

1. This man controversially asked “do we want three more of the bastards out there?” as a way of explaining why he didn’t dismiss rebellious Cabinet members. In a speech, this man kicked off the “Back to Basics” campaign as a way of fighting the sex scandals of such party members as David Mellor and Stephen Milligan. During this man’s ministry, the pound sterling was withdrawn from the European Exchange Rate Mechanism on Black Wednesday, and Britain supported American involvement in the first Gulf War. For 10 points, name this Conservative British Prime Minister who succeeded Margaret Thatcher in 1990.

ANSWER: Sir John **Major**

2. A statue previously located near this object had arrows thrown at it as an act of divination. The building containing this object was originally home to a series of "dangling poems." It is located adjacent to a low semicircular wall, and a golden rainspout was added during a rebuilding of this object. This object was originally surrounded by a series of 360 idols, including a statue of Hubal. One corner of this object is lined up with the rising of the star Canopus, and another of its corners is the origin of a marble stripe. The act of Tawaf is done around this object, and involves circumambulating it seven times; that occurs during the Hajj. For 10 points, name this large black cube located in the Masjid al-Haram in Mecca, which sets the direction of prayer.

ANSWER: **Kaaba**

3. This enzyme is suppressed when a subunit of it binds to PinX1. It contains a U-A.U ("U A dot U") major-groove triple helix within a pseudoknot. The ALT pathway is an alternative to this enzyme. The aforementioned subunit of this enzyme is the reverse transcriptase TERT, which is located on the short arm of chromosome 5 and is thus often missing in people with cri-du-chat syndrome. This enzyme is activated in 90% of cancer tumors. It was discovered in *Tetrahymena* by Carol Greider and Elizabeth Blackburn, and its presence can stop cells from reaching the Hayflick limit. For 10 points, identify this enzyme that adds TTAGGG repeats to the ends of chromosomes.

ANSWER: **telomerase**

4. This man required girlfriend Alexandra Castro to bring him a lab report proving she was HIV negative. Joyce Carol Oates compared this man's fate to being attacked by the President's drones. He legally changed his name from "Tokowitz," saying his peers had trouble pronouncing it. This man, who purchased the Lesser Towers in the 1960s, was sued by the Housing Rights Center for claiming he would only rent to Korean tenants. He was sued by former employee Elgin Baylor, who alleged this man said he wanted lots of "poor black boys from the South and a white head coach." This man was recorded objecting to V. Stiviano taking Instagram pictures with Magic Johnson. For 10 points, name this recently banned owner of the Los Angeles Clippers.

ANSWER: Donald **Sterling** [or Donald **Tokowitz** until it is read]

5. This author wrote about a man nicknamed "Monkey-hide" who menaces his apprentices with a snake and an owl to see their reactions. In one story by this author, a thief who once spared the life of an insect falls back into the Lake of Fire after the Buddha sends him the title object. In another of his stories, a dead woman who apparently once sold snake meat as dried fish has her hair stolen by an old wig-maker. This author of "Hell Screen" and "Spider's Thread" wrote a story that includes a section spoken by a ghost through a medium and a section in which a woodcutter is questioned by the High Police Commissioner about the murder of a samurai. For 10 points, name this Japanese author of "Rashomon" and "In a Grove."

ANSWER: Ryunosuke **Akutagawa**

6. A 2011 paper on these methods by Gigerenzer and Gassmeier stressed their "ecological rationality" and briefly summarized the "one-clever-cue" example of them. These methods, which can fail due to "attribute substitution," include a common one named for the representativeness of a sample population. The likelihood of an example coming to mind is weighted heavily in one of these named for "availability," explaining why many people falsely believe that car crashes are rarer than plane crashes. Along with biases, Daniel Kahneman studied these methods, which people use more frequently than algorithms or reason. For 10 points, name these quick but often inaccurate mental "rules of thumb" used in decision-making.

