

Tossups

- 1. The CorA protein transports this substance across the cell membranes of bacteria. This substance is often administered to prevent convulsions in women with pre-eclampsia. It isn't potassium, but its deficiency can lead to torsades de pointes. Long-term potentiation requires the displacement of this ion from an NMDA receptor. Hexokinase and phosphofruktokinase both utilize this ion as a cofactor, and its chloride salt is added to stabilize PCR products. This cation binds to a (*) carbamylated lysine in an enzyme that catalyzes the formation of two molecules of PGA from carbon dioxide and RuBP, which is RuBisCO. Epsom salts are commonly used to pharmaceutically deliver this cation. For 10 points, name this divalent cation found complexed with cytosolic ATP and in the center of chlorophyll.**
ANSWER: magnesium ion [or Mg²⁺]
- 2. In a scene in a novel from this nation, the sight of Canova's statue of Pauline Bonaparte prompts Soliman to begin howling madly. A poet from this nation declared "for the cruel one whose blows / Break the heart by which I live / Thistle nor thorn do I give" in his poem "I Have a White Rose to Tend". An author from this nation wrote a novel in which the execution of Macandal inspires Bouckman and (*) Ti Noel to lead a Haitian slave revolt. A poem from this nation, beginning "A sincere man am I / From the land where the palm trees grow", became a patriotic song. *The Kingdom of this World* is by an author from this nation. A poet from here penned the collection *Versos Sencillos*, which contains the poem "Guantanamera". For 10 points, name this home of Alejo Carpentier and Jose Marti.**
ANSWER: Republic of Cuba
- 3. He's not Henry Mancini, but this composer wrote four counter-melodies – one baroque, two blues, and one twelve tone – to accompany a theme meant to portray Craig Stevens, which he wrote for the show *Mr. Broadway*. That piece appears on an album that also contains four season-based waltzes, like "Summer On the Sound" and "Spring in Central Park"; that album is *Jazz (*) Impressions of New York*. Another album by this composer opens with a 2 + 2 + 2 + 3 rhythm being played in 9/8 time. This composer's band popularized a piece in 5/4 that was actually written by his alto saxophonist. For 10 points, name this jazz pianist who worked with Paul Desmond and the rest of his namesake quartet on the album *Time Out*, which includes the pieces "Blue Rondo à la Turk" and "Take Five".**
ANSWER: Dave Brubeck [or David Warren Brubeck]
- 4. Thirty-seven of these people trying to avoid the draft were killed by Confederate troops while crossing the Nueces River. Members of this group formed gymnastic societies called Turners. The Society of Forty settled 200 families of these people on the Fisher-Miller land grant, in an attempt to establish a self-sufficient colony in the Republic of Texas. Some descendants of those settlers continue to speak a dialect of their language in the (*) Texas Hill country. During the Civil War, brigades of these people fought at Second Bull Run under Carl Schurz. This group included Forty-Eighters who came to the United States after the failed revolution in Europe. For 10 points, name these people who emigrated from places like Munich or Hamburg.**
ANSWER: German-Americans
- 5. This book quotes Proverbs to claim that by helping your enemy, you will "heap coals of fire on his head" in a passage that warns "vengeance is mine..saith the Lord." This book compares its addressees to branches grafted onto an olive tree where other, bad branches had been cut away. This letter uses God's promise to Rebecca that the "elder will serve the younger" as an analogy for how the "children of the promise" have replaced "Abraham's seed." The quote "If (*) God is for us, who can be against us?" originates from this book, which inspired Martin Luther's *sola fide* doctrine. This letter asserts that "the righteous shall live by faith", but famously warns that "the wages of sin is death". For 10 points, name this longest epistle written by Saint Paul, which is addressed to an imperial city.**
ANSWER: Epistle to the Romans

6. **Two characters in this play get into a heated argument when one of them wants to take a horse carriage into town and the other one wants to use the horses for farming. One character in this play wears black because she is “in mourning for her life”. Another character in this play hunts for a quote from his own novel, whose page and line numbers are inscribed on a medallion given to him by an aspiring (*) actress, who appears in an experimental play-within-a-play in the first act. At the end of this play, Dr. Dorn tells the author Boris Trigorin to get Irina Arkadina away from the house because her son has shot himself after his last parting from Nina. For 10 points, name this Anton Chekhov play in which Constantine Treplev shoots the title bird.**
