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1. According to the *Annals of the Cakchiquels* ("cock"-chee-kells), the culture hero Gagavitz entered one of these locations named Gagxanul (gahg-shah-nool) while Zakitzunun (zah-KEET-zoo-noon) poured water mixed with grass and corn into it. In Guanche (GWAN-chay) myth, the primary malevolent deity, Guayota (gwah-YOH-tah), lives in one of these locations. In a Nahua (NA-hwa) story, two of these locations are formed when a princess, whose name means "white lady," kills herself after hearing a lie about how her lover died in battle. A goddess who lives in one of these locations used her power over them to destroy the white mantle of her rival, the snow goddess Poliahu (poh-lee-ah-hu). Two of these locations near Mexico City are said to be the lovers Iztaccíhuatl (iz-tahk-see-hwa-tul) and Popocatepetl (poh-poh-cah-TEH-"petal"). Pele lives in the crater of Kilauea, which is an example of, for 10 points, what type of fiery mountain?
ANSWER: **volcano**s [accept **caldera**s or volcanic **crater**s before "crater"; prompt on "**mountains**" before "mountain"]

2. The mannerist portico of this man's house provides the backdrop for a painting, titled *The Garden of Love*, that he made to celebrate his wedding. His wife modeled for a painting of a mostly nude woman cradling her breasts in her arm and wrapping a pelt across her shoulder and around her hips, which this man titled *The Fur*. Around 20 years earlier, he painted himself near a flowering bush, holding his first wife's hand, in *The Honeysuckle Bower*. After Isabella Brant died of plague, this man married a woman nearly 40 years his junior named Helena Fourment (foor-MAWN). He included *The Presentation of the Portrait* and *The Disembarkation at Marseilles* (mar-SAY) in a series commissioned by the Queen Mother of France. For 10 points, what Flemish artist of the Marie de' Medici cycle painted many fleshy nudes?
ANSWER: Peter Paul **Rubens** [or Paul Peter **Rubens**]

3. In the aftermath of this event, measures were taken to suppress the illegal practice of "puncturing" and to require the increased use of stone from Gabii or Alba. According to Tacitus, this event took place on the anniversary of a Gallic raid following the Battle of the Allia. Titus Flavius Sabinus, who was *praefectus urbi* ("pry"-FEKT-oos OOR-bee) during this event, put the City Guard to work so that the *Vigiles* (wee-jee-lays) could find time to sleep. Celer (CHEH-lur) and Severus oversaw the construction of the Domus Aurea after this event, for which Christians were scapegoated. The emperor, who was away at Antium, was nevertheless popularly blamed for this event, during which he allegedly played the lyre and sang about the fall of Troy. For 10 points, what disaster destroyed much of the capital during the reign of Nero?
ANSWER: **Great Fire of Rome** [accept answers referring to the **Roman fire** of **64 CE** or the **Roman fire** during the reign of **Nero**; prompt on partial answers]

4. After seeing terrifying visions, such as an "orcus-pregnant space bursting with grotesque animal-life," this character resolves to destroy all he has created in a chapter titled "Fire—The Descent." He regrets pursuing art over the love of Plotia (PLOH-tee-ah) in that novel, which begins with his arrival at Brundisium (broon-DEE-see-um) accompanied by his patron. This man discourses on the nature of Fortune to explain the futility in addressing groups of spendthrifts and hoarders locked in perpetual combat in a poem in which he summons Geryon so that he and his companion can reach Malebolge (MAH-leh-bol-jeh). Hermann Broch wrote about the "death" of this character, who approaches a man lost in a dark wood "midway through life's journey" at the start of an epic poem. For 10 points, what Roman poet guides Dante through the *Inferno*?
ANSWER: **Virgil** [or Publius **Vergilius** Maro; accept *The **Death of Virgil*** or *Der **Tod des Vergil***]

5. A Wulff (VULF) plot predicts the results of this technique, which, in molecular biology, is done using vapor diffusion in a hanging drop apparatus. Industrially, this technique is done in tanks containing draft tubes and baffles; in lab, it is done in a Craig tube. The trade-off between chemical potential and surface energy in this process yields embryos of a critical nucleus in size. The Czochralski (cho-KRAHL-ski) process is a form of this technique done to silicon. Chiral resolution using this technique adds a chiral compound like tartrate to form a dia·stereo·mer. The remnant of this technique is called the mother liquor. In this process, a seed serves as a nucleation site when a dissolved ionic salt crashes out above its solubility limit. For 10 points, name this purification technique that forms ordered products, unlike precipitation.
ANSWER: **crystallization** [or word forms; or **recrystallization**; or **crystal growth**; or **forming crystal**s; or obvious equivalents; prompt on precipitation or word forms; prompt on nucleation or word forms; prompt on purification or separation]

