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### Tossups

1. This agreement allowed for the replacement of the IR-1 with IR-2m and IR-4 models and specified a 300 kilogram limit for UF6. A previous check of the Kalaye Electric Company after six months was used to justify a 24-day clock in this agreement and SCR 2231 codified conditions on “triggering” material in this agreement. Bob Corker devised the method for one party’s approval of this agreement and it made another party sign the (\*) Additional Protocol and guaranteed “snapbacks” after 30 days if complementary access was denied. John McCain suggested the desire to leave quickly in a snowstorm led to 47 Senators signing a letter written by Tom Cotton against this agreement, which will unfreeze at least 100 billion dollars in oil revenue. For 10 points, identify this agreement with a Middle Eastern country regarding a type of energy program.

ANSWER: Iran Nuclear Deal [or Joint Comprehensive Plan Of Action or JCPOA ; accept clear equivalents that mention both Iran and Nuclear as well as some kind of deal or agreement]

2. Methyl coenzyme-M reductase and dissimilatory sulfite reductase are coded for by functional marker genes used to quantify diversity among these organisms. These organisms’ S-layers can have a hydrophobic anchor or bind to methanochondroitin (meh-THAN-oh-con-DROY-tin). Their cell walls have beta-1,3 linkages between components, one of which is N-Acetyl-talos-amin-uronic acid (en-UH-see-tull-tuh-LOS-a-meen-your-ON-ick-acid). These organisms also use L-glycerol in their cell membranes, which also contain isoprenes linked by (\*) ethers. Crypto-endo-liths are examples of organisms in this classification. The 16S ribosomal RNA of these organisms surprisingly resembles those eukaryotes more than originally hypothesized. For 10 points, name this taxon of ancient extremophiles.

ANSWER: archaea or archaeobacteria [prompt on “methanogen”; do not accept or prompt on “bacteria”]

3. The last of these events killed a man who was the only non-Communist or “fellow traveller” in his government and approved a sale of arms in Israel’s War of Independence. Another of these events occurred at the Church of the Virgin Mary of the Snows; the king died from a heart attack after hearing of it. That one of these events was performed in defense of one of the few supporters of the doctrine of “in both kinds” in his city, and led to a conflict involving the drafting of the (\*) Four Articles. A victim of one of these events later fled to the domain of a loser at the Battle of Wittstock, John George I, while the perpetrator, Count Jindrich Matyas Thurn, suffered a setback at White Mountain against the forces of Ferdinand II after being elected a Defender of the Protestant Faith; that second one of these events set off the Thirty Years War. For 10 points, name these events in a certain city, where people were thrown out of windows.

ANSWER: defenestrations of Prague [accept first, second, or third defenestrations of Prague]

4. In one work, this character claims “I am scorched like wax torches dipped in sulfur” and in another work is compared to a wounded deer. This character insults another by saying that he was born from a rock and nursed by Hyrcanian (her-KEY-nee-un) tigers. Upon this woman’s death, her sister laments that “the same sadness and the same hour should have killed us both.” This woman lives in a city which is compared to a beehive, which she obtained by outlining land with a bull’s hide. She refused (\*) Iarbas (YAR-bas) as a lover but has sex with another man after taking shelter from a storm in a cave. She absconded with the gold of her husband Sychaeus (si-KEE-us), who was killed by her brother Pygmalion. This sister of Anna swears a vow of chastity but finally falls in love with Ascanius’ (as-KAY-nee-us) father. After he leaves, this Phoenician (fi-NEE-shun) woman burns his belongings on a funeral pyre and stabs herself. For 10 points, name this founder of Carthage and lover of Aeneas (i-NEE-us).

ANSWER: Dido [accept Elissa]

5. One of the scientists involved in this experiment helped to validate the photoelectric effect by creating what amounted to one of the world’s first clean rooms to protect the photo-cathode he used. Originally, X-rays were used to ionize the air in this experiment, but today’s repetitions often substitute alpha particles from a thorium isotope. Richard Feynman noted in a commencement address to Caltech that this experiment’s result promoted (\*) bias in the analysis of further experiments of similar types. A principal aspect of this experiment was the use of Stokes’ Law to calculate drag before appropriately adjusting the electric field. For 10 points, identify this experiment performed at the University of Chicago in 1909 that measured the elementary charge of the electron.