ANSWER: *The Seagull* [or *Chayka*]
7. **One character on this show invents a tomato that ejects itself when an accident is imminent. Another character on this show puts a paper bag over his head any time anyone says the word “mattress”. On this show, a character with double vision plans an expedition to Mount Kilimanjaro. In one episode of this show, a man is arrested for making chocolates containing anthrax and (*) crunchy frog. Sketches on this show were linked by a man saying “And now for something completely different”, and include the Ministry of Silly Walks, and one in which a man tries to return a deceased Norwegian Blue. For 10 points, name this sketch-comedy TV show featuring the “Dead Parrot Sketch”, whose cast included Eric Idle, Michael Palin, and John Cleese.**
ANSWER: *Monty Python’s Flying Circus* [prompt on “*Monty Python*”]
8. **This thinker organized formal logic into a three-part stratum whose first level is concerned only with grammar, and not with validity or truth, which he called an apophantic “morphology of meanings”. This thinker broke down intentionality into conscious intentional acts and the objects-of-intention, called “noesis” and “noema”. He introduced the concept of a pre-existing framework of beliefs and attitudes that shapes how we conceive of the shared human experience in his *The (*) Crisis of European Sciences*; that concept is the “lifeworld”. He referred to suspending beliefs about the material world and emphasizing mental experiences as “epoche” or “bracketing”. For 10 points, name this author of *Cartesian Meditations* and *Logical Investigations*, who founded phenomenology.**
ANSWER: Edmund Husserl [or Edmund Gustav Albrecht Husserl]
9. **The corner flow induced by these structures, and their migration through rollback, are two processes that may form or enlarge back-arc basins. In these regions, flux melting following metamorphic dewatering can lead to volcanic arcs, examples of which include the Aleutians and Andes. One of these structures stretches from northern Vancouver Island to (*) California, forming the boundary between the Juan de Fuca and North American plates. The 2004 Indian Ocean tsunami was generated by a megathrust earthquake at one of these regions between the India and Burma plates. For 10 points, identify these convergent plate boundaries in which a dense oceanic plate sinks under a continental plate.**
ANSWER: subduction zones [or subducting slabs; or answers indicating that oceanic lithosphere is subducting until “California” is read; prompt on “convergent (plate boundaries)” until it is read]
10. **An 1804 decree regarding Jews in this country attempted to end their ability to use arrendas to serve tavern keepers and sellers of alcohol. In 1827, Jews here lost an exemption and had to send children to military schools as part of a system of conscription set up by the Cantonist Decrees. A committee concerned with the “Fundamental Transformation of” Jews in this country led to a special state-sponsored school system and the end of the kahal system. This country subjected Jews to temporary legislation called the (*) May Laws. Following the partitions of Poland, Jews in this country were restricted to living within the Pale of Settlement. The *Protocols of the Elders of Zion* originated in this country. For 10 points, name this country home to many tsar-sponsored pogroms.**
ANSWER: Russia

11. **Bis-phenoxy-imine systems where the phenoxy groups are sterically protected are highly effective catalysts for this process. The extent to which this process occurs is equal to one over one minus p, where p is $N_0 - N_{all}$ over N_0 in a famous equation. The products of this process can crystallize according to Hoffmann nucleation theory. A type of this process which could theoretically run indefinitely is given the adjective “living.” Alkenes undergo this process according to the (*) Cossee-Arlman mechanism. The Carothers equation describes the degree of this process, which can come in “chain-growth” and “step-growth” types, and is often aided by zirconium or titanium compounds called Ziegler-Natta catalysts. For 10 points, name this process in which large molecules are formed from small monomers.**
ANSWER: polymerization
12. **Peter Lely is best remembered for painting the ten “beauties” of this location. After the Battle of Edgehill in the English Civil War, the Earl of Essex took this location as his headquarters. During Edward III’s reign, it hosted tournaments where knights dressed up as Knights of the Round Table. Edwin Lutyens designed a doll’s house complete with running water for Queen Mary that is currently on display in this location. This headquarters of the (*) Order of the Garter contains St. George’s Chapel. Anti-German sentiments during World War I obliged George V to use this complex’s name to replace Saxe-Coburg-Gotha as the name of his house. For 10 points, name this official residence of Queen Elizabeth II, the oldest-occupied castle in the world.**