6. An experimental paradigm in which these entities are presented, unmoving, to infants was devised by Edward Tronick and colleagues. Novel objects that share constraints with these entities and that were developed by Isabel Gauthier are known as "greebles." Nancy Kanwisher proposed that an area in the brain's fusiform gyrus is specifically dedicated to processing information about these entities. The Thatcher effect is the difficulty of perceiving anomalies in these entities when viewed upside down. An example of pareidolia ("pair-eye"-doh-lee-ah) is an image from Viking 1 of the Cydonia region of Mars that appears to show one of these entities. Prosopagnosia (pro-so-pag-NO-zee-ah) is an impairment in the visual processing of, for 10 points, what part of the body that people typically look at to "recognize" other people?
ANSWER: human **face**s [accept **facial** recognition or perception; prompt on "human heads" or similar answers]

7. This author created a character who asks to be read the Fouqué story "Aslauga's Knight," comes to think of Bess as his Aslauga, and redeems himself after a murder by saving miners from drowning. In a novel by this author, a man tells his love that he has nothing to offer but his empty hands, upon which she places her hands in his and says "not empty now." This author wrote about Dan, Demi, Nan, and Nat, who attend an experimental school with scheduled pillow fights that is called Plumfield and is run by Professor Bhaer and his wife. In another novel, this author wrote about Beth, who dies after contracting scarlet fever, leaving behind her sisters, Meg, Jo, and Amy. For 10 points, name this author of *Jo's Boys* and *Little Men*, the sequels to her popular novel *Little Women*.
ANSWER: Louisa May **Alcott**

8. A wooden lyre discovered inside a royal tomb in Ur features a gold bull's head that has a beard of this color. The body of an animal figurine from the Middle Kingdom is glazed with a light shade of this color and decorated with black outlines of river plants; that sculpture, commonly called "William the Hippo," exemplifies Egyptian faience ("fie"-AHNTS), which was most frequently glazed this color. A structure that is predominantly this color features rows of gold bas-relief aurochs, representing the storm god Adad, and *mushussus* (moo-SHOO-sooz) which are sacred to Marduk. The Pergamon Museum in Berlin houses a structure built from bricks glazed over with this color that once served as an entryway in Babylon. For 10 points, name this color of the Ishtar Gate, which was covered in lapis lazuli.
ANSWER: **blue** [accept any particular shade of blue such as **ultramarine**; accept **turquoise** or **teal** or **blue**-green]

9. Alexander II was convinced to back the Union cause by a politician from this state who served as Abraham Lincoln's ambassador to Russia; that "Lion from White Hall" defended the office of his newspaper, the *True American*, from a proslavery mob in this state with his trademark Bowie knife. Jeroboam O. Beauchamp murdered Solomon P. Sharp during a legal crisis in this state that occurred during the Panic of 1819. The politician Cassius M. Clay was from this state, which was the site of the Old Court–New Court controversy. A politician from this state proposed extending the Missouri Compromise boundary through the west in a namesake 1860 "compromise" intended to solve the sectional crisis. For 10 points, what state's politicians included John Crittenden and the "Great Compromiser," Henry Clay?
ANSWER: **Kentucky** [or Commonwealth of **Kentucky**]

10. In QFT, the *n*-point Green's functions, or correlation functions, are defined by this quantity for a time-ordered product of fields, which itself is related to the scattering amplitude by the LSZ reduction formula. The time derivative of this quantity for a time-independent operator is "*i* over *h*-bar" times this quantity for the operator's commutator with the Hamiltonian, a more general case of Ehrenfest's theorem. This value equals the trace of the density matrix, rho, times an operator. It can be defined as the bra of a state times an operator times the ket of a state, or as the integral over all space of the product of the conjugate wavefunction, an operator, and the wavefunction. This value for an operator squared minus the square of this value for an operator is a definition of uncertainty. For 10 points, what quantity is the mean value of an observable in quantum mechanics?
ANSWER: vacuum **expectation** value [or V**EV**; or **expected** value; or **condensate**; accept **mean** value before "mean"; prompt on average value]

11. Otto, Duke of Carinthia, owned a fortified house in this city that served as a haven for criminals until a bishop's campaign to have the house destroyed; that bishop of this city compiled a 20-volume legal text called the *Decretum* and was named Burchard. An agreement named for this city used the terms "by the lance" and "by the ring and staff" to distinguish between the secular and sacred authorities of appointed bishops. In this city, a religious reformer stated that his "conscience is captive to the Word of God." Callixtus II and Emperor Henry V ended the investiture controversy by signing a concordat in this city, where a man under the protection of Frederick the Wise declared "here I stand, I can do no other." For 10 points, what city hosted the Imperial Diet where Martin Luther was named a heretic?
ANSWER: **Worms** (VURMS) [accept Burchard of **Worms** or Concordat of **Worms** or Diet of **Worms**]

