points, name this polar molecule with formula NH₃.

ANSWER: ammonia [or nitrogen trihydride; or trihydrogen nitride; accept NH₃ before read; prompt on "azane"]

5. In the first act of this opera, a warrior describes the title character as "heavenly." A character in this opera laments that she will never again be able to see the "blue skies" and "sweet native breezes" of her homeland. This opera's second-act Triumphal March is a popular orchestral excerpt. The night before Amneris's wedding, this opera's title character laments her homesickness in the aria (*) "O patria mia." At the end of this opera, a woman sneaks into a sealed vault to be buried alive with her love, the Egyptian general Radamès (RAH-dah-mess). For 10 points, name this Giuseppe Verdi opera about an Ethiopian princess.

ANSWER: Aida

6. This country's forces captured the island of Penang at the beginning of an extremely successful six-week military campaign that culminated in the largest surrender of British troops in history. This country failed to seize Port Moresby (MORZ-bee) during the four-month-long Kokoda Track campaign. In 1943 it led a surprise air raid on Darwin two months before its own homeland was bombed by the U.S. in the (*) Doolittle Raid. This country eventually lost control of the South Pacific after the Allies launched the Guadalcanal (GWAH-dul-"canal") Campaign. For 10 points, name this country that attacked Pearl Harbor.

ANSWER: Japan [or Nihon-koku; or Nippon-koku]

7. The Hill coefficient of this protein is around 2.8, meaning that its binding is strongly cooperative. One variant of this protein can result from alpha thalassemia and has greater affinity because of its two gamma subunits. A point mutation on this protein turns glutamic acid into valine, resulting in rigid strands forming into a characteristic (*) sickle shape. This protein binds carbon monoxide almost 200 times more strongly than its intended substrate, which binds to the iron in its porphyrin (POR-fuh-rin) group. For 10 points, name this protein found in red blood cells, which gives them their red color and transports oxygen throughout the body.

ANSWER: hemoglobin

8. This man killed Acron, the king of Caenina. After his death, this man and his wife Hersilia were deified as Quirinus and Hora. This king was raised as a child by Acca Laurentia and her husband, the shepherd Faustulus. He was forced to co-rule his city with Titus Tatius (TAY-shuss) for five years after the (*) Rape of the Sabine Women. He and his less important brother restored their grandfather Numitor to the throne of Alba Longa. After an argument, this elder son of Rhea Silvia killed his twin brother Remus. For 10 points, name this first king and eponymous founder of Rome.

ANSWER: Romulus [prompt on "Quirinus" before mentioned]

9. A magistrate in this novel yells "Do you wish my life to have no meaning?" while brandishing a silver crucifix at the protagonist. During a central event in this novel, the protagonist expresses intense discomfort over "red glare" and "small waves lapping at the hot sand." The narrator of this novel helps his friend write a letter to a supposedly unfaithful girlfriend. The pimp (*) Raymond Sintès testifies alongside Marie Cardona at the murder trial of this novel's protagonist. This novel begins with the protagonist's uncertainty over whether "Maman died today" or "yesterday." For 10 points, name this novel by Albert Camus (kah-moo), in which Meursault shoots an Arab.

ANSWER: *The Stranger* [or *The Outsider*; or *L'Étranger*]

10. In a poem from this collection, the speaker compares himself to a deer panting for a stream of water. Another poem in this collection notes that a single day in the courts of its addressee is better than "a thousand elsewhere." One of these poems describes walking "through the valley of the (*) shadow of death" and being made to "lie down in green pastures." That poem, which notes that "my cup overflows," begins "The LORD is my shepherd," and is one of many in this collection attributed to King David. For 10 points, name this collection of 150 poems found in the Bible.