ANSWER: Windsor Castle
13. **A skating figure carries a cartouche bearing the word “Fat” in a painting by this artist, which includes a burning village in its background, supposedly in reference to ergotism. That painting shows its subject kneeling on the steps of a massive ruined tomb and being supported after his fall by a monk and a layman, thought to be the artist himself. God holds Eve by her wrist and a trail of birds flies through the opening of a hut in another painting by this artist, whose exterior displays a (*) globe showing the world on the third day of its creation. A number of very large strawberries can be found throughout that painting by him, which contains a pink fountain in its left panel, representing Hell. For 10 points, name this artist of the triptychs *The Temptation of St. Anthony* and *The Garden of Earthly Delights*.**
ANSWER: Hieronymus Bosch [or Jheronimus van Aken]
14. **In a story by this author, a grizzly bear named Joaquin accompanies the title character on errands for her paralyzed friend Jim. In another story by this author, a character attempts to tell the story of the *Iliad*, even though he mispronounces Achilles’s name as “Ash-heels.” In that story by this author, a character’s epitaph is written on a deuce of clubs and pinned to a pine tree. In that story by him, Mother (*) Shipton starves herself to save food for Piney Woods. In a story by this author of “Miggles,” a child known as “The Coyote” is christened as “Thomas” by Stumpy but cannot be rescued by Kentuck from drowning in a catastrophic flood. For 10 points, name this American short-story writer of “The Luck of Roaring Camp” and “The Outcasts of Poker Flat”.**
ANSWER: Bret Harte [or Francis Bret Harte]
15. **The dedicatee of this composer’s first violin concerto wanted the orchestra, not the soloist, to start the finale, due to the sheer difficulty of the cadenza that ends the preceding third movement, a passacaglia. This composer told the Beethoven Quartet to play his last string quartet so that the audience leaves out of boredom; that piece has six movements all marked Adagio. A C-minor waltz is included in this composer’s second (*) *Jazz Suite*. Many of his works use a recurring D, E-flat, C, B motif. This composer wrote his Fifth Symphony as a response to criticisms about his opera *Lady Macbeth of the Mtsensk District*. For 10 points, name this composer whose fifteen symphonies include the *Leningrad*.**
ANSWER: Dmitri Shostakovich [or Dmitri Dmitriyevich Shostakovich]

16. **Cameron Macdonald argues that uncompensated performance of these phenomena by women on the job may partially explain the gender wage gap. These phenomena are used to control our decision-making as products of somatic markers according to a theory by Antonio Damasio. Arlie Hochschild discussed the labor used to regulate these phenomena by workers in the (*) service industries, in a book on the “commercialization” of them. They are said to arise from a combination of arousal and cognition according to the two-factor theory of Stanley Schachter. Paul Ekman specializes in work on the association between facial expressions and these phenomena. For 10 points, name these phenomena that are simulated by actors and which include shame, disgust, and fear.**
ANSWER: emotions [or feelings]
17. **On pottery, this figure is depicted several times holding a branch with hares on it, symbolizing his role as a hunter. After Actaeon’s death, this figure created an image of Actaeon to soothe his dogs. This figure was conceived when Cronus slept with Philyra. The Aloedae stacked the site of his home, Mount Pelion, on top of Olympus. After Pholus opened a jar of wine, a battle breaks out in which this figure was mistakenly wounded by an (*) arrow dipped in the Hydra’s poison. He gave up his immortality to ease the pain caused by that wound, exchanging it for Prometheus’s freedom. For 10 points, name this tutor of heroes, including Achilles and Heracles, and one of the few civilized centaurs.**
ANSWER: Chiron [or Kheiron]
18. **According to Barbara Tuchman, this city experienced the first terror bombing of a civilian population in history during the January 28 Incident. This city was home to a short-lived 1967 “Commune” modeled after the Paris Commune. As retribution for the killing of lieutenant Isao Oyama, this city was captured by the Japanese, who set up the Great Way Government puppet state here. The French maintained their independent (*) concession in this city while Great Britain and the United States merged their concessions to form the International Settlement here. The non-Jiang Qing members of the Gang of Four were party leaders in this city, whose Bund district is home to many foreign-run banks and embassies. For 10 points, name this city located on the Yangtze River Delta, the most populous in China.**