12. In performances of the *Moderato e maestoso* last movement of this composer's Second Symphony, it has become tradition for the trumpet to hold a high B for an extra bar. This composer wrote a major-key symphony whose D-minor *Lento* last movement establishes the piece's cyclic form by ending with the *nobilmente* (noh-beel-MEN-tay) theme of the first movement. This composer used the unusual key of A-flat major for his First Symphony. In the *Intermezzo: Allegretto* tenth section of a piece by this composer, the woodwinds parody a woman's stutter. This composer wrote a piece in D whose trio section, "Land of Hope and Glory," is traditionally played on the last night of the Proms. For 10 points, name this English composer of the *Enigma Variations* and the *Pomp and Circumstance Marches*.
ANSWER: Edward **Elgar** [or Sir Edward William **Elgar**, 1st Baronet]

13. This play includes the prophecy that the "mother of disasters" will occur "where the plain grows lush and green" because a man has been insolent and scorned god. A messenger in this play relays a battle cry that includes the call to "set free your children, wives, places of your ancestral gods, and tombs of your ancestors" after listing the names of generals killed in battle. Near the beginning of this play, a woman recounts a dream in which her son attempts to put a bridle and yoke on two women. In one scene in this play, a former king appears before Atossa and rebukes his son for using ships to form a bridge to allow troops to cross a channel. For 10 points, name this tragedy by Aeschylus in which the ghost of Darius is summoned in the aftermath of Xerxes's defeat at Salamis.
ANSWER: The **Persians** [or **Persai**; or **Persae**]

14. In a 1998 book proposing a "theory" of this phenomenon, Bernard Baars proposed a computational architecture for it called the "global workspace theory." A 1995 paper on "facing up" to the study of this phenomenon claims that the discussion of it is subject to an "explanatory gap." An argument against the existence of the "Cartesian theater" appears in a book that offers a "multiple drafts" model of this phenomenon. A Daniel Dennett book attempts to "explain" this phenomenon, which is central to the writings of David Chalmers and is not possessed by "philosophical zombies." The role of qualia is central to the "hard problem" of, for 10 points, what mental phenomenon that can be defined as the subjective awareness of one's own existence?
ANSWER: **consciousness** [accept word forms such as **conscious**; accept "**Facing Up to the Problem of Consciousness**" or *Consciousness Explained*]

15. When this substance is treated as a dilute suspension, its effective viscosity can be defined as liquid viscosity scaled by the quantity "1" minus "1.35 times the fraction of bubbles and crystals," all raised to the "minus 2.5 power," which is called the Einstein–Roscoe equation. This substance is formed when its precursors follow an adiabat from the geotherm and cross the wet or dry solidus. This substance's composition is changed by assimilation of fusibles in crustal rocks. As this substance's temperature drops, fractional crystallization of mafic minerals makes it more felsic, corresponding to Bowen's reaction series. It's usually classified as basaltic, andesitic, or rhyolitic. For 10 points, what substance is molten rock found beneath Earth's surface, where it collects in namesake chambers?
ANSWER: **magma** [do not accept or prompt on "lava"]

16. In this country, the mayor of the town of Albuera, Rolando Espinosa, was killed in a possibly staged gunfight in November 2016. This country's president has accused opposition senator Leila de Lima of facilitating a clandestine *shabu* ring based in New Bilibid prison. In 2016, the leader of this country said "she was so beautiful; I thought, the mayor should have been first," implying that he wanted to sleep with a nun named Jacqueline Hamill, who was raped and killed in a 1989 hostage crisis. This country's president called Barack Obama a "son of a whore" in defending extrajudicial killings that have occurred during a harsh anti-drug campaign similar to the one its president conducted while mayor of Davao (dah-"VOW") City. For 10 points, name this country led by Rodrigo Duterte from Manila.
ANSWER: The **Philippines** [or Republic of the **Philippines**; or Republika ng **Pilipinas**]

17. In the lab, this structure is synthesized using an enzyme purified from vaccinia (vak-SIN-ee-ah) virus with supplemented S-adenosyl methionine (ess ah-DEN-oh-sill meh-"THIGH"-oh-neen). Flu virus "snatches" this structure. Eukaryotic initiation factor 3 binds this structure, which is analogous to a bacterial I·R·E·S. Synthesis of this structure is activated when its namesake enzyme binds phos·phoryl·ated hepta·peptide repeats on Pol II ("paul two") right after initiation. This structure, which is located upstream of the Kozak sequence and A·U·G, is oddly attached to the rest of the U·T·R by three phosphates. This structure, a single 7-methyl·guanosine nucleotide, protects against exo·nucleases and is added *during* transcription *before* introns are spliced out. For 10 points, name this sequence that is located opposite the poly(A) ("poly-ay") tail and is added to the 5-prime end of mRNAs.
ANSWER: 5-prime **cap** [or 7-methylguanosine **cap**; accept answers mentioning **caps** instead of "cap"; prompt on "messenger <u>RNA</u>" or "messenger <u>ribonucleic acid</u>"]