ANSWER: Psalms [or Tehillim]

HALFTIME

11. A 19th-century nickname for workers in this industry originally referred to a bald, cartoon child from *Hogan's Alley*. In the 1880s a businessman from this industry began a donation drive to bring the Statue of Liberty to New York City. In 1897 another businessman from this industry supposedly told Frederic Remington, "you (*) furnish the pictures, and I'll furnish the war." The explosion of the *Maine* was played up by "yellow" members of this industry prior to the Spanish-American War. For 10 points, name this industry in which Joseph Pulitzer published the *New York World*.

ANSWER: journalism [or newspaper industry or press industry; or word forms like journalists; accept yellow journalism; prompt on "publishing industry" or "paper industry"]

12. In the novella this man appears in, a "Statement of the Case" notes that no one could approach him without "misgiving of the flesh" because he was "pure evil." Dr. Hastie Lanyon dies of shock after learning the true identity of this man, who had earlier paid a settlement with gold and a cheque from a "name... very well known." This man murders Sir Danvers (*) Carew and frightens Utterson during a nightly walk at the beginning of the novel he appears in. This man chooses to commit suicide when the draught used to suppress himself loses its effect. For 10 points, name this subject of a *Strange Case* written by Robert Louis Stevenson, the alter ego of Dr. Jekyll.

ANSWER: Mr. Hyde [accept Mr. Edward Hyde; accept Edward; accept *The Strange Case of Dr. Jekyll and Mr. Hyde*; prompt on "Dr. Jekyll" or "Richard Jekyll" or "Jekyll" before mention]

13. In the 1830s, this modern-day country was bordered to the south by a tiny, unrecognized country known as the Republic of Indian Stream. Tensions between this country and its southern neighbor were addressed by the Rush-Bagot (bah-GO) Treaty as well as the Treaty of 1818, which accidentally created an exclave along this country's southern border known as the (*) Northwest Angle. In 1842 another part of its southern border was set along the Saint John River by the Webster-Ashburton Treaty, ending a border conflict known as the Aroostook War. For 10 points, the 49th parallel separates the U.S. from what large country to the north?

ANSWER: Canada

14. This man worries that "his arms and legs are thin" despite stylishly rolling the bottoms of his trousers and "asserting" his "rich and modest" necktie "with a simple pin." He wonders "how should I presume?" and says that there is time for "a hundred indecisions" and "a hundred visions and revisions" before tea time. This man compares the evening to a "patient (*) etherized upon a table." This man, who asks "Do I dare?", spends the majority of the poem he narrates wondering if he should make a romantic advance in the room where "the women come and go/Talking of Michelangelo." For 10 points, name this self-conscious narrator of a "Love Song" written by T.S. Eliot.

ANSWER: J. Alfred Prufrock [accept "The Love Song of J. Alfred Prufrock"; prompt on partial answers of "Alfred" or "J. Alfred"]

15. This piece depicts a group of shepherds with a pastoral interlude titled Pifa. A section of this piece introduces word painting on the phrases "and the rough places plain" and "the crooked straight," and that section is followed by a chorus singing a canon in the section "And the (*) glory of the Lord." Part I of this piece includes the sections "Ev'ry valley shall be exalted" and "For unto us a child is born," while Part II ends with a chorus that introduces a fugue on the words "And He shall reign forever and ever." For 10 points, name this oratorio by George Frideric Handel that includes the "Hallelujah" chorus.

ANSWER: Messiah

16. According to an apocryphal story, a victim of this event remarked, "I asked for ice, but this is ridiculous." First Officer William Murdoch and Second Officer Charles Lightoller saved many lives during this event. Chairman J. Bruce Ismay controversially survived this event, which harmed the reputation of the White (*) Star Line. During this event, the millionaire John Jacob Astor IV ("the 4th") and many passengers in the third-class steerage died because there were not enough lifeboats. For 10 points, name this 1912 event which happened when the world's largest ocean liner hit an iceberg.