ANSWER: Shanghai
19. **This noun names a technique developed by an Italian physicist for solving problems in Minkowski space by converting them into related problems in Euclidean space. For a free system, this action can be visualized using the invariable plane and an ellipsoid. This action is “unstable” for an asymmetric system when it corresponds to the intermediate eigenvalue of the inertia tensor. (*) Euler’s three equations of motion describe this process for a three-dimensional rigid body. Time derivatives of vectors in frames undergoing this kind of motion can be expressed using the Coriolis theorem. For 10 points, name this type of motion in which a body spins about an axis.**
ANSWER: rotation [or rolling]
20. **This poet described a figure who “Could by industrious valour climb / To ruin the great work of time, / And cast the kingdom old / Into another mould”. This author wrote the lines “But these, while I with sorrow pine, / Grew more luxuriant still and fine”. The title figure of a poem by him “could not cease / In the inglorious arts of (*) peace.” The speaker of another of his poems says that what he does to the grass, Julianna does to his thoughts and him. This poet of “An Horatian Ode upon Cromwell’s Return from Ireland” and “The Mower’s Song” suggests “rolling up all our sweetness into one ball” in a poem beginning “Had we but world enough and time”. For 10 points, name this author of “To His Coy Mistress”.**
ANSWER: Andrew Marvell

Bonuses

1. These cycles are named for the economist who worked on the Scissors Crisis. For 10 points each:
[10] Name these long-term economic cycles driven by growth in specific sectors. Information technology is generally considered to be driving the current iteration of them.
ANSWER: **K-waves** [or **Kondratiev waves**]
[10] This economist proposed the name of Kondratiev waves. He popularized “creative destruction” to refer to the tendency of capitalist entrepreneurship to outmode and replace old methods of production.
ANSWER: Joseph **Schumpeter** [or Joseph Alois **Schumpeter**]
[10] This tract by Karl Marx and Friedrich Engels discusses “a mass destruction of productive forces” similar to Schumpeter’s “creative destruction”. This tract ends by encouraging the workers of the world to unite.
ANSWER: *The **Communist Manifesto*** [or ***Manifesto of the Communist Party***; or *Das **Kommunistische Manifest***; or ***Manifest der Kommunistischen Partei***]
2. This architect designed a structure that resembles a white marquee with twelve yellow support towers, each representing an hour of a clock, to celebrate the importance of Greenwich Mean Time. For 10 points each:
[10] Name this architect who called for elevators, water pipes, and other useless things to be placed on the exterior of his Lloyd’s building. He also designed the Senedd in Wales and the Millenium Dome.
ANSWER: Richard **Rogers** [or Richard George **Rogers**]
[10] Rogers collaborated with Renzo Piano on the Centre Pompidou, which is located in this European capital city. A large iron lattice tower was built for the 1889 World’s Fair held here.
ANSWER: **Paris**, France
[10] Rogers, Fumihiko Maki, and Norman Foster are among the architects working on this complex of buildings under the supervision of master architect Daniel Libeskind. This complex includes a memorial called “Reflecting Absence”.
ANSWER: **World Trade Center** complex [or **Ground Zero**; or **WTC**]
3. This feature consists of one sigma and two pi bonds, and occurs between carbon atoms that are sp hybridized. For 10 points each:
[10] Name this bond composed of six electrons, which defines alkynes (AL-kines).
ANSWER: **triple bonds**
[10] The Barnet reaction is a popular example of this type of alkyne (AL-kine) reaction. Oxirane ring-opening is one of these reactions, which consist of many rapid consecutive processes that often turn a simple precursor into a complex multi-ringed structure.
ANSWER: alkyne **cascade** reactions [or **tandem** reactions; or **domino** reactions]
[10] The alkyne cascade reaction known as the alkyne zipper reaction can produce high yields in the presence of potassium tert-butoxide or LDA, which are compounds of this type. They overlap with nucleophiles and can abstract hydrogen atoms.
ANSWER: a strong **base** [or a good **base**]
4. This author appears as a character in a 1963 play by Peter Weiss, in which he directs a play-within-a-play about Jean-Paul Marat. For 10 points each:
[10] Name this French author who featured his namesake violent sexual escapades in novels like *Juliette* and *120 Days of Sodom*.
ANSWER: Marquis de **Sade** [or Donatien Alphonse François de **Sade**]
[10] The film version of *Marat/Sade* was directed by this French-based English stage director, known for creating stage adaptations of the *Mahabharata* and Oliver Sacks’s *The Man Who Mistook His Wife for a Hat*.