ANSWER: Millikan oil drop experiment

6. One paper supporting this theory coined the term “Cialdani effect” and conducted six field tests, including one using flyers wishing bikers a happy holiday. Another test of this theory recorded that the first subjects to perform a certain act were a family with a young son. Oscar Newman argues that the phenomenon described in this theory can be explained by the lack of concern of community it demonstrates in his book (\*) *Defensible Space*. This theory, which was tested using a car by Philip Zimbardo, was introduced in a 1982 article in *The Atlantic Monthly* by James Q. Wilson and George L. Kelling and implemented by the NYPD under William Bratton. For 10 points, name this criminological theory that claims that preventing small crimes like vandalism prevents more serious crimes.

ANSWER: broken window(s)

7. An author from this country wrote a story about a village idiot who can only utter the title syllables or the words “fuck your mother.” Stories like “The Class Monitor” inaugurated a genre in this country known as “literature of the wounded” or “scar literature.” The author of the aforementioned “Pa Pa Pa” was accused of plagiarizing from *Dictionary of the Khazars* for a 1996 novel about a student sent to a rural village. Another author from this country wrote about a gambler whose relatives die one by one in *To Live* and also penned *Chronicle of a (\*) Blood Merchant*. A family of winemakers is at the center of *Red Sorghum*, a novel by a Nobel laureate from this country. Another native Nobel laureate wrote a novel in which “I” is diagnosed with lung cancer while the backpacker “You” meets “She” while searching for the title location, *Soul Mountain*. For 10 points, name this country that produced the authors Han Shaogong, Yu Hua, Mo Yan, and Gao Xingjian.

ANSWER: People’s Republic of China [or Zhongguo; or the PRC; or Zhonghua Renmin Gongheguo]

8. In this play, a “haggard, raddled woman” in Biarritz gives an author an idea for the play “The Light Goes Out.” After being accused of “waspy female psychology,” another of its characters replies “I’ve heard that said about Julius Caesar.” A character in this play who dislikes eating red meat before she works writes a memoir of Princess Pallitani. That woman is mocked by Dr. and Mrs. Bradman because she talks to her “control” Daphne before accidentally bringing in a woman whom she dismisses with the help of the fast-moving, (\*) psychic maid Edith. After being summoned by Madame Arcati, the main character’s ex-wife intends to kill him in a car crash so they can be together, but accidentally kills his current wife Ruth. Ruth and Elvira both haunt Charles Condomine at the end of, for 10 points, which Noel Coward play, whose title comes from Shelley’s “To a Skylark”.

ANSWER: Blithe Spirit

9. This ruler set up the Sanjak of Scutari after he personally oversaw victory at the siege of Shkroda. This man ordered that the Bosnian Franciscans be able to move around his empire freely and practice their religion without restraint. In one campaign, this man’s forces were repeatedly defeated in their attempts to take Kruje (CREW-huh) by the forces of the League of Lezhe (LEJ-uh) under (\*) Skanderbeg. This man ordered his father to return to his post during the Varna Crusade, and thousands of his men were impaled during the Night Attack by Wallachian (wuh-LAY-kee-un) ruler Vlad Tepes. In another action, this man employed the Hungarian engineer Orban to construct gigantic artillery pieces; after that battle, this man ordered the Hagia Sophia turned into a Mosque. For 10 points, name this Ottoman emperor that led the 1453 capture of Constantinople.

ANSWER: Mehmet the Conqueror [or Mehmet II]

10. This painter showed two men in a boat facing in opposite directions and putting their fingers in their mouths in *Castor and Pollution*. Another of his paintings depicts a figure wearing a green scarf with a body resembling a spinning top; that painting is inspired by an Alfred Jarry character. A headless female mannequin appears in front of a horned metallic creature with a long neck in another painting. This husband of Peggy Guggenheim and creator of (\*) *Ubu Emperor* and the *Elephant Celebes* created a painting in which a man carries off a woman and reaches for a red and blue knob on the picture frame. This painter of *Two Children are Threatened by a Nightingale* created techniques involving rubbing a textured surface and scraping oil paint off of a canvas. For 10 points, name this German surrealist who invented frottage and grattage.