ANSWER: sinking of the RMS Titanic [or the Titanic hitting an iceberg; or obvious equivalents that mention the Titanic]

17. This thinker arranged for unwitting teachers to interview a child, whose words were actually being controlled by this thinker via a radio transmitter, in the "Cyranoïd" experiments. In another experiment, this thinker measured the rate of return of an item addressed to a medical research group versus one addressed to the "Friends of the (*) Nazi Party". This creator of the "lost letter experiment" also measured the steps a letter took from Omaha to Boston in his "small world experiment." For 10 points, name this psychologist whose namesake obedience experiment involved participants instructed to shock people who answered questions incorrectly.

ANSWER: Stanley Milgram

18. This man's namesake particle has a Compton wavelength equal to its Schwarzschild radius. He names an epoch that lasted from the Big Bang until one unit of his namesake time. Integrating this man's equation with respect to frequency gives the Stefan-Boltzmann equation. This man improved on the Wien ("VINE") approximation and the Rayleigh-Jeans law with a law that resolved the ultraviolet catastrophe. This physicist's namesake (*) constant is the energy of a photon divided by its frequency. For 10 points, name this German pioneer of quantum mechanics who names a constant equal to 6.626 times 10 to the -34 Joule seconds, denoted h .

ANSWER: Max Planck [or Max Karl Ernst Ludwig Planck; or Karl Ernst Ludwig Marx Planck]

19. This author quoted his "Poem of the Gifts" by stating that "I had always imagined Paradise as a kind of library" in an essay concerning his "Blindness". The narrator of a short story by this author points out that the title object's name refers to the "pure and infinite godhead" in Kabbala. This author described a point inside a man's cellar from which (*) all other points in the world could be viewed. In another story by this author, the spy Yu Tsun kills Dr. Stephen Albert after learning about the title literary labyrinth. For 10 points, name this Argentinian author who wrote "The Aleph" and included "The Garden of Forking Paths" in his *Ficciones*.

ANSWER: Jorge Luis Borges

20. One of this director's films is set in an all-white sterile underground dystopian society; that film's protagonist attempts to get an abortion for his girlfriend LUH ("L-U-H") 3417 and eventually climbs a ladder to the surface. This director and Francis Ford Coppola collaborated on a film in which Curt Henderson reluctantly decides to accompany Steve Bolander to college. This director of *THX 1138* and *American Graffiti* specially requested (*) Irvin Kershner to direct a sequel to his most famous film. In that movie's opening scene, a long shot of the Tantive IV ("4") is followed by bright laser flashes and a prolonged view of an emerging Star Destroyer. For 10 points, name this creator of *Star Wars*.

ANSWER: George Walton Lucas, Jr.

END OF REGULATION, PROCEED ONLY IF TIED

21. A *bildungsroman* by this author uses the image of a bird breaking out of an egg in order to symbolize a Gnostic god named Abraxas. This author, who wrote a novel about "Emil Sinclair's Youth", also wrote about a man who meets a saxophonist named Pablo and receives a pamphlet advertising a (*) Magic Theatre. This author of *Demian* wrote a novel about a son of a Brahmin and a friend of Govinda who experiences life as an ascetic monk and then as a wealthy merchant before becoming a ferryman, paralleling the life of Buddha. For 10 points, name this German author of *Steppenwolf* and *Siddhartha*.

ANSWER: Hermann Hesse

22. This country occupied a neighbor after accusing it of stealing oil via "slant drilling". In response to that occupation, thousands of M1 Abrams tanks were deployed in a "left hook" attack against this country's Republican Guard. Coalition airstrikes on the "Highway of Death" killed many of this country's troops, who set thousands of (*) oil wells on fire while retreating in the spring of 1991. In Operation Desert Storm, an American-led coalition attacked this country in response to its occupation of Kuwait. For 10 points, name this country once led by Saddam Hussein.

ANSWER: Iraq [or al-Iraq; or Republic of Iraq; or Jumhuriyat al-Iraq]

BONUSES

1. This text contains the *Yasna*, which names an important ceremony and itself contains a series of sacred hymns called *Gathas*. For 10 points each:

[10] Name this collection of texts central to a certain ancient Iranian religion.