ANSWER: Peter **Brook**
[10] Brook also made a stage adaptation of this tale-within-a-tale from a long novel, in which the title character arrests and interrogates Jesus Christ for having resisted Satan’s temptations in the wilderness.
ANSWER: The Parable of the **Grand Inquisitor** [or rough equivalents for “The Parable of”, such as “the story of” or “the tale of”]

5. This culture preserved several human “trophy heads” that were probably suspended with a rope that ran through a hole in the forehead. For 10 points each:
[10] Identify this culture better known for the geoglyphs it created in a namesake desert.
ANSWER: the **Nazca** culture
[10] The Nazca culture was based in this modern-day country. This country was also home to a civilization that built the city of Machu Picchu.
ANSWER: Republic of **Peru**
[10] This legendary Sapa Inca was the founder of the Kingdom of Cusco. Some tales suggest that this man and his sister-wife Mama Ocllo built a temple to the sun god Inti at Inti’s instruction.
ANSWER: **Manco Capac** [or **Manqu Qhapaq**]
6. This god’s brothers were Vili and Vé. For 10 points each:
[10] Name this Norse All-Father, the husband of Frigg.
ANSWER: **Odin**
[10] One of these pagan Norse shamans gives a prophecy to Odin in the first poem of the Poetic Edda, the Völuspá. These seeresses engaged in sorcery called *seiðr*.
ANSWER: **völva** [or **vala**; or **spákona**; or **spækona**]
[10] The Völuspá describes the creation of this couple as the first two humans by the gods. The name of these two characters is believed to be derived from trees.
ANSWER: **Askr** and **Embla**
7. This constitutional theory sparked a crisis when South Carolina passed an ordinance in 1832 declaring the Tariff of Abominations to be invalid. For 10 points each:
[10] Name this constitutional theory, which holds that states have a right to declare any federal law invalid if they deem that law to be unconstitutional.
ANSWER: **nullification**
[10] These documents, in which two state legislatures took the opinion that the Alien and Sedition Acts were unconstitutional, contained theories of nullification espoused by Thomas Jefferson and James Madison.
ANSWER: **Kentucky and Virginia** Resolutions [or **Kentucky and Virginia** Resolves]
[10] Pennsylvania’s attempt to negate this law resulted in a Supreme Court case against a man named Edward Prigg. Wisconsin was declared to not have the authority to ignore it in *Ableman v. Booth*.
ANSWER: **Fugitive Slave** Act
8. This philosopher claimed that the “sensation of blue” is an objective, non-experience-dependent fact in his paper “The Refutation of Idealism”. For 10 points each:
[10] Name this 20th-century English philosopher who articulated the “naturalistic fallacy” in his *Principia Ethica*.
ANSWER: G.E. **Moore** [or George Edward **Moore**]
[10] Moore’s non-naturalism is nonetheless usually construed as part of this philosophical position, which states that ethical propositions express objective truths about the state of the world.
ANSWER: **moral realism** [or **ethical realism**; prompt on “realism”]
[10] Moore’s *Principia Ethica* includes an attack of the “survival of the fittest” of this English Social Darwinist philosopher, who included *Principles of Biology* and *Principles of Ethics* in his *System of Synthetic Philosophy*.
ANSWER: Herbert **Spencer**

9. The landmark 1974 Doherty-Zinkernagel experiment proved that these cells needed to recognize two separate signals on cells infected by viral meningitis. For 10 points each:
[10] Name these predominantly CD8-expressing cells that release granulysin, granzymes, and perforin against their targets.
ANSWER: **cytotoxic T** cells [or **Tc**; or **T-killer** cells; or **killer T** cells; or **cytotoxic T** lymphocytes; prompt on “T cells”; do NOT accept “natural killer cells” or other wrong answers]
[10] Cytotoxic T cells express this surface protein, which then binds to a namesake receptor to initiate the death-induced signaling complex. It is a member of the tumor necrosis factor family.
ANSWER: **FasL** [or **Fas ligand**; or **CD95L**; prompt on “Fas”]
[10] Cytotoxic T cells cause most of the injury seen in the B form of this disease, an inflammation of the liver which can be viral or triggered by drinking too much.