ANSWER: Max Ernst

11. Preparations for one of these actions included the installation of 150 Ponderosa Pines at Frenchman Flat. One of these events affected the cast of Dick Powell’s Genghis Khan movie, *The Conqueror*, including John Wayne. One of these events named Sedan carved a still-extant rock formation and the Desert Rock exercises took place as part of some of these events, which included the construction of mannequin families in (\*) “Survival Town.” Residents of St. George and other parts of southern Utah have experienced higher rates of cancer as a result of these events in Nevada and they took place above-ground before the 1963 signing of the Partial Test-Ban Treaty. For 10 points, identify these events, one of which took place on July 16, 1945 at Alamogordo (AL-uh-muh-GORE-doh), New Mexico at the Trinity site.

ANSWER: American **Nuclear Tests** [Accept “atomic” instead of “nuclear”; accept “explosions” instead of tests; accept reasonable equivalents.]

12. The narrator of Proust's *In Search of Lost Time* befriends Berma, an actress specializing in this man's plays. In one of this man's plays, a woman confides to Phenice of her love for her “all-powerful” fiancé, who cannot marry her because “Rome took a hatred to the name of King.” In this man's only comedy, Leander and Isabelle trick Chicaneau and the insane Judge Dandin into allowing their marriage. This author of *Les Plaideurs* (*lay-play-DUR*) and *Bajazet* wrote about Xiphares (*zi-FARE-ees*) and Monime (*mo-NEE-may*) inheriting the kingdom of (\*) Mithridates (*MITH-ruh-DAY-teez*) in another work. He wrote about Orestes' (*aw-REST-eez*) and Pyrrhus' competition for Hermione (*her-MY-oh-nee*), as well as a woman's rejection of Antiochus (*an-TIE-oh-kus*) and Titus (*TIE-tuss*). In his most famous play, Aricia (*uh-REE-see-uh*) is loved by Hippolytus (*hip-PAUL-i-tus*), the stepson and love interest of the insane title character, Theseus' wife. For 10 points, name this seventeenth-century French tragedian of *Berenice*, *Andromaque*, and *Phedre*.

ANSWER: Jean-Baptiste **Racine**

13. It is not a piano trio, but Joseph Haydn's D major eleventh piece in this genre ends with a Rondo all'Ungherese (*ahl-oong-guh-RAY-zay*). In the last of these pieces by Ludwig van Beethoven, the second and third movements are linked by horns holding an octave B-flat. That piece begins with three *tutti* chords, which are each followed by a flourish of sixteenth notes. Popular middle movements from Mozart's output in this genre include the F-sharp minor Adagio of the twenty-third and the F major (\*) Andante of the twenty-first. Mozart left out many left-hand parts in one nicknamed *Coronation*; his pianist friend Victoire Jenamy lends her name to another, the *Jeunehomme* (“*june ohm*”); yet another was featured in the soundtrack to the 1967 film *Elvira Madigan*. Beethoven's fifth and last piece in this genre is in E-flat major and nicknamed *Emperor*. For 10 points, name this genre for solo keyboard and orchestra.

ANSWER: **piano concerto** [or **keyboard concerto** before “solo keyboard” is read; prompt on “concerto”]

14. In 2014, this man sued a video game company for appropriating his likeness without his approval. He was amusingly referred to as “Old Pineapple Face.” This man had opponent Hugo Spadafora executed and his head placed in a United States Postal Service bag. Forces loyal to this leader beat Billy Ford in the streets after a presidential election. Though he had been trained at Fort Gulick and Fort Bragg, a US Senate subcommittee chaired by John Kerry claimed this man had established a (\*) “narco-kleptocracy.” This man, whose regime employed the Dignity Battalions, endured Van Halen, the Clash and “The Howard Stern Show” being blasted at him in the Apostolic Nunciature in his home country before being taken into custody on charges related to drug trafficking. For 10 points, name this former dictator of Panama, who was the target of Operation Just Cause in 1989.

ANSWER: Manuel Antonio **Noriega** Moreno

15. An article on the “Literary Character” of this work by Leo Strauss claims that it is arranged in a confusing and contradictory manner to discourage the unqualified. This text claims that the only tradition worth preserving is that which affirms the truth, and describes a tradition of philosophy and science older than Plato and Aristotle. This work derives from Abu Nasr al-Farabi in its examination of (\*) eternity and the difference between the philosopher and the prophet. Its author wrote this text to analyze the strain of mysticism surrounding Ezekiel's chariot. This text analyzes Jacob's dream and Biblical prophets to argue that “seeing” and “hearing” God is metaphorical and intellectual, not literal sensation, and claims that God can only be described negatively. For 10 points, name this work addressed to the confused Rabbi Joseph, by Maimonides (*my-MON-i-dees*).