ANSWER: **heuristics** [prompt on **strategies**; prompt on **rules**; prompt on **decision**-making methods; prompt on **problem-solving** methods; do not accept "biases"]

7. A successful potash company was founded near this body of water, with a plant at Kalya. Benjamin Volcani wrote his doctoral thesis on a type of archaea found here. A town near this body of water, Ein Gedi, produced persimmon, and it is also near the Neve Zohar health resort. In the 1940s, Bedouin shepherds discovered objects at Wadi Qumran near this body of water. A structure here is supposedly that of the transformed Lot's wife. The "Cities of the Plain" such as Zoar, as well as the sinful Sodom and Gomorra, were said to be near this body of water, which is the lowest elevation on land in the world. For 10 points, name this very salty lake in Israel.

ANSWER: **Dead** Sea [or Yam ha **Melah**]

8. This element is found with calcium and oxygen in colemanite, and sodium and oxygen in kernite. Rhenium bonded to two atoms of this element forms a superhard material that approaches that of diamond. Heterodiamond is made from explosive shock synthesis between diamond and this element's nitride. Alfred Stock was the first to synthesize hydrides of this element, which when containing $n + 1$ electron pairs is classified as closo. More often, hydrides are classified as nido or arachno, according to Wade's rules. Glass formed from silicon dioxide and this element's trioxide is present in Pyrex glass. This element is unusually stable when it has only six electrons in its valence shell. For 10 points, identify this first element of group 13, with an atomic number of 5.

ANSWER: **boron**

9. The associated frequency for a normal mode of a system is found by calculating this value for the equations of motion. These values lie in the union of Gerschgorin circles in the complex plane. They are always real for a Hermitian matrix, and their sum is equal to the trace. Multiplying three terms, the second of which contains these values, diagonalizes a matrix. They can be found by finding the determinant of the matrix resulting from a square matrix minus λ , which are these values, times the identity matrix, which is equivalent to solving the characteristic polynomial. For 10 points, identify these special values for a matrix, which gives the scalar multiplier of an output vector when a matrix operates on an associated eigenvector. ANSWER: eigenvalues [or characteristic values until "characteristic polynomial" is read; prompt on λ]

10. During the quest for the Holy Grail, Gawain has a dream about 150 of these animals, 147 of them black and three white. Dirce, the mother of Amphion and Zethus, is killed by one of these creatures. Donn Cuailnge and Finnbenach are two of these animals in Irish myth. The herald of Ptah at Memphis was usually represented by one of these animals. Queen Medb invades Ulster in order to steal one of these animals. Shiva's mount is one called Nandi. Apis is usually represented by one in Egyptian myth. Enkidu and Gilgamesh kill one of these animals sent by Ishtar from heaven in the Epic of Gilgamesh. For 10 points, name these animals, one of which terrorized Cretan youths as the Minotaur. ANSWER: bulls [prompt on cows; prompt on cattle]

11. It's not Raman spectroscopy, but Ozaki, et al. developed a version of this technology using surface plasmons which captured multiple wavelengths at once. Surface displacements can be measured by using the "frozen fringe" form of this technique, which is a subtype of a form of interferometry named for it. Media used in this technique include dichromatic gelatin, and a form of digital microscopy based on this technique requires the use of a reconstruction algorithm based on the angular spectrum method. Originally invented by Dennis Gabor, this technique splits a laser beam into an object beam and a reference beam, which then cross on a recording apparatus. For 10 points, name this technique which can be used to generate three-dimensional images. ANSWER: holography [or generating holograms]

12. This condition afflicts the narrator at the end of Sir John Mandeville's travelogue, a popular narrative in early Renaissance Europe. One sufferer of this non-congenital disease retired to a room with a huge collection of clocks in the monastery at Yuste after becoming the only Holy Roman Emperor to abdicate. Queen Anne was afflicted by this condition during her coronation. A January 1536 jousting accident aggravated this condition in a monarch whose legs began to ulcerate. For 10 points, name this condition which affected Charles V Habsburg and Henry VIII, a "disease of kings" in which uric acid buildup causes swollen inflammations in the limbs. ANSWER: gout