ANSWER: Zend Avesta

[10] The Zend Avesta is sacred to this religion that worships the god Ahura Mazda. Its adherents use ritual fire, or *atar*, as a purifying agent at its temples.

ANSWER: Zoroastrianism [or Zarathustrism; prompt on "Mazdaism"]

[10] Zoroaster's ideas were originally not very well received, as he demonized these spirits of an earlier religion in favor of monotheism. The *Gathas* claim that these spirits are false gods who fail to discern truth from falsehood.

ANSWER: daevas

2. This man was known as the "Wizard of Menlo Park." For 10 points each:

[10] Name this 19th-century American businessman who invented the first commercially-successful light bulb.

ANSWER: Thomas Edison [or Thomas Alva Edison]

[10] During the so-called "War of Currents" in the 1880s, Edison promoted his own DC current, while Nikola Tesla's AC current was supported by this other American businessman.

ANSWER: George Westinghouse, Jr.

[10] A decade after the War of Currents, Edison Studios filmed the use of AC current in the public electrocution of one of these animals named Topsy.

ANSWER: elephant [or Asian elephant]

3. Answer some questions so you won't get fined, for 10 points each.

[10] This running back for the Seattle Seahawks replied to every question during a mandatory press conference in 2015 with a variant of "I'm here so I won't get fined." This man has been nicknamed "Beast Mode."

ANSWER: Marshawn Lynch

[10] In another legendary press conference, Allen Iverson went on a rant where he repeated this word over fourteen times. At one point, Iverson exclaimed "how am I supposed to make my team better by going to" this?

ANSWER: practice [accept "We talkin' bout PRACTICE?!?"]

[10] This daughter of Steph Curry made headlines by crashing postgame press conferences in the 2015 NBA Playoffs. This little girl again went viral in 2015 by doing the nae nae on one of Jeremy Lin's YouTube videos.

ANSWER: Riley Curry

4. This theory experiences deviations from expected angle measures because of the size of electron clouds. For 10 points each:

[10] Name this theory that uses the number of bonds and lone pairs to find the shape of a hybridized molecule. It predicts that methane forms a tetrahedral geometry.

ANSWER: VSEPR ("vesper") [or valence shell electron pair theory]

[10] This geometry is found in molecules with two bonds and two lone pairs, with the most common example being water. It explains why water has a dipole, unlike carbon dioxide.

ANSWER: bent [prompt on "AX2E2"; do not accept "seesaw"]

[10] This rotationally symmetric geometry is the subject of crystal and ligand field theory and has hybridization d2sp3 (**D 2 S P 3**).

ANSWER: octahedral

5. A Pastorale ad libitum ends an Arcangelo Corelli piece in this genre titled for Christmas. For 10 points each:

[10] Name this musical form in which a group of multiple soloists is accompanied by the orchestra. Its popularity fell after the end of the Baroque period and the advent of the solo concerto.

ANSWER: concerto grosso [or concerti grossi; prompt on "concerto"]

[10] J.S. Bach's concerto grossos include a set of this many pieces titled for the margrave of Brandenburg. This is also the number of strings on a traditional acoustic guitar.

ANSWER: six

[10] The fifth *Brandenburg Concerto* features a lengthy cadenza for this Baroque keyboard instrument, which produces sound by plucking a string when a key is pressed.

ANSWER: harpsichord [or Cembalo; or Cembali]

6. John Hanning Speke theorized that this ethnic group was descended from the Hamitic race, which was supposedly superior to the other races of sub-Saharan Africa. For 10 points each,

[10] What ethnic group was targeted during a massive 1994 genocide in Central Africa?

ANSWER: Tutsis ("TOOT"-see)

[10] That genocide took place in this Central African country, which had long been the site of ethnic tensions between the Tutsis and Hutus.

ANSWER: Rwanda [Republic of Rwanda or Republika y'u Rwanda]

[10] During the colonial era, the ethnic tensions between the Tutsis and Hutus had been intentionally played up by this European country, which received Rwanda as a League of Nations mandate after World War I.