ANSWER: **Guide for the Perplexed** [or **Guide to the Perplexed**]

16. When this type of reaction is applied to coal liquefaction, tetralin is commonly used as the donor solvent - that is the transfer type of this reaction. A rhodium atom complexed to a cyclo-hexa-diene ring and two tri-phenyl-phosphine (*try-FEN-ill-FOS-feen*) groups acts as a high-turnover catalyst in this type of reaction. A di-phosphine chelating agent bearing anisyl, phenyl, and ethylene substituents acts as a ligand in the first industrial scale example of the asymmetric version of this reaction. A rhodium containing catalyst named for (\*) Crabtree has a higher turnover rate than a similar catalyst named for Wilkinson when performing this reaction. DIBAL-H and LAH are commonly used for performing this type of reaction on carbonyls, and a solution of sodium in liquid ammonia reacts in this way with alkynes to give trans-substituted products. For 10 points, name this class of reactions which adds a light diatomic molecule across a double bond.

ANSWER: **hydrogenation** [prompt on “reduction”]

17. A quantity named for this symbol is equal to the cycle rank of all N-F-A's with epsilon transitions by Eggen's theorem. That “height” named for this symbol is used to measure the structural complexity of regular expressions.

**An operator named for this symbol returns the smallest superset of an alphabet that contains the empty set and that is closed under the string concatenation problem; that unary operation was developed by Stephen (\*) Kleene.** In Python, using this symbol before the word "args" passes a list of positional arguments into a function. In many languages, block comments begin with a forward slash followed by this symbol, and end with this symbol followed by a forward slash. In C, the operator indicated by this symbol is used to dereference variables. For 10 points, name this symbol used to declare pointers in C, which is sometimes called the asterisk.

ANSWER: stars [or asterisks before mention; accept star height; accept Kleene star]

**18. In one of this director's films, Charlotte gives her daughter Eva a car and a wristwatch after listening to her play Chopin's (show-PAN) Prelude Number 2. A dream sequence by this director includes images of multiple clocks without any hands and ends with a man being dragged into a coffin by his own corpse. This director of *Autumn Sonata* used a split-screen technique to unite the faces of the nurse (\*) Alma and the catatonic patient Elisabet in an experimental film. Professor Isak Borg is given the title Doctor Jubilarius in a surrealistic film by this man. Another film by this director of *Persona* and *Wild Strawberries* ends with a *danse macabre* and shows the knight Antonius Block playing chess with Death. *The Seventh Seal* was directed by, for 10 points, what Swedish filmmaker?**

ANSWER: Ingmar Bergman

**19. One of this author's recurring characters receives a postcard displaying Modigliani's *Le grand nu (new)* from Consuela Castillo (cas-TEE-oh) in one novel and, in his first appearance, transforms into an object of his sexual obsession. A short story by this man illustrates the class differences between Brenda Patimkin and Neil Klugman. This author also created a character who suspects Amy Bellette of being Anne Frank in disguise in one novel, seeks out his mentor E.I. Lonoff in another, and in a third befriends (\*) Coleman Silk, a professor accused of racism who himself is secretly black. This creator of David Kepesh (kuh-PESH) wrote a novel in which Merry Levov becomes a terrorist and Sheila Salzman has an affair with Seymour, "the Swede." This man's alter ego Nathan Zuckerman appears in such novels as *The Human Stain* and *American Pastoral*. For 10 points, name this Jewish-American author of "Goodbye, Columbus" and *Portnoy's Complaint*.**

ANSWER: Philip Roth [or Philip Milton Roth]

**20. The story of a group of three of these people is told in the parable of the People of Ya-Sin. One text asserts that over 124,000 of these people exist, though the names of only around 25 of them are known. One of these people was marked with a mole called the Shama'il. The final one of these people is known as the Khatam an-Nabiyyin (na-bee-een), or the "seal" of these people. Belief in these people is the fourth of the six articles of faith. The Ahmadiyya (akh-muh-DEE-uh) sect controversially believes (\*) Mirza Gulam Ahmad to be one of these people. When these people's names are spoken, it is customary to add the phrase "peace be upon him" afterwards. The final one of these people achieved this status after meditating in a cave on Mount Hira when Jibreel appeared to him. For 10 points, name this title shared by Musa, Adem, Isa, and Muhammad, a title given to those charged by Allah to preach Islam.**

ANSWER: prophet [or messenger or Nabi or Rasul; do NOT accept "saint" or "Mahdi" or "Savior" etc.]