13. The nightdress-covered head of the corpse of this artist's mother may have influenced his painting of a couple titled *Les Amants*. This artist painted coffins in place of three women in his reimagining of *The Balcony*. He drew on the iconography of *Fantomas* for a painting of a man in front of a gramophone who is unaware of club- and net-wielding men lying in wait. This artist took leave of the Paris surrealists in 1930 to return to his home country, where he painted an indoor cannon in *On the Threshold of Liberty*, an easel depicting the landscape behind it in *The Human Condition*, raining men in *Golconda*, and a train jutting out from a fireplace in *Time Transfixed*. For 10 points, name this Belgian artist who enjoyed painting men in bowler hats.
ANSWER: Rene **Magritte** [or Rene Francois Ghislain **Magritte**]

14. In a poem about this attribute, the speaker states that he worked “in liberty’s defence, my noble task.” A character with this attribute is said to “need much washing to be touched” by a wrestler who won’t fight him because of it. The poem “To Cyriack Skinner” discusses this condition, while another poem about it claims that God’s “state is kingly” and refers to “that one talent which is death to hide.” That poem about this condition concludes, “They also serve who only stand and wait.” A character with this condition crushes his enemies and himself by pulling down a temple in Gaza. For 10 points, name this ailment discussed in “When I consider how my light is spent” that was shared by John Milton and Samson.
ANSWER: **blindness**

15. This event separates the "Golden Era" from the "Open" or "Wide-Open Era" in the place where it happened. Joseph and Isaac Cline's memoir of this event is entitled *When the Heavens Frowned*. A six-year old King Vidor survived this event, many of whose evacuees died aboard the Beaumont Train. In its aftermath, volunteers were plied with whiskey to heap bodies onto funeral pyres. The official telegram to President McKinley grossly underestimated this event's death toll at 500. The affected city in this event lost its status as the state's premiere shipping port to Houston. For 10 points, name this 1900 hurricane, the deadliest in American history, which wrecked a Texas town.
ANSWER: Great **Galveston Hurricane** of 1900 [or **1900 Hurricane** before "1900" is read; accept **Galveston** after "hurricane" is read]

16. Ai Weiwei installed a video recording of this sculpture while it was on loan to Shanghai for Expo 2010. A replica of this sculpture was installed in Greenville, Michigan, prompting a 2009 lawsuit from the Artists Rights Society accusing it of violating copyright. Carl Jacobson commissioned this sculpture, which had ballerina Ellen Price model for the head and the sculptor's wife model for the nude body. Artists from the Situationist movement cut off this sculpture's head in 1964, inaugurating the venerable tradition of vandals cutting off its head and arms. This Edvard Eriksen sculpture is located on a rock in the harbor of Copenhagen. For 10 points, name this sculpture depicting a female character from a Hans Christian Andersen story.
ANSWER: *The* **Little Mermaid** [or *Den* **Lille Havfrue**]

17. This dynasty was the first to require all able-bodied peasants to sign up for the fu-bing militia system. After the fall of this dynasty, the Battle of Bach Dang River granted Vietnam its independence. This dynasty fought three successive wars with the Goguryeo, Baekje, and Silla dynasties of Korea. Bo Juyi wrote the poem "The Song of Everlasting Regret" after the death of Yang Guifei during this dynasty, one of China's Four Beauties. The period following this dynasty is referred to as the Five Dynasties and Ten Kingdoms period. A breakaway state during this dynasty began when Luoyang was seized by an army led by a Sogdian-Turkish general. For 10 points, name this dynasty that followed the Sui dynasty, and suffered the An Lushan rebellion.