ANSWER: Belgium [or Kingdom of Belgium or Royaume de Belgique or Koninkrijk België]

7. This character's affair with Donna Julia results in his exile and the beginning of his travels. For 10 points each:

[10] Identify this protagonist of an epic poem who is based on a legendary womanizer first portrayed in literature by Tirso de Molina.

ANSWER: Don Juan

[10] The epic poem *Don Juan* (JOO-"one") was written by this English lord and poet, who described a "heart whose love is innocent" in "She Walks In Beauty".

ANSWER: George Gordon, Lord Byron [accept either underlined part]

[10] *Don Juan in Hell* is an often-excerpted scene from this play. In this play by George Bernard Shaw, Ann Whitefield marries her anarchist guardian Jack Tanner.

ANSWER: Man and Superman

8. In 2013 the magicians Penn and Teller collaborated with inventor Tim Jenison on a documentary demonstrating that this artist probably used a camera obscura to create his paintings. For 10 points each:

[10] Name this 17th-century artist who painted *View of Delft*.

ANSWER: Jan Vermeer [or Johannes Vermeer; or Johan Vermeer]

[10] Despite having no prior painting experience, in his documentary, Tim Jenison managed to use a camera obscura to recreate this Vermeer masterpiece, which shows a young woman playing a keyboard instrument.

ANSWER: *The* Music Lesson

[10] *View of Delft* depicts Vermeer's hometown in this country, where Rembrandt also worked during its "Golden Age of Painting."

ANSWER: Netherlands [accept Dutch or Holland]

9. This rock is the extrusive equivalent of gabbro, meaning that it has the same chemical composition but forms under different conditions. For 10 points each:

[10] Name this rock that makes up the majority of oceanic crust. It forms hexagonal columns when cooled slowly, as can be seen at the Giant's Causeway in Northern Ireland.

ANSWER: **basalt**

[10] The release of copious amounts of basalt and accompanying gases at traps in Siberia and the Deccan plateau of India have been linked to these events.

ANSWER: mass **extinctions** [accept answers describing the death of the dinosaurs]

[10] These structures are formed by basalt extruded from the mantle as adjacent plates are forced farther apart. They are the site of seafloor spreading and a notable one is found in the middle of the Atlantic.

ANSWER: mid-**ocean ridges** [accept mid-**oceanic ridges**; prompt on Mid-Atlantic Ridge]

10. From the 16th century onward, any single noble could dissolve this country's entire parliament through use of the heavily-abused *liberum veto*. For 10 points each:

[10] John III Sobieski (**soh-bee-ESS-kee**) ruled what country that was home to a form of heavy cavalry known as the Winged Hussars?

ANSWER: **Poland** [for Kingdom of **Poland**; accept **Polish-Lithuanian** Commonwealth or **Poland**-Lithuania; prompt on "Lithuania"]

[10] In 1683 John III Sobieski and his Winged Hussars led the largest cavalry charge in history, in order to relieve this non-Polish capital city that was being besieged by the Ottoman general Kara Mustafa.

ANSWER: **Vienna** [or **Wien**]

[10] After the 1683 Battle of Vienna, the balance of power in Central Europe shifted away from the Ottomans and moved towards this inbred royal family, which ruled Austria under monarchs such as Maria Theresa.

ANSWER: **Habsburg** Dynasty or **House of Habsburg** [or **Habsburgs**; accept **Hapsburg** in place of "Habsburg"]

11. For 10 points each, answer some questions about soliloquies in Shakespearean comedies.

[10] At the end of this play, the fairy Puck gives a monologue apologizing "If we shadows have offended."

ANSWER: *A* **Midsummer Night's Dream**

[10] Duke Orsino opens this play by saying "If music be the food of love, play on;" later in this play, Orsino falls in love with Olivia, who falls in love with Orsino's errand boy Cesario, who is actually the cross-dressing female Viola.