18. This poet wrote that, although "a prince can make a belted knight, / a marquis, [or a] duke," "the pith of sense and pride of worth / are higher rank than all that." He noted that "my Mary's asleep by thy murmuring stream" in a poem that asks the title river to "flow gently" so as to "disturb not her dream." This poet of "Afton Water" wrote a poem in which the speaker pledges to love until "the rocks melt with the sun" and "while the sands of life shall run." Another of his poems is addressed to a creature that "art blessed, compared with me" because "the present only toucheth thee." In that poem about a "wee, sleeket, cowran, tim'rous beastie," this man wrote that "the best laid schemes o' Mice an' Men gang aft agley" (gahng ahft ah-GLAY). For 10 points, name this Scottish poet of "A Red, Red Rose" and "To a Mouse."
ANSWER: Robert **Burns** [or Rabbie **Burns**; prompt on "<u>Bard of Ayrshire</u>" or "<u>Ploughman Poet</u>"]

19. This man bathed alone, convincing people he had a scrotal hernia or a skin problem until a stone ran off with his clothes and he had to chase after it naked. He met a servant of God who astonished him by first damaging a ship and then killing a young boy before revealing that those seemingly evil acts were actually righteous. When this man was given a choice between a plate of rubies and a plate of burning coals, he took a coal and stuck it in his mouth. In Islamic tradition, this man's life is considered to parallel the life of Muhammad. This son of Amram convinced Muhammad to reduce the number of obligatory daily prayers from 50 to five. For 10 points, name this most frequently mentioned individual in the Quran, a prophet who received the Ten Commandments.
ANSWER: **Musa** ibn Amram [or **Moses**]

20. A ruler of this dynasty whose lineage was questioned took out his sword, shouted "here is my pedigree!," and threw gold coins into a crowd; that ruler of this dynasty commissioned scientists to invent the world's first fountain pen. This dynasty's capital was founded by a Dalmatian Christian named Jawhar (jow-har). A ruler of this dynasty angered Basil the Bulgar Slayer by ordering the destruction of the Church of the Holy Sepulcher; that possibly insane ruler of this dynasty had his reputation enhanced by the preacher Shaykh Darazi ("shake" dah-RAH-zee), causing him to become worshipped by the Druze faith. This dynasty built al-Azhar (al ah-ZHAR) University and was ruled by the "Mad Caliph" (KAY-lif) al-Hakim. The Ayyubid ("EYE"-oo-bid) dynasty followed, for 10 points, what Cairo-based dynasty named for one of Muhammad's daughters?
ANSWER: **Fatimid** dynasty [or **Fatimid** Caliphate; or al-**Fatimiyun**; accept **Fatamids**]

TB. In the context of D-branes, this force is described by closed strings that move in the bulk. The gauge theory of this force is diffeomorphism (diff-ee-oh-"morphism") invariant. The Weinberg–Witten theorem states that this force's gauge boson cannot be composite. A major problem in theoretical physics arises from the fact that, at two-loop level, theories of this force are not perturbatively renormalizable. The A·d·S/C·F·T correspondence involving this force relates the field of a massless spin-two gauge boson in AdS to the stress-energy tensor in CFT. A linearized theory of this force uses perturbation around Minkowski spacetime to find solutions to the Einstein field equations. For 10 points, quantum theories of what attractive force are generated by quantizing general relativity?
ANSWER: **gravity** [or loop quantum **gravity**; or linearized **gravity**; or **gravitation**al force]

1. In the quantum version of this effect, the resistance takes on discrete values as a function of the external magnetic field. For 10 points each:
[10] Name this effect in which a current traveling in a magnetic field causes a namesake voltage to build up in the transverse direction.
ANSWER: **Hall** effect [accept quantum **Hall** effect]
[10] Von Klitzing's experiments with the integer quantum Hall effect demonstrated plateaus of this quantity, whose quantum is "two pi h-bar" over fundamental charge squared. This quantity is denoted rho and measured in ohm meters, as it is the reciprocal of conductivity.
ANSWER: electrical **resistivity** [do not accept or prompt on "(electrical) resistance"]
[10] The fractional quantum Hall effect evidenced the existence of these particles, which follow neither fermionic nor bosonic statistics and can only exist in systems confined to two dimensions.
ANSWER: **anyon**s [prompt on "quasi-particle excitations" or "quasi-hole excitations" or "quasi-excitations"]