## Bonuses

1. This thought experiment considers the imaginary liquid XYZ. For 10 points each:

[10] Name this thought experiment devised by Hilary Putnam which posits a man on Earth named Oscar and his duplicate on another planet. Putnam argued that the liquid XYZ could not justifiably be called "water."

ANSWER: the Twin Earth experiment

[10] The Twin Earth experiment explores this concept, which Putnam claimed "ain't just in the head." Semantics is the study of this thing, and the words "denotation" and "connotation" reflect two different aspects of this concept for a word.

ANSWER: meaning

[10] Putnam's idea that "meanings just ain't in the head" is an example of this philosophical viewpoint, which holds that factors beyond the mind partly determine meaning.

ANSWER: semantic externalism

2. This man signed the Treaty of Nerchinsk with the Russians, gaining the Amur River valley for his empire. For 10 points each:

[10] Name this ruler, whose grandson, the Qianlong (chee-AN-long) Emperor, abdicated but kept *de facto* power out of filial piety to maintain his record as the longest reigning Chinese monarch. This ruler commissioned a namesake dictionary.

ANSWER: Kangxi Emperor

[10] This rebellion against the Kangxi (kahng-SHEE) Emperor was put down in 1681 and was led by the lords of Yunnan (you-nahn), Guangdong, and Fujian (FU-jee-ahn).

ANSWER: Revolt of the **Three Feudatories** [accept equivalents of “three dudes rebelling together”]

[10] The rebels in the Revolt of the Three Feudatories largely belonged to this ethnic group, the dominant one in China. A dynasty of this name was succeeded by the Three Kingdoms period.

ANSWER: **Han**

3. This assumption can sometimes be broken if the timescale required to explore the entire phase space is excessively long, like in a ferromagnet. For 10 points each:

[10] Name this hypothesis which states that a particular system visits all microstates with equal probability over long timescales.

ANSWER: **ergodic** hypothesis [or **ergodicity**]

[10] This quantity is proportional to the natural logarithm of the number of microstates. This quantity always increases in a closed system according to the second law of thermodynamics, and is a rough measure of disorder.

ANSWER: **entropy**

[10] An experiment conducted by this scientist, Pasta, and Ulam showed that a simulated vibrating string does NOT undergo ergodic behavior. This scientist names the “contact interaction” between an electron and the nucleus.

ANSWER: Enrico **Fermi**

4. Thomas Jefferson was opposed to this policy, seeing it as the work of the Federalists, which led him to resign as Secretary of State. For 10 points each.

[10] Identify this stance taken by George Washington in a 1793 Proclamation that announced America’s policy regarding the French Revolutionary Wars. Despite adopting this stance, American ships continued to be harassed by both the French and British.

ANSWER: **neutrality** [prompt on similar answers, but the word “neutral” is needed]

[10] This man tried to undermine the Proclamation of Neutrality by recruiting Americans privateers to fight for French interests. Washington demanded that this man stop and tried to deport him, though he was later granted asylum in the US.

ANSWER: Citizen **Genet** [or Edmond-Charles **Genet**]

[10] Genet was the toast of high society in this port city where he initially landed and issued letters of marque before traveling on to Philadelphia. This city was surrendered by Benjamin Lincoln during the Revolutionary War.

ANSWER: **Charleston**

5. Hazel Morse becomes depressed when her life as a party girl starts to feel hollow and unfulfilling in this author’s most famous short story, “Big Blonde.” For 10 points each:

[10] Name this American author who wrote caustic book reviews for the *New Yorker* under the pseudonym “Constant Reader” and penned the poem “News Item”, which reads “Men seldom make passes / At girls who wear glasses.”

ANSWER: Dorothy **Parker** [or Dorothy **Rothschild**]

[10] Parker’s regular lunches with Robert Benchley and Robert Sherwood became the basis for the meetings of this group of 1920s New York wits. Other members included Alexander Woollcott and George S. Kaufman.

ANSWER: the **Algonquin Round Table** [prompt on partial answers]

[10] Parker’s poem “Resumé” contains a number of complaints about suicide, including “razors pain you; / rivers are damp” and “guns aren’t lawful; / nooses give” before eventually concluding with this sarcastic five-word line.