ANSWER: **Tang** dynasty

18. This section of a larger work compares a "man of great virtue" calming a riotous crowd to the settling of winds. A favorite line of Robert Fagles from this section is "Forsan et haec olim meminisse iuvabit," meaning "Perhaps someday even these things will be remembered with joy." The story of Pygmalion's murder of Sychaeus is related in this poetic section, in which Cupid sits in a woman's lap to inflame her passions in the guise of Ascanius. It opens with the phrase "Arms and the man I sing," before invoking the muse to tell the causes of Juno's ire. For 10 points, name this segment among twelve which introduces Carthage's queen Dido in an epic by Virgil.

ANSWER: **Book I** of the ***Aeneid*** [or obvious equivalents; prompt on the ***Aeneid***; prompt on the **opening** of the ***Aeneid***]

19. In one section of this piece, the basses speed up and play progressively higher before string tremolos and a gong hit signal a transition to a harp solo. In the penultimate portion of this composition, strings playing ascending chromatic lines are interrupted three times by whip cracks. The piccolo begins the fugue that ends this piece, in which woodwinds and strings play the fugue theme while the brass once again plays the tune, beginning with an ascending D minor arpeggio, from the incidental music to *Abdelazar*. This piece, commissioned for a documentary film, consists of a set of variations on a tune by Purcell. For 10 points, name this Benjamin Britten composition intended to demonstrate musical instruments to children.

ANSWER: *The **Young Person's Guide to the Orchestra**: Variations and Fugue on a Theme of Purcell* [or A **Young Person's Guide to the Orchestra**: Variations and Fugue on a Theme of Purcell]

20. This character recalls throwing money at starving children in Barcelona during a "talking jag" in one scene. He plans to buy a woman and "hump her from hell to breakfast." This man is under the mistaken assumption he has a "spastic colon" and appears in a play in which his birthday party is held shortly after his return from the Ochsner Clinic. With his son, he discusses the homosexual attraction to Skipper. Unbeknownst to this man, he is dying of cancer, a fact his greedy family is concealing from him. This man is the father of Gooper and the former football star and husband of Maggie, Brick. For 10 points, name this wealthy cotton planter, the patriarch of the Pollitt family in Tennessee Williams' play *Cat on a Hot Tin Roof*.

ANSWER: **Big Daddy** Pollitt [prompt on **Pollitt**]

21. This author's characters include the wheelchair-bound Uncle Julian, who writes a book in an estate where silver dollars are planted by the creek and blackberries laced with arsenic killed half of Constance and Merricat Blackwood's family. In another of this author's novels, the possibly-lesbian artist Theodora and Luke Sanderson explore a place built by Hugh Crain, and a car crash kills the narrator, Eleanor Vance. This author of *We Have Always Lived in the Castle* included Old Man Warner in a story in which a black box is placed on a stool on June 27th. For 10 points, name this author of *The Haunting of Hill House*, who described Tessie Hutchinson's stoning in the twist ending to "The Lottery."

ANSWER: Shirley **Jackson**

22. Like methionine, a diazirine derivative of this amino acid is a photo-activateable crosslinker. A small type of proteoglycan rich in this amino acid includes decorin and lumican. Ribonuclease inhibitor contains a domain rich in repeats of it, which is also found in toll-like receptors. Like amino acids labelled I and V, this amino acid cannot be processed in sufferers of maple syrup urine disease. This amino acid is also the namesake of a domain found in c-Fos, c-Jun, and other transcription factors that allows them to form dimers; that domain is its namesake zipper. For 10 points, name this amino acid which contains an isobutyl side chain and whose one-letter abbreviation is L.

ANSWER: **leucine** [or **L** until it is read]

23. According to the Mishnah, an unsuccessful revolt against a governor under this Emperor resulted in a ban of garlands for brides on their wedding day and a moratorium on the Greek language. That governor was later executed by this Emperor's successor, and was named Lusius Quietus. Pliny the Younger wrote to this emperor about the spread of early Christianity. A bridge crossing the Danube between Serbia and Romania is named for this emperor, and was designed by Apollodorus of Damascus. This man was given the title of optimus princeps, and his military conquest of Dacia was commemorated with a large, engraved pillar. For 10 points, name this second of the Five Good Emperors, under whose reign the Roman Empire extended to its greatest size, and who has a namesake column in Rome.