ANSWER: **Twelfth Night**, or *What You Will*

[10] A lovestruck Valentine mourns "What light is light, if Silvia be not seen?" in this play. Later in this comedy, Valentine offers Silvia to a man who had previously threatened to sexually assault her, because that man at least seemed sorry about it.

ANSWER: *The* **Two Gentlemen of Verona**

12. This thinker analyzed cultures like the Inuit and Kwakiutl (**KWA-kee-YOO-tull**) from a "four-field" perspective. For 10 points each:

[10] Name this founder of the anthropology department at Columbia who advocated cultural relativism.

ANSWER: Franz **Boas** [or Franz Uri **Boas**]

[10] Boas developed his idea of cultural relativism through the study of this gift-giving feast practiced by the Kwakiutl people. This practice's ban in Canada failed, due to its importance as a symbol of wealth.

ANSWER: **potlatch**

[10] In an essay about the *Father* of this holiday *Executed*, Claude Levi-Strauss analyzed the role of gift-giving and commercialization in this major holiday, which concludes the season of Advent.

ANSWER: **Christmas** [accept "**Father Christmas Executed**" or "Le Père **Noël** supplicié"]

13. The face of a dead woman found in this river during the 19th century is now used as the model for modern CPR dummies. For 10 points each:

[10] Name this river that flows past the Louvre Museum and other major landmarks in Paris.

ANSWER: Seine (sen) River

[10] In the middle of Paris, the Seine flows past the Île de la Cité (eel duh lah see-tay), a natural island that contains this large Gothic cathedral known for its gargoyles.

ANSWER: Notre Dame Cathedral or Notre Dame of Paris [or Cathédrale Notre-Dame de Paris]

[10] After passing Paris, the Seine flows north through this capital of Normandy, which is home to a giant namesake cathedral that was depicted in multiple paintings by Claude Monet (moh-NAY).

ANSWER: Rouen (roo-awn) [accept Rouen Cathedral or Cathédrale Notre-Dame de Rouen]

14. Answer these questions about Turnus, the prince of the Rutulians, for 10 points each.

[10] After Turnus slays Pallas, the son of Evander, and stupidly steals his sword-belt, this former lover of Dido murders Turnus at the end of his namesake epic by Virgil.

ANSWER: Aeneas

[10] Juturna, the sister of Turnus, is the mother of Fontus with this two-faced god of beginnings and doors. He names the first month of the year.

ANSWER: Janus [do not accept "January"]

[10] This Greek veteran of the Trojan War refuses to aid Turnus in his war. Back in his heyday, he stole the Palladium with Odysseus and injured Aeneas, Aphrodite (af-roh-"DIE"-tee), and Ares ("AIR"-eez).

ANSWER: Diomedes

15. For 10 points each, answer the following about American gun makers.

[10] This first practical machine gun, which had multiple rotating barrels operated by a hand crank, was introduced by its namesake on a limited scale during the Civil War.

ANSWER: Gatling Gun

[10] Founded after the Civil War, this company manufactured a popular series of namesake repeating rifles, including a 1873 edition that was later nicknamed "The Gun that Won the West."

ANSWER: Winchester [Repeating Arms Company] [accept Winchester rifle]

[10] The nickname "Gun that Won the West" was also given to a sidearm manufactured by this other company, which popularized revolver pistols in the 19th century with models such as the "Peacemaker."

ANSWER: Colt's Patent Firearms Manufacturing Company] [accept Colt Peacemaker]

16. This author wrote about a man whose "warmest heart recoiled at war" and who, "unless statistics lie," was "more brave than me: more blonde than you." For 10 points each:

[10] Name this syntax maverick who sang of Olaf glad and big. This stylin', free-wheelin' son-of-a-gun also wrote a poem titled "Buffalo Bill's."

ANSWER: E. E. Cummings [or Edward Estlin Cummings; accept e e cummings in case someone manages to pronounce letters in lowercase]

[10] In this poem, Cummings cycles through the seasons until arriving at "summer autumn winter spring." This poem ends by reflecting the seasons with the phrase "sun moon stars rain."