ANSWER: “**You might as well live.**”

6. When King Nebuchadnezzar sacked Jerusalem in 589 BC and brought the city’s people into captivity, he ordered all the young Jewish men to be trained to serve in his court. For 10 points each,

[10] Name this man, who refused the king’s meat and wine and asked for vegetables and water instead. Along with his friends Shadrach (**SHAD-rack**), Meshach (**MEE-shack**), and Abednego (**ah-BED-nuh-go**), he was promoted to the highest level of service in the kingdom.

ANSWER: **Daniel** [also accept **Beltshazzar**]

[10] Nebuchadnezzar decreed that upon hearing any form of music, everyone in the kingdom must perform this action, or be thrown into a blazing furnace. However, Daniel’s three friends manage to defy the king and survive.

ANSWER: **worship a statue** of the king

[10] After Nebuchadnezzar’s death, king Darius issued a decree that for thirty days, everyone in the kingdom must pray only to him. When Daniel continued praying to his god, Yahweh, he was thrown into a den of these animals.

ANSWER: **lions**

7. One of these responsible for forming xylulose-5-phosphate is regulated by araC. For 10 points each:

[10] Name these functional units of gene expression consisting of several genes which are transcribed together under the control of one promoter. The one synthesizing tryptophan contains a leader peptide.

ANSWER: **operon**

[10] Unlike trp (**trip**), the lac operon is an inducible operon which includes lacZ, a gene encoding this enzyme to cleave lactose into glucose and galactose.

ANSWER: **beta-galactosidase**

[10] Beta-galactosidase is often used as a reporter in screens named for *this color* and blue. Cells not expressing LacZ are unable to break down X-gal and thus appear this color.

ANSWER: **white**

8. When this woman tells her mother she does not want to get married, her mother advises her to spend a year eating only butter, a year eating only bacon, and a year eating only desserts. For 10 points each:

[10] Name this sister of Joukahainen (**YO-cuh-HIGH-nin**) courted by the hero Vainamoinen (**VAY-nuh-MOY-nin**). Rather than marry him, she drowns herself, later becoming a mermaid whom Vainamoinen catches while fishing.

ANSWER: **Aino**

[10] Vainamoinen has difficulty getting this type of tree to grow until five women and a giant burn grass to enrich the soil; he then cuts it down because it blocks the sun. Later, he is healed by a balm made from this type of tree.

ANSWER: **oak** tree

[10] The adventures of Vainamoinen are recorded in the Kalevala, an epic from this nation compiled by Elias Lonnrot whose other sections feature Lemminkäinen (**lem-in-KAI-nin**) and Kullervo (**koo-LEHR-voh**).

ANSWER: **Finland**

9. For 10 points each, name the following French poets:

[10] This 15th-century French poet and criminal wrote the collection *Le Grand Testament*, which includes the “Ballad of the Ladies of Times Past,” which repeatedly asks “Where are the snows of yesteryear?”

ANSWER: François **Villon** (**vee-OWN**)

[10] This French symbolist was known for his *fin de siècle* (**fin duh see-AY-kluh**) style and his multilayered and visual poetry, such as in his poem “A roll of the dice will never abolish chance.”

ANSWER: Stéphane **Mallarmé** [or Étienne **Mallarmé**]

[10] Mallarmé described a “tutelary poison” that “We breathe in always though it bring us death” in his poem about the tomb of this other poet, who included sections titled “Wine,” “Revolt,” and “Death” in his collection *Les Fleurs du Mal*.

ANSWER: Charles **Baudelaire** [or Charles Pierre **Baudelaire**]

10. Pieces for this instrument include “The Mysterious Barricades” and “The Tic-Toc-Choc.” For 10 points each:

[10] Name this keyboard instrument, a predecessor of the piano, whose individual keys pluck a string upon being depressed.

ANSWER: **harpsichord** [or **clavecin**; do not accept “clavichord”]

[10] This French Baroque composer wrote a treatise on *The Art of Playing the Harpsichord*. He was known as “le Grand” to differentiate him from family members such as his uncle Louis.