ANSWER: **hepatitis**
10. This author wrote about the womanizing stage performer Yasha Mazur in *The Magician of Lublin*. For 10 points each:
[10] Name this author of “Gimpel the Fool”, whose title dimwitted baker is perpetually cuckolded by his wife Elka.
ANSWER: Isaac Bashevis **Singer**
[10] Isaac Bashevis Singer wrote in this language of the Ashkenazi Jews. It’s also the language Sholem Aleichem used for his tales of Tevye the Milkman.
ANSWER: **Yiddish**
[10] Disdain for Singer from other Yiddish writers inspired the novella “Envy; or, Yiddish in America” from the collection *The Pagan Rabbi and Other Stories* by this American-Jewish author of *The Shawl*.
ANSWER: Cynthia **Ozick**
11. Three-level laser systems are only made possible by exploiting this state for the upper energy level, so that decay by spontaneous emission is very rare. For 10 points each:
[10] Name this type of state that does not have the least energy but is nonetheless a state in which a system can exist for a “long” time.
ANSWER: **metastable** state [or **metastable** energy level]
[10] A metastable nuclear isomer of this element has an unusually long half-life of 6 hours and relaxes to the ground state by emitting gamma rays with energies of 143 KeV, which makes it very useful for medical imaging.
ANSWER: **technetium** [or **Tc**]
[10] This physicist introduced the A coefficient to describe spontaneous emission. He received a Nobel for his work on the photoelectric effect, presented in one of his *Annus Mirabilis* papers.
ANSWER: Albert **Einstein**
12. Answer some questions about depictions of boxing in American literature, for 10 points each.
[10] Violinist Joe Bonaparte risks his precious hands by becoming a boxer in this play by Clifford Odets.
ANSWER: **Golden Boy**
[10] This author chronicled the “Rumble in the Jungle” in his book *The Fight*. This author of *The Executioner’s Song* fictionalized his experiences in World War II in *The Naked and the Dead*.
ANSWER: Norman **Mailer** [or Norman Kinglsey **Mailer**]
[10] This author described a boxing match in his short story “The Winner”, from his collection *Septuagenarian Stew*. His alter ego Hank Chinaski appears in his novels *Post Office* and *Factotum*.
ANSWER: Charles **Bukowski** [or Heinrich Karl **Bukowski**]

13. The losing commander at this battle refused to wait for Gratian's reinforcements, instead seeking a quick victory after hearing of Gratian's defeat of the Alamanni. For 10 points each:
[10] Name this decisive 378 AD defeat for the Eastern Roman Empire, at which the emperor Valens was killed.
ANSWER: Battle of **Adrianople**
[10] This Germanic people won the battle of Adrianople. This people's western branch established a kingdom in Spain, and their eastern branch invaded Italy under the leadership of Theodoric.
ANSWER: **Goths** [or **Visigoths**; or **Ostrogoths**]
[10] This rival of Athanaric led the Thervingi at the Battle of Adrianople. This man and Alavivus initially rebelled when the Romans mistreated their people when they crossed the Danube into Moesia.
ANSWER: **Fritigern**
14. Name some single-movement works for piano and orchestra, for 10 points each.
[10] This piece for piano and jazz band by George Gershwin was commissioned by Paul Whiteman. It opens with a clarinet glissando.
ANSWER: **Rhapsody in Blue**
[10] Maurice Ravel wrote this piece in D major for Paul Wittgenstein. There is debate as to whether this piece is actually in one, two, or three movements.
ANSWER: **Piano Concerto** for the **Left Hand** in D major [or obvious equivalents that include *both* **Piano Concerto** and **Left Hand**; prompt on partial answers]
[10] This piece for piano and orchestra by Carl Maria von Weber depicts a damsel waiting for the return home of her knight, who is off fighting in the Crusades. It ends with their happy reunion.
ANSWER: **Konzertstück** in *F minor*, Op. 79, J. 282
15. Some sects believe that their adherents are placed by this figure into the flower of a Lotus before they are reincarnated in the western Pure Land of Sukhavati. For 10 points each:
[10] Name this figure, who is usually depicted as female and vegetarian. She accepted Longnu as a disciple on the condition that Longnu keep a valuable pearl her father gave her.
ANSWER: **Guanyin** [or **Kuan Yin**; or **Kanon**; prompt on "Avalokitesvara"]
[10] Guanyin is most widely venerated in this country. The predecessor to Zen Buddhism, the Chán school of Buddhism, is from this country.