ANSWER: "anyone lived in a pretty how town"

[10] In "maggie and milly and molly and may," Cummings writes that "For whatever we lose(like a you or a me)/it's always ourselves we find in" this place. While playing by this place, milly discovers a star with five "languid fingers."

ANSWER: the sea [prompt on "the beach"]

17. An elevated ST segment following the QRS complex in an EKG can signal a loss of oxygen in this organ, its namesake "attack". For 10 points each:

[10] Name this chief organ of the cardiovascular system, which pumps blood from the lungs to the rest of the body.

ANSWER: heart

[10] This largest artery of the body leaves the left ventricle of the heart before splitting into various branches that supply the body with oxygenated blood. Its namesake arch splits into the subclavian, brachiocephalic (**BRA-kee-oh-SEH-fah-lik**), and carotid arteries.

ANSWER: aorta

[10] The atrioventricular examples of these structures separate the atria of the heart from the ventricles, and the semilunar and aortic examples prevent blood from reentering the heart.

ANSWER: valves [accept atrioventricular valves, semilunar valves, or aortic valve]

18. In this play, Doctor Relling tells Gregers Werle (**gray-ghers ver-leh**) that he implanted a "life-lie" in the mind of Hjalmar Ekdal (**yal-mar ayk-dal**). For 10 points each:

[10] Name this play in which Gregers meddles with the Ekdal family's secrets but ends up causing the suicide of Hjalmar's blind daughter Hedvig.

ANSWER: *The* Wild Duck [or Vildanden]

[10] This playwright of *The Wild Duck* wrote about the housewife Nora Helmer in *A Doll's House* and the title wife of George Tesman in *Hedda Gabler*.

ANSWER: Henrik Ibsen [or Henrik Johan Ibsen]

[10] Ibsen was a native of this Scandinavian country.

ANSWER: Kingdom of Norway [or Kongeriket Norge; or Kongeriket Noreg]

19. The extent of this phenomenon in different countries is measured by the Gini (**JEE-nee**) coefficient, for which South Africa has the world's highest. For 10 points each:

[10] Identify this phenomenon that naturally increases over time in capitalist societies, according to the French economist Thomas Piketty's 2013 book *Capital in the Twenty-First Century*.

ANSWER: income inequality [or wealth inequality or economic inequality; accept descriptions like gap between rich and poor is increasing]

[10] This American magazine annually publishes a list of the 400 richest Americans, as well as a list of all the world's billionaires.

ANSWER: Forbes

[10] According to the 2015 Forbes billionaires list, the world's richest person was once again this founder of Microsoft, who is now worth nearly \$80 billion.

ANSWER: Bill Gates [or William Henry Gates III]

20. You start preparing for the baseball championship the only way you know how: with physics. For 10 points each:

[10] A baseball will produce this shape during its flight, given a few simplifying assumptions. This shape is produced by the negative one-half $g t^2$ term in the equation for the height in terms of time t .

ANSWER: parabola [accept word forms]

[10] A baseball hit at this angle will travel the furthest possible distance forward, assuming that it doesn't have to interact with the air.

ANSWER: 45 degrees [or $\pi/4$ radians or 50 gradians]

[10] This quantity is increased by the short contact time between bat and ball, creating a much larger change in its velocity for a given force. It is defined as the integral of force with respect to time.

ANSWER: impulse

21. The naive theory of these entities defines them as any collection of objects, meaning that you could have one full of anything. For 10 points each:

[10] Name these entities that can be acted on by operations like union and complement. The null one contains no elements, while the universal one contains everything.

ANSWER: sets

[10] This operation, denoted by an upside down U, creates a new set with elements that are in both of two other sets; on a Venn diagram it would be represented by the overlap of two circles.

ANSWER: intersection [prompt on "and"; prompt on "conjunction"]

[10] One problem in naive set theory was this paradox, which asked whether the set of all sets that do not contain themselves, contains *itself*.

ANSWER: Russell's paradox