ANSWER: **Trajan** [or Caesar Nerva **Traianus** Germanicus; or Caesar Divi Nervae Filius Nerva **Traianus** Optimus Augustus]

1. A mutation in one isoform of this protein causes a condition in which the sclera of the eyes turn blue and bones are easily broken. For 10 points each:

[10] Name this triple helical protein that is abundant in connective tissue. Vitamin C is required for the enzymes that hydroxylate its proline and lysine residues.

ANSWER: **collagen**

[10] Collagen is a key component of this general structure, which includes the basement membrane. This structure, which contains fibronectins, integrins, and elastins, holds cells together in tissues.

ANSWER: **extracellular matrix** [or **ECM**]

[10] A key component of the ECM, proteoglycans, consists of a core protein with a serine linkage to these polysaccharides, which include chondroitin sulfate and consist of repeating dimeric units.

ANSWER: **GAGs** [or **glycosaminoglycans**; or **mucopolysaccharides**]

2. Answer some questions about the mathematician Gabriel Lamé, for 10 points each.

[10] Lamé's theorem states that the greatest common divisor for two consecutive numbers in this sequence always leads to the worst case for the Euclidean algorithm. The nth term over the n minus one term in this sequence equals the golden ratio.

ANSWER: **Fibonacci** sequence

[10] The Lamé parameters are used to model this phenomenon, where materials return to their previous shape after suffering deformations.

ANSWER: linear **elasticity**

[10] The Lamé curve is sometimes named the "super" version of this shape. This shape can be drawn using Archimedes's trammel or a method named for Van Schooten.

ANSWER: **ellipse**

3. The namesake of this series was a Scottish lawyer who wished to "promote and diffuse the study of natural theology...in other words, the knowledge of God." For 10 points each:

[10] Name this annual philosophy lecture series which includes a set given at the University of Edinburgh that were edited into William James's *The Varieties of Religious Experience*.

ANSWER: **Gifford** Lectures

[10] This existential philosopher developed his "method of correlation" in his three-volume *Systematic Theology*, which he recapped in his Gifford Lectures. His most popular book was *The Courage to Be*.

ANSWER: Paul **Tillich** [or Paul Johannes **Tillich**]

[10] This non-philosopher delivered the *Worlds in Microcosm* lecture, though he is best known for guaranteeing his status as a New Atheist leader by writing *The God Delusion*, in a far cry from the original purpose of the lectures.

ANSWER: Richard **Dawkins** [or Clinton Richard **Dawkins**]

4. Two members of the Daley family served as mayor of this city. For 10 points each:

[10] Name this Midwestern city that was the base of power for the mobster Al Capone.

ANSWER: **Chicago**

[10] The Near West Side of Chicago was the site of Hull House, which Jane Addams co-founded with this woman.

ANSWER: Ellen Gates **Starr**

[10] In 1905, this labor union was founded in Chicago. It took a rearing cat as its logo.

ANSWER: **International Workers of the World [or **Wobblies**]**

5. Name some important advances in metallurgy, for 10 points each.

[10] The Thomas-Gilchrist converter improved on this process by using a basic lining instead of an acidic one. In this process, air is blown through pig iron to remove impurities and create steel.

ANSWER: **Bessemer** process

[10] The patio process used mule-powered devices called arrastras to process ores of this metal by forming a mercury amalgamation. The Washoe process was an improvement on pan amalgamation for recovering this element.

ANSWER: **silver** [or **Ag**]

[10] In extractive metallurgy, the effectiveness of coal or coke as a reducing agent for various metal oxides is easily determined on these diagrams, which plot Gibbs free energy vs. temperature. They are named for a British chemist.

ANSWER: **Ellingham** diagrams

6. Answer the following about the McKinley presidency, for 10 points each.

[10] The explosion of the *Maine* in 1898 led to the United States under McKinley to declare war on what country?