ANSWER: People's Republic of **China** [or **PRC**; or **Zhongguo**; or **Zhonghuá Rénmín Gònghéguó**]
[10] This religion considers Guanyin as God's representative of the teachings of the Buddhas. It also counts Victor Hugo among its saints.
ANSWER: **Cao Dai**
16. In September 2013, the Maduro government seized the production facilities of Manpa, the company that provides a plurality of this product to Venezuelans. For 10 points each:
[10] Name this common non-culinary household product, which Venezuela has been hilariously short of in recent years, requiring the government to shell out \$79 million for additional supplies of it.
ANSWER: **toilet paper** [or **TP**]
[10] Nicolás Maduro succeeded this strongly Bolivarian and anti-American President of Venezuela, who died of lung complications in March 2013.
ANSWER: Hugo **Chávez** [or Hugo Rafael **Chávez** Frías]
[10] This only other South American member of OPEC is led by Bolivarian wannabee Rafael Correa. This country has used the US dollar as its currency since an episode of hyperinflation in 2000.
ANSWER: Republic of **Ecuador** [or República del **Ecuador**]

17. Row operations described by this term are used in the Gaussian and Gauss-Jordan eliminations to put a matrix into row echelon form and reduced row echelon, respectively. For 10 points each:
[10] Name this adjective applied to any matrix that can be found by applying a single one of the aforementioned row operations to the identity matrix.
ANSWER: **elementary**
[10] If a matrix A can be written as a product of elementary matrices, then there exists a matrix B described by this term such that $AB = BA = I$. The multiplicative element described by this term exists for every nonzero real number and is simply the real number's reciprocal.
ANSWER: **inverse** [or word forms]
[10] This technique is the most common way to solve linear systems described by the matrix equation $Ax = b$. It records the steps of Gaussian elimination, and you should do it with Crout's method instead of Doolittle's.
ANSWER: **LU decomposition** [or **LU factorization**]
18. This author suggested that Wordsworth's "too easy and comfortable pantheism" could not have survived in a more hostile natural environment in his essay "Wordsworth in the Tropics". For 10 points each:
[10] Name this English author whose dystopian novel *Brave New World* is set in the year 632 After Ford.
ANSWER: Aldous **Huxley** [or Aldous Leonard **Huxley**]
[10] Huxley detailed his experiments with using psychedelic drugs as a means of achieving transcendence in this non-fiction work.
ANSWER: *The **Doors of Perception***
[10] In 1917, Huxley was succeeded as co-editor of *Oxford Poetry* by this author, who died in 1962 before finishing her translation of Dante's *Divine Comedy*. She created a detective who exonerates Harriet Vane in *Strong Poison*.
ANSWER: Dorothy L. **Sayers** [or Dorothy Leigh **Sayers**]
19. This woman vied with Stephen of Blois for control of Britain during the Anarchy. For 10 points each:
[10] Name this first female ruler of England and sister of William Adelin.
ANSWER: Empress **Matilda** [or Empress **Maude**]
[10] This event resulted in the death of William Adelin and thus sparked the succession crisis resulting in the Anarchy and a series of wars between Matilda and Stephen.
ANSWER: the sinking of the **White Ship** [or the sinking of the **Blanche-nef**]
[10] Matilda's son of this name became the first Plantagenet king, and the successor to Stephen of Blois by the Treaty of Wallingford. The father of William and Matilda was the first English king of this name.
ANSWER: **Henry** [or **Henri**]
20. The artist of this painting copied the pose of the Hellenistic *Crouching Venus* for one of the women at its left. For 10 points each:
[10] Name this painting in which the trees bend together to form a triangular shape, underneath which several nude women relax near the Arc River. It's housed at the Philadelphia Museum of Art.
ANSWER: **Large Bathers** [or *Les **Grandes Baigneuses***; or *The **Bathers***; or ***Big Bathers***]
[10] This Post-Impressionist artist painted *Large Bathers*, *The Card Players* series, and several views of Mont Sainte-Victoire.
ANSWER: Paul **Cézanne**
[10] Early in his career, Cézanne created a set of disturbing paintings, such as *The Rape* and *The Murder*, using this tool. He used the term *couillarde*, meaning ballsy, to describe paintings that he made with this object
ANSWER: a palette **knife**