2. Operation Slapstick was so named because it involved a hastily planned amphibious landing at Taranto made possible by this agreement, which was negotiated in part by Walter Bedell Smith. For 10 points each:
[10] Name this agreement that led Germany to retaliate by neutralizing one of its participants in Operation Achse (OX-uh) as well as by massacring the captured Acqui (AH-kwee) Division in Cephalonia. A description is acceptable.
ANSWER: **Armistice of Cassibile** (cahs-ee-BEE-lay) [accept answers referring to an **armistice** between **Italy** and the **Allies** or to **Italy surrender**ing during **World War II** in 1943]
[10] The Cephalonia massacre took place in this country, where the resistance group E·A·M and its military wing E·L·A·S formed to fight Axis occupation. The Battle of Crete also took place in this country.
ANSWER: **Greece** [or Kingdom of **Greece**]
[10] The Greek government-in-exile was led by Georgios, a man from this family, when it fought the *Dekemvriana* (deh-kem-vree-AH-nah) against EAM. That man's son Andreas and grandson George both also served as prime minister of Greece.
ANSWER: **Papandreou** (pop-ahn-DRAY-oo) [accept Georgios **Papandreou**, Andreas **Papandreou**, or George **Papandreou**]

3. Beethoven stormed out of the premiere of his own Mass in C Major upon being mocked by this man, who had commissioned the piece. For 10 points each:
[10] Name this Hungarian nobleman for whom six masses by another composer, including one named for Lord Nelson, were composed.
ANSWER: **Nicholas II**, Prince **Esterházy** [accept either underlined portion; or **Nikolaus II** Esterházy; or **Miklós II** Esterházy; prompt on "Nicholas" or "Nikolaus" or "Miklós"]
[10] This Austrian composer, considered the "father" of the symphony and the string quartet, wrote the aforementioned *Nelson* Mass for the Esterházy family.
ANSWER: Joseph **Haydn** [or Franz Joseph **Haydn**]
[10] This Italian composer wrote his *Missa solemnis* in D minor for Prince Esterházy but is better known for his C-minor and D-minor settings of the *Requiem* and for his opera *Médée* ("may-DAY").
ANSWER: Luigi **Cherubini**

4. In the play *The Destiny of Me*, Ned Weeks undergoes an experimental treatment for this disease and relives his younger days while reminiscing from his hospital bed. For 10 points each:
[10] Name this disease that kills Felix Turner at the end of Larry Kramer's play *The Normal Heart*. In another play, a character with this disease believes himself to be a prophet destined to do the "Great Work."
ANSWER: **AIDS** [or **Acquired Immune Deficiency Syndrome**; accept **HIV** or **Human Immunodeficiency Virus**]
[10] Prior Walter suffers from AIDS in this two-part Tony Kushner play that is subtitled "A Gay Fantasia on National Themes."
ANSWER: ***Angels in America**: A Gay Fantasia on National Themes*
[10] In this trilogy by Harvey Fierstein ("FIRE"-steen), a gay man named Arnold Beckoff loses his lover to a hate crime and later adopts a son. This trilogy includes the plays *International Stud*, *Fugue in a Nursery*, and *Widows and Children First!*
ANSWER: ***Torch Song** Trilogy*

5. A 1950 paper by Armen Alchian (AL-chee-an) applies this theory to the analysis of the behavior of firms. For 10 points each:
[10] Name this theory whose application to economics is the subject of a book by Sidney G. Winter and Richard R. Nelson.
ANSWER: **evolution**ary theory [or **natural selection**; or **Darwin**ism]
[10] An early advocate of evolutionary economics was this author of the essay "Why Is Economics Not an Evolutionary Science?" He also wrote *The Theory of Business Enterprise*.
ANSWER: Thorstein **Veblen** [or Thorstein Bunde **Veblen**; or Torsten Bunde **Veblen**]
[10] Evolutionary theory was applied to this branch of economics by John Maynard Smith. This field includes the concepts of evolutionary stable strategies and Nash equilibria.
ANSWER: **game theory** [prompt on "**game**s" or "economic **game**s"]

6. Answer the following about the source–sink model, for 10 points each.
[10] The source–sink model is an approximation for how these groups of organisms choose habitats. Richard Levins coined this term, which refers to small groupings of organisms of the same species that can still interact.
ANSWER: **metapopulation**s [prompt on "**population**s"]
[10] A pseudo-sink is a patch that is a source but that appears to be a sink because high rates of immigration raise the population above this quantity. It is the maximum number of individuals that can be sustained in a population.
ANSWER: **carrying capacity** [or **k**]
[10] In extreme cases, poor habitat quality can lead to population fragmentation, and therefore this process. Ernst Mayr ("Meyer") proposed the commonly accepted model of this process by studying birds.
ANSWER: **speciation** [or peripatric **speciation**; or allopatric **speciation**]