ANSWER: Kingdom of **Spain** [or Reino de **Espana**]

[10] At the Pan-American Exposition, McKinley was fatally shot by this anarchist.

ANSWER: Leon **Czolgosz**

[10] Nelson Miles raised a fuss over the spoiled and subpar meat being shipped to soldiers in Puerto Rico, an event known as this scandal.

ANSWER: **embalmed beef** scandal

7. After being wounded, this hero takes the counsel of Odysseus to visit the priests of Hephaestus at Lemnos to cure his wound. For 10 points each:

[10] Name this son of Poeas and gifted archer of the Trojan war.

ANSWER: **Philoctetes**

[10] Philoctetes was a disciple of this Greek hero, from whom he received his bow and poison-tipped arrows.

ANSWER: **Heracles** [or **Hercules**]

[10] The serpent bit Philoctetes on this non-Delos island sacred to Apollo. In the *Aeneid*, the Greeks keep their fleet on this island while pretending to have left for home.

ANSWER: **Tenedos**

8. A high F-sharp note in the 3/8-time, B-minor aria "Hear ye, Israel" in this composition was included specifically for the soprano Jenny Lind. For 10 points each:

[10] Name this oratorio that ends with the full-bodied chorus "And then shall your light break forth." Its initial audience at the Birmingham Festival demanded a repetition of the episode in which the title character prays for rain, which happens at the end of Part I.

ANSWER: Elijah [or Elias]

[10] This composer's *Elijah* was seen as a huge improvement over his disappointing oratorio *Paulus*. More successful ventures of his include the *Hebrides* overture and incidental music for *A Midsummer Night's Dream*.

ANSWER: Jakob Ludwig Felix Mendelssohn Bartholdy

[10] Mendelssohn's greatest contribution to choral music may be the revival of Bach he ushered in with his truncated performance of this piece, which depicts the weeping of Peter and the suicide of Judas that take place in Chapters 26 and 27 of the namesake Gospel.

ANSWER: St. Matthew Passion [or St. Matthew's Passion; or Matthaus-Passion; or BWV 244; or Passio Domini Nostri J.C. Secundum Evangelistam Matthaeum; or The Passion of our Lord Jesus Christ according to the Evangelist Matthew; or any answer with Passion and Matthew in it]

9. One resident of this town, Will Ladislaw, moves to London to run for Parliament with his newly-disinherited wife. For 10 points each:

[10] Name this home town of the boring scholar Edward Casaubon and his wife Dorothea Brooke, the setting of a George Eliot novel which purports to be a "Study of Provincial Life."

ANSWER: Middlemarch

[10] This young doctor tries to reform medicine in Middlemarch before his marriage to Rosamond Vincy stifles his energies.

ANSWER: Doctor Tertius Lydgate [or Doctor Tertius Lydgate]

[10] This city is the site of Dorothea and Casaubon's honeymoon, where she sobs for hours over the "deep impressions" made by its wealth of real-life art and historic statuary.

ANSWER: Rome [or Roma; or the Vatican]

10. Answer these questions about the War of Restoration, which began in 1640, for 10 points each.

[10] The Restoration War ended a sixty-year period in which these two kingdoms were united under one Habsburg monarch, as one of them seceded under the Braganza ruler Joao IV.

ANSWER: Kingdoms of Spain and Portugal [accept España in place of "Spain"; prompt on "Iberian Union"]

[10] At the time, the Spanish army was phasing out these matchlock proto-guns, a refinement of the hand-cannon, in favor of the musket. Portuguese guns of this type were traded to Japan and later used at Sekigahara.

ANSWER: arquebuses [or harkbuses]

[10] The policies of this heavy-handed prime minister of Spain, under Philip IV, contributed to Portuguese unrest. After the Duke of Alba's death, his decades of failure managing the Dutch revolt contributed to the surrender at Breda.