ANSWER: François **Couperin** (“FRANCE”-wah KOO-puh-RENG)

[10] This other French composer wrote the opera-ballet *Les Indes Galantes* (**luh ZEEND gah-LAHNT**), a 1722 *Treatise on Harmony*, and three books of *Pièces de clavecin* (“*piece*” duh CLAH-vuh-SENG), the last of which includes an A minor gavotte with six variations.

ANSWER: Jean-Philippe **Rameau**

11. A memorial poem to this man repeats that he “disappeared in the dead of winter” and died on a “dark cold day.” For 10 points each:

[10] Name this Irish poet, who was memorialized with the line: “Earth, receive an honoured guest; [this man] is laid to rest”. This author of *The Tower* cofounded the Abbey Theater with Lady Gregory.

ANSWER: William Butler **Yeats** (**yates**)

[10] “In Memory of W. B. Yeats” was written by this poet who penned the memorable line “we must love one another or die” in his poem “September 1, 1939.” He also wrote “The Unknown Citizen” and “Funeral Blues.”

ANSWER: W. H. **Auden** [or Wystan Hugh **Auden**]

[10] The speaker of this Auden poem promises to love the addressee until “China and Africa meet” and “the ocean is folded and hung up to dry.” All the clocks in the city spoil his moment by reminding him that he “cannot conquer Time.”

ANSWER: “**As I Walked Out One Evening**”

12. This expedition ended with a victory at the Battle of the Volturno River. 10 points each:

[10] Name this military effort which conquered the Kingdom of the Two Sicilies and brought it into the Kingdom of Sardinia.

ANSWER: Expedition of the **Thousand** [do NOT accept the “Sicilian Expedition”, which is something way different]  
[10] Giuseppe (joo-SEPP-ee) Garibaldi’s (GARE-uh-BALD-eez) volunteers were named for their “shirts” of this color.  
Another Italian group with this color in their name kidnapped and killed the prime minister Aldo Moro.

ANSWER: **red**

[10] In another story of Italian conquest, d’Annunzio (duh-NOON-zee-oh) and Mussolini referred to Italian Libya as this geographical feature, referring to the fact that it was the Italian empire’s southernmost border on the Mediterranean.

ANSWER: **fourth shore**

13. One variation of this principle states that increasing the ambient temperature of a vessel pushes the reaction towards the endothermic side. For 10 points each:

[10] This principle, also known as the equilibrium law, states that when a system at equilibrium experiences a change, the system will readjust itself to establish a new equilibrium.

ANSWER: **Le Chatelier’s principle**

[10] This constant is equal to the concentration of the products divided by the concentration of the reactants, all to the power of their stoichiometric (STOY-kee-oh-MET-rick) coefficients. It is denoted Q, and comparing it to K is useful.

ANSWER: **reaction quotient**

[10] K can be written as the partition functions of the products over the partition functions of the reactants raised to their stoichiometric coefficients, times e to the power of the sum of these values divided by RT.

ANSWER: **bond dissociation energy** [or **BDE**]

14. *Commonwealth v. John Rex* found that this genre did not include National Geographic magazines and sociology textbooks. For 10 points each:

[10] Name this type of media which provided much of the battleground between second- and third-wave feminists. Andrea Dworkin claims that this genre is rooted in male dominance and is inherently damaging to women.

ANSWER: **pornography** [prompt on “erotica” or “obscenity”]

[10] In her book *Only Words*, this strongly anti-pornography feminist argues that the U.S. legal system has historically used the First Amendment to defend porn content by defining it as defamation, not discrimination.

ANSWER: Catharine **MacKinnon**

[10] In *R v. Butler*, the Supreme Court of this country relied on Mackinnon’s arguments against pornography in its definition of obscenity.

ANSWER: **Canada**

15. While Pennsylvania had the first major oil boom in the United States, this state’s Trenton Gas Field was the site of the first natural gas boom. For 10 points each:

[10] Identify this state where most of the natural gas was wasted by lighting pipes of gas to create spectacular flambeaux displays in places like Gas City, Kokomo, and Muncie.

ANSWER: **Indiana**

[10] Another excellent example of wasting natural gas is this country’s “Door to Hell” at Derweze, where a natural gas well has been continually burning since 1971. This country Galkynysh’s gas field is the world’s second largest.

ANSWER: **Turkmenistan**

[10] Much of Turkmenistan’s natural gas is unable to get exported in the first place due to the lack of a pipeline under this large inland lake. Instead, gas takes a circuitous route through Russia or Iran, who also border this lake.