7. To bypass regulations, vendors of one type of this product used wall mounts shaped like cats, where customers would insert coins into the cat's eyes and receive this product from the cat's paw. For 10 points each:
[10] Name this product whose "Old Tom" variety was popular in 18th-century England. The so-called "craze" for this product led Parliament, influenced in part by William Hogarth's depictions of its use, to restrict its production.
ANSWER: **gin** [accept **Gin** Craze; prompt on "**jenever**" or "**genièvre**" or "**genever**" or "**peket**" or "**geneva**"]
[10] In England, imports of French brandy decreased in favor of gin from this country. Gin became especially popular after a member of this country's House of Orange became king of England in the Glorious Revolution.
ANSWER: **Netherlands** [or **Dutch Republic**; or **Holland**; accept **Dutch gin**]
[10] This anti-gin advocate linked the Gin Craze to a rise in crime rates in his *An Enquiry into the Causes of the Late Increase of Robbers*. He is often credited with founding London's first police force.
ANSWER: Henry **Fielding**

8. An author with this surname wrote the novel *Bizarre Happenings Eyewitnessed over Two Decades*. For 10 points each:
[10] Identify this surname also shared by the author of the Qing (ching) dynasty novel *The Scholars*, which satirizes the Chinese civil service examination system.
ANSWER: **Wu** [accept **Wu** Jianren or **Wu** Wo-yao or **Wu** Jingzi]
[10] Another Qing dynasty novel, by Cao Xueqin (TSOW shway-CHEEN), is named after the "dream" of a "chamber" of this color. The scholarly study of that novel is named after this color plus the suffix "-ology."
ANSWER: **red** [or **hong**; accept *The **Dream of the Red Chamber*** or ***Hong lou meng*** or **red**ology]
[10] Another Wu, Wu Cheng'en (chung-UN), is generally thought to be the author of *Journey to the West*, a novel translated by Arthur Waley in an abridged version with this title.
ANSWER: ***Monkey**: A Folk-Tale of China*

9. A remark about this beverage is followed by the lines "you think I'm fuckin' with you? I am not fuckin' with you." For 10 points each:
[10] Name this beverage that Shelley Levene is told to put down because it is for "closers only."
ANSWER: **coffee**
[10] In the film *Glengarry Glen Ross*, this actor plays Blake, a man brought in to deliver the "coffee's for closers" monologue. He played Jack Donaghy on *30 Rock* and frequently guest stars as Donald Trump on *SNL*.
ANSWER: Alec **Baldwin** [or Alexander Rae **Baldwin** III]
[10] In *Glengarry Glen Ross*, Baldwin's character claims that he is coming "from downtown" on a "mission of mercy" at the behest of this pair of people, who are implied to be the owners of the company.
ANSWER: **Mitch** and **Murray** [accept in either order]

10. In *The Tale of Mac Da Thó's Pig*, Cet mac Mágach (ket "mac" MAH-gahk) fends off claims to this object by reminding foes that he put out Eogan's (ay-oh-gahn's) eye, made Celtchair (kelt-kair) impotent, and gave Cúscraid (KOO-skrayd) a permanent stammer. For 10 points each:
[10] Name this choice cut of meat offered to the best warrior present at Irish feasts. At Mac Da Thó's feast, this object is ultimately given to Conall Cernach ("con"-ull kair-nahk), who throws the severed head of Cet's brother at Cet's chest.
ANSWER: **champion**'s **portion** [or ***curadmír***]
[10] During another feast, this hero killed a guard hound owned by the host and offered to repay him by serving as the hound's replacement. This hero of the Ulster cycle fought the armies of Medb (MAYV) during the Cattle Raid of Cooley.
ANSWER: **Cúchulainn** (koo-KULL-an, but be generous) [or **Cú Chulaind**; or **Cuhullin**; or **Setanta**; prompt on "Culann's Hound"]
[10] While competing for a champion's portion offered by Bricriu (BRIH-"crew"), Cúchulainn, Conall, and Lóegaire Búadach (LOY-gare BOO-ah-dahk) are all challenged by a giant to perform this action, on the condition that they permit the giant to perform it in return.
ANSWER: **behead**ing the giant with an axe [accept equivalents such as **chopping off his head**; prompt on answers mentioning an "axe" that do not mention something to do with head chopping]

11. In cylindrical coordinates, Laplace's equation may be turned from a partial differential equation into an ordinary differential equation by using this operation. For 10 points each:
[10] Name this integral transform often used on systems with rotational symmetry about a single axis. A two-dimensional Fourier transform of a cylindrically symmetric function is the zeroth order of this transform.
ANSWER: **Hankel** transform [prompt on "**Bessel**" transform]
[10] The kernels of Hankel transforms are these functions. These functions are the solution to Laplace's equation in cylindrical coordinates, and their spherical versions are solutions for the spherical potential well.
ANSWER: **Bessel** functions
[10] By the rank-nullity theorem, this value for a vector space's kernel plus this value for a vector space's image is equal to it for the vector space. This value is how many vectors are in a space's basis, which is roughly equivalent to how many coordinates are needed.
ANSWER: **dimension** [accept **dim**]