ANSWER: Gaspar de Guzmán, Count-Duke of Olivares

11. Events in this revolution included pogroms committed by the Black Hundreds and the Potemkin Mutiny. For 10 points:

[10] Name this revolution inspired in part by a humiliating defeat in a war against Japan that culminated in Bloody Sunday.?

ANSWER: Russian Revolution of **1905**

[10] In the 1905 Revolution, this priest and organizer of the of the Assembly of Russian Factory Workers led protesters in a march on the Winter Palace. 130 people were shot to death in the march led by this man.

ANSWER: Georgy **Gapon**

[10] The Revolution of 1905 forced Nicholas II to issue this document, which allowed for free speech and a popularly elected legislative body, the Duma.

ANSWER: **October Manifesto**

12. The Gospel of Nicodemus says this man's name is "Dismas." For 10 points each:

[10] Identify this man who is not given a formal name in the New Testament. He asks his companion "have you no fear of God?" and then asks Jesus to remember him. Christ tells this person "I say to you today you will be with me in paradise."

ANSWER: the penitent **thief** on the cross [or **criminal** or other descriptions]

[10] The only mention of the thief's penitence comes in this synoptic Gospel, which is also the only place the stories of the Prodigal Son and the Good Samaritan appear.

ANSWER: Gospel of **Luke**

[10] Jesus tells this person at his crucifixion "Here is your mother." This person asks Jesus who will betray him and is mentioned by Peter at the end of the Gospel of John. This unnamed person is traditionally thought to be the author John himself.

ANSWER: **disciple whom Jesus loved** [or close equivalents]

13. This character finds his wife Tereza a job as a photographer before they both have to flee the crushing of Prague Spring. For 10 points each:

[10] Name this surgeon who carries on an affair with Sabina in the novel *The Unbearable Lightness of Being*.

ANSWER: **Tomas**

[10] This Czech author of *The Book of Laughter and Forgetting* wrote *The Unbearable Lightness of Being*.

ANSWER: Milan **Kundera**

[10] In Kundera's novel *The Joke*, Ludvik writes on a light-hearted postcard that this trait "is the opium of the people," for which he gets drafted into years of hard labor.

ANSWER: **optimism**

14. After the Linen Workers' Guild complained about the unnatural proportions of this statue as seen from street level, the artist covered it in cloth, set it in the niche where it was supposed to be placed, and unveiled it to unanimous approval fifteen days later without having made any actual changes. For 10 points each:

[10] Name this statue that realistically displays the veins in the left hand of the title religious man, who holds a book to his hip and relaxes as he lightly twists his body.

ANSWER: **Saint Mark**

[10] This Florentine sculptor of *Saint Mark* created a bronze statue of David that was the first freestanding male nude since antiquity, and he depicted Erasmo da Narni on horseback in his *Gattamelata*.

ANSWER: **Donatello** [or Donato di **Niccolo di Betto Bardi**]

[10] *Saint Mark* and Nanni di Banco's sculpture group *Four Saints* are located along the facade of this Florentine church, which was built on the site of a kitchen garden of a monastery of St. Michael.

ANSWER: **Orsanmichele**

15. The namesake of this set of equations added the term for the displacement current to correct Ampère's law. For 10 points each:

[10] What set of four equations includes both of Gauss's laws, Faraday's law, and Ampère's law?

ANSWER: **Maxwell's** equations [do not accept "Maxwell's relations"]

[10] The displacement current in Maxwell's differential formulation of Ampère's law is given by this operation applied to the electric displacement field. The curl of electric field is equal to this operation applied to the B field.

ANSWER: **time derivative** [or obvious equivalents]

[10] The magnetic energy per unit length of what configuration is controlled by both the square of the current and the natural log of the ratio of outer and inner radii, according to Ampère's law?

ANSWER: **coaxial** cable [prompt on **cable**]

16. Answer the following about a possibly Altaic language, for 10 points each.

[10] This language of seventy million speakers is often transliterated by the McCune-Reischauer system and is written by its northern speakers as Choson kul.