ANSWER: **Caspian Sea**

16. This book suggests placing onions on your head to avoid crying when you chop them. For 10 points each:

[10] Name this 1989 novel about Tita, who is bullied by Mama Elena and finds release in cooking. She loves Pedro and dies in a fire caused by her eating matches after his death.

ANSWER: **Like Water for Chocolate** [or **Como agua para chocolate**]

[10] Along with *Like Water for Chocolate*, Laura Esquivel also wrote a novel about La Malinche, whose “sons” were discussed by this Mexican author in an essay from his book *The Labyrinth of Solitude*. He also wrote *Sun Stone*.

ANSWER: Octavio **Paz** [or Octavio **Paz** Lozano]

[10] La Malinche also appears in *Montezuma’s Daughter*, a novel by this British author of *She*. This adventure novelist introduced the character of Allan Quatermain in his novel *King Solomon’s Mines*.

ANSWER: H. Rider **Haggard** [or Henry Rider **Haggard**]

17. This choreographer spent time in the village of Accompong to perform anthropological field work, and also conducted a hunger strike in support of Haitian boat people. For 10 points each:

[10] Name this African American choreographer of *Barrelhouse*, *Cabin in the Sky*, and *Veracruzana*. She directed the world premiere of *Treemonisha*.

ANSWER: Katherine **Dunham**

[10] This other African-American choreographer produced a tribute to Dunham entitled *The Magic of Katherine Dunham*. He also choreographed a ballet containing blues songs and spirituals, entitled *Revelations*.

ANSWER: Alvin **Ailey**

[10] This dancer's namesake technique is based on "contraction and release," and she choreographed a ballet about Medea, *Dark Meadow*. She is better known for choreographing Copland's *Appalachian Spring*.

ANSWER: Martha **Graham**

18. This man visualized an eerie mermaid procession in his painting *Sadko in the Underwater Kingdom*. For 10 points each:  
[10] Name this Russian realist painter and member of the Wanderers who painted *Barge Haulers on the Volga*. He depicted a crippled boy being beaten away from a crowd in *Religious Procession in Kursk Province*.

ANSWER: Ilya **Repin**

[10] Repin illustrated the "reply" of these Slavic horsemen to Mehmed IV as well as showing them "on the Black Sea" and "dancing" in other works. In the first painting, they sit around a table laughing as they think of more insults to write.

ANSWER: The Zaporozhian **Cossacks**

[10] This other Russian artist and contemporary of the Wanderers made many anti-War paintings. His painting *The Apotheosis of War*, which shows a pyramid of skulls, is dedicated to "to all conquerors, past, present and to come."

ANSWER: Vasily Vasilyevich **Vereshchagin** (VERE-uh-SHAH-gin)

19. Wiener's theorem of this type implies that if the Fourier transform of a function vanishes on some set, then the Fourier transform of a linear combination of translations of that function also vanishes. For 10 points each:

[10] Name this general class of theorems that includes Abel's theorem. In general, these results say that every series that doesn't diverge too "badly" actually converges.

ANSWER: **Tauberian** theorem

[10] Abel's theorem is of course named for Niels Hendrik Abel, who also names groups for which the group operation has this property. For an operation "star" to have this property, a "star" b equals b "star" a.

ANSWER: **commutative** [accept word forms like **commute**]

[10] The Wiener-Ikehara tauberian theorem can be used to show that the function that counts these things asymptotically approaches  $x$  over  $\log x$ . Dirichlet (**DEER-uh-shlay**) proved that an infinite number of them appear in certain arithmetic progressions.

ANSWER: **prime** numbers

20. He once successfully defended a former student, Marcus Caelius (**KAI-lee-us**) Rufus, from a murder charge. For 10 points each:

[10] Name this lawyer who served as consul in 63 B.C. He exposed the Second Catilinarian conspiracy to the Senate and was executed by Mark Antony.

ANSWER: Marcus Tullius **Cicero**

[10] In that aforementioned defense, *Pro Caelio*, Cicero criticized this witness for the prosecution, whom he accused of incest and of seducing young men. She may have been the Lesbia of Catullus.

ANSWER: **Clodia** Metelli

[10] Cicero first rose to fame following this case, in which he successfully prosecuted extortion charges against a governor of Sicily defended by Quintus Hortensius.

ANSWER: **In Verrem** [or the trial of Gaius **Verres**; or **Against Verres**]