12. Shortly after the invasion of Cambodia, Richard Nixon took a bizarre nighttime trip to this landmark to speak with student protesters. For 10 points each:
[10] Name this landmark where Marian Anderson held a famous 1939 concert after the Daughters of the American Revolution refused to host her in Constitution Hall.
ANSWER: **Lincoln Memorial**
[10] This First Lady worked with Secretary of the Interior Harold Ickes (IK-eez) to organize Marian Anderson's Lincoln Memorial concert. She travelled around the country generating support for her husband's New Deal policies.
ANSWER: Eleanor **Roosevelt** [or Anna **E**leanor **Roosevelt**; prompt on "**Roosevelt**"]
[10] As First Lady, Roosevelt worked closely with this director of the NAACP, who succeeded James Weldon Johnson and preceded Roy Wilkins. He rose to prominence investigating the 1919 Elaine race riots.
ANSWER: Walter Francis **White**

13. This novel begins with the line "this book is to be neither an accusation nor a confession." For 10 points each:
[10] Name this novel in which the protagonist kills Gerard Duval and is prompted by guilt to ask forgiveness from the man's corpse.
ANSWER: ***All Quiet on the Western Front*** [or ***Im Westen nichts Neues***]
[10] This author of *All Quiet on the Western Front* was forced to flee Nazi Germany and was stripped of his German citizenship.
ANSWER: Erich Maria **Remarque** [or Erich Paul **Remark**]
[10] Remarque's novel *Heaven Has No Favorites* centers on Clerfayt, a man in this profession who falls in love with a tubercular woman and eventually dies on the job. Remarque himself held this profession for a time before becoming a writer.
ANSWER: **auto racer** [accept any answer mentioning **driving** or **racing car**s]

14. Christian churches that differ from mainstream practices regarding this observation include the "Armstrongist" tradition and a group that arose from Millerite practices after the Second Great Awakening. For 10 points each:
[10] Name this "day of rest" that is observed on Saturday in Seventh-day Adventist churches.
ANSWER: **Sabbath** [accept **Shabbat**]
[10] Seventh-day Adventists and other Millerite factions understand the Sunday observation of the Sabbath as tracing to a general corruption that befell the Catholic Church and that is known by this two-word term. James Talmage wrote a 1909 book titled for this term that describes the corruption of Catholicism from a Mormon perspective.
ANSWER: **Great Apostasy** [accept The ***Great Apostasy*** *Considered in the Light of Scriptural and Secular History*]
[10] This breakaway faction of Seventh-day Adventists was formed by Victor Houteff (HOH-teff) and is sometimes known as the "Shepherd's Rod." David Koresh, the leader of a splinter group of this denomination, was killed in 1993.
ANSWER: **Davidian**s [or **Davidian** Seventh-day Adventists; accept Branch **Davidian**s]

15. One of these paintings in "black and gold" represents the fireworks at Cremorne Gardens. For 10 points each:
[10] Identify this musically inspired term for night scenes painted by James Whistler. Another of Whistler's paintings of this type in "blue and gold" depicts Old Battersea Bridge.
ANSWER: **nocturne**s [accept ***Nocturne in Black and Gold***—*The Falling Rocket* or ***Nocturne***: *Blue and Gold—Old Battersea Bridge*]
[10] Whistler's first nocturnes were painted on a visit to this foreign city. The night before an attack on this city, Whistler painted a nocturne in blue and gold depicting its bay.
ANSWER: **Valparaiso**, Chile (vahl-pah-rah-EE-so) [accept *Nocturne in Blue and Gold:* ***Valparaiso Bay***]
[10] The term "nocturne" was also applied to this painter's night scenes of the Old West, including *Sunset on the Plains* and *Shotgun Hospitality*. He also made a bronze statuette to honor the Rough Riders.
ANSWER: Frederic **Remington** [or Frederic Sackrider **Remington**]

16. The phrase "the system crashed" became a colloquialism after a politician with this surname lost an election following the shutdown of the IBM computer used to tally the votes. For 10 points each:
[10] Identify this surname of the politician Cuauhtémoc (k'wow-TAY-mock) and his father, a leader who nationalized his country's oil industry and founded the state-run petroleum company PEMEX (PEM-ex).
ANSWER: **Cárdenas** [accept Cuauhtémoc **Cárdenas** Solórzano or Lázaro **Cárdenas** del Río]
[10] Lázaro and Cuauhtémoc Cárdenas were politicians from this country, which was led by a party called the PRI from 1929 to 2000.
ANSWER: **Mexico** [or **United Mexican States**; or **Estados Unidos Mexicanos**]
[10] Cuauhtémoc Cárdenas was able to mount a serious challenge to the PRI partly because it mishandled relief efforts after this event in the mid-1980s, during which the Mexican Social Security Institute's baseball field had to be used as a morgue.
ANSWER: 1985 **Mexico City earthquake** [accept **1985 earthquake** or answers mentioning an **earthquake** and either **Mexico City** or **1985**; prompt on "earthquake"]