ANSWER: **Korean** [or **Hangungmal**; or **Hangungeo**; prompt on **Choson mal**]

[10] Previously known as Onmon, this is the South Korean name for the syllabic script dating from 1443.

ANSWER: **Hangul**

[10] This system of transliterating Korean includes macrons and the letter "q" and is primarily used by linguists. It was devised by Samuel Martin at a university which also has namesake transliterations of three other Asian languages.

ANSWER: **Yale**

17. This location was built by Jim Reinders and dedicated at the 1987 summer solstice. For 10 points each:

[10] Name this tourist destination found near Alliance, Nebraska. It is a replica of the English Stonehenge, except it uses mechanical materials which are covered with gray spray paint.

ANSWER: **Carhenge**

[10] Carhenge should not be confused with the sort of similar "Cadillac Ranch" art installation located in this state's city of Amarillo.

ANSWER: **Texas**

[10] Another replica of Stonehenge, Maryhill, was built in this state to honor residents of Klickitat County who died in World War I. Klickitat County was named for a tribe native to this modern-day state.

ANSWER: **Washington**

18. In a poem by this author, Bluebeard reveals "here is no treasure hid...no heads of women slain" and states, "This now is yours. I seek another place." For 10 points each:

[10] Name this author who described the "terrible day when first the shaft into his vision shone of light anatomized!" in the sonnet "Euclid alone has look on Beauty bare."

ANSWER: Edna St. Vincent **Millay**

[10] Millay's poem "First Fig" tells "foes and...friends" that one of these items "burns at both ends" and "will not last the night."

ANSWER: a **candle**

[10] In a "ballad" by Millay, an impoverished mother freezes to death after weaving clothes for her son with one of these instruments.

ANSWER: a **harp** [or "Ballad of the **Harp**-Weaver"]

19. Objects in this painting, such as coins, buttons, and tacks, give it a three-dimensional texture even though those objects are barely visible. For 10 points each:

[10] Name this early example of drip painting that is dominated by lines of black, white, and blue. It takes its title from a line spoken by Ariel in *The Tempest*.

ANSWER: **Full Fathom Five**

[10] *Full Fathom Five* is a painting by this abstract expressionist, who earned the nickname "Jack the Dripper" for the style of painting he developed.

ANSWER: Jackson **Pollock**

[10] This art critic, who championed Jackson Pollock, is perhaps best known for his essay "Avant-Garde and Kitsch," in which he claimed that avant-garde was necessary to prevent the dumbing down of culture.

ANSWER: Clement **Greenberg**

20. The protagonist of this story must pay two dollars a month to Mr. Hawkins after accidentally killing Jenny the mule. For 10 points each:

[10] Name this short story about Dave Saunders, a young black man obsessed with purchasing a gun to prove he is no longer a boy. He ends this story by taking his gun and getting on a train.

ANSWER: "The **Man Who Was Almost a Man**" [or "**Almos' a Man**"]

[10] "The Man Who Was Almost a Man" is by this author, who described his own experiences in *Black Boy*.

ANSWER: Richard **Wright**

[10] This other author castigated Wright's depiction of Bigger Thomas in the essay collection *Notes of a Native Son*. He also wrote the autobiographical novel *Go Tell It On the Mountain*.

ANSWER: James **Baldwin**

21. This technique commonly uses a twenty-nucleotide probe and requires permeabilization of the target cells. For 10 points each:

[10] Name this technique in which a fluorescently-labelled strand of DNA is injected into a cell in order to find particular DNA segments.

ANSWER: **FISH** [or **Fluorescence In Situ Hybridization**]

[10] FISH is often used to find gene duplications. Gene duplications of certain genes can cause this condition, in which cells grow out of control and form tumors.

ANSWER: **cancer**

[10] Another use of oligonucleotide probes is in these devices, in which thousands of probes are spotted onto a wafer. Though largely replaced by sequencing, these devices are commonly used to measure the expression of many genes simultaneously.

ANSWER: DNA or RNA **microarray** [or DNA or RNA **chip**]