17. Two chemists at Duquesne (doo-KANE) University in 1951 hypothesized that adding the common plus-three oxidation state of this metal to cyclo·penta·diene would cause it to dimerize. For 10 points each:
[10] Name this metal that, instead, was reduced to its other common oxidation state, plus-two, and got stuck inside the two cyclopentadiene rings, forming the first known sandwich compound.
ANSWER: **iron** [or **Fe**]
[10] Kealy and Pauson synthesized ferrocene accidentally, but this chemist, then at Harvard, shared the credit with Geoffrey Wilkinson when the two figured out the structure. This pioneer of total synthesis taught hours-long chemistry lectures during which he would drink an entire pitcher of daiquiris.
ANSWER: Robert Burns **Woodward**
[10] Woodward also formulated rules predicting the optimal absorbance wavelength of molecules in this range of the electromagnetic spectrum, which consists of radiation with slightly shorter wavelength than visible light.
ANSWER: **ultraviolet** light [or **UV**]

18. According to the poem "In Memory of Sigmund Freud," this concept is not "deeds that must be punished" but is instead "our lack of faith, / our dishonest mood of denial, / the concupiscence of the oppressor." For 10 points each:
[10] Name this concept. The speaker of "September 1, 1939" states that "I and the public know / what all schoolchildren learn, / those to whom [this thing] is done / do [this thing] in return."
ANSWER: **evil** [accept word forms such as **evilness**]
[10] Both "In Memory of Sigmund Freud" and "September 1, 1939" are poems by this English writer, who opened his "Funeral Blues" with the command to "stop all the clocks, cut off the telephone."
ANSWER: W. H. **Auden** [or Wystan Hugh **Auden**]
[10] "In Memory of Sigmund Freud" closes by stating that this personified concept, the "builder of cities," mourns beside "weeping anarchic Aphrodite." "September 1, 1939" says that the Just are composed of this concept and of dust.
ANSWER: **Eros** [prompt on "love"]

19. Examples of this type of role include Madame Mao in *Nixon in China* and the title character of Handel's *Agrippina*. For 10 points each:
[10] Name this type of soprano singing style characterized by rapid, highly ornamented melodies typically scored in high octaves.
ANSWER: **coloratura** soprano
[10] The Queen of the Night is a coloratura role in this Wolfgang Amadeus Mozart opera about Tamino and Papageno's (pah-pah-GAY-no's) journey to rescue Pamina with the help of the title instrument.
ANSWER: The *Magic Flute* [or Die *Zauberflöte*]
[10] In Richard Strauss's *Ariadne auf Naxos*, this coloratura character tries to cheer up Ariadne in the difficult aria "High and Mighty Princess." In the prologue, she convinces the Composer to insert her and her comedy troupe into the *opera seria* he is scheduled to conduct.
ANSWER: **Zerbinetta**

20. Answer the following about Charles Sanders Peirce's ("purse's") contributions to logic, for 10 points each.

[10] Peirce's law states that, if there is a proposition Q such that "if P then Q" implies P, then P must be true. It's a version of this law, which states that, for any proposition P, either P or its negation is true.

ANSWER: law of **excluded middle** [or law of the **excluded third**; or *principium **tertii exclusi***; or ***tertium non datur***]

[10] Peirce categorized inferences into three types: abduction, induction, and this type, in which the conclusions follow logically from the premises.

ANSWER: **deduction** [accept word forms such as **deductive**]

[10] Peirce used the term ampheck (AM-feck) for this pair of operations, which he demonstrated to be functionally complete. They can be symbolized by Quine's dagger and the Sheffer stroke, respectively.

ANSWER: logical **NOR** and logical **NAND** ("nor"; "nand") [both answers required; accept in either order]

Extra. This empire is often cited as evidence against August Wittfogel's (VIT-foh-gull's) "hydraulic empire" thesis because its irrigation system was controlled by monks and not the state. For 10 points each:

[10] Name this empire that built dikes called *barays* to irrigate its land with water from the Tonlé Sap. It was ruled by multiple kings named Jayavarman.

ANSWER: **Khmer** Empire [or **Angkor** Empire]

[10] The territory controlled by the Khmer Empire corresponds to this modern-day country, the site of the Khmer ruins at Angkor Wat.

ANSWER: **Cambodia** [or Kingdom of **Cambodia**; or Preah Reacheanachak **Kampuchea**]

[10] Southeast Asian empires such as the Khmer tended to operate under this model of political power, in which the state exercises strong control over its core territory but delegates rule of frontier regions to vassals. O. W. Wolters coined the term for this model, repurposing a Sanskrit word.

ANSWER: **mandala** model [prompt on "circle model"]