

### ACF Fall 2013

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1. This body of water is the endpoint of a river that empties into it in a delta also known as the Oil Rivers. One country that shares its name with this body of water owns the two Elobey, Corisco, Annobón, and Bioko, five islands located within it. The Bight of Bonny and the Bight of Benin are part of the coastline of this gulf, which counts São Tomé and Príncipe among its Cameroon Line of volcanic islands and is the gulf into which the Niger River flows. This gulf contains the intersection between the prime meridian and the equator. For 10 points, name this gulf on Africa's west coast that shares its name with a country that also contains "Bissau" in its name.

ANSWER: Gulf of **Guinea** [accept **Equatorial Guinea**; accept **Guinea-Bissau** at the end]

2. One character in this novel divorces his third wife because she began a revolt on his yacht. Madame Sapphia Spanella circulates a petition to evict one character in this novel. That character buys this novel's narrator a birdcage and changes her name from Lulamae. In this novel, Mag Wildwood marries the gay millionaire Rusty Trawler. Another character in this novel abandons her much older husband Doc to pursue an acting career, during which she makes money transmitting messages to Sally Tomato in prison before escaping to Brazil to avoid indictment. For 10 points, name this novel about Holly Golightly written by Truman Capote.

ANSWER: **Breakfast at Tiffany's**

3. One author from this country examined the control of society through norms by developing the concept of cultural hegemony. Another author from here declared that man is the greatest of God's creatures because of his unique power of self-determination, and that he should aspire to the status of angels. This country, which produced *Oration on the Dignity of Man* and *Prison Notebooks*, was also home to a man who advocated combining the cunning of a fox with the force of a lion and declared that it is better to be feared than to be loved. For 10 points, name this home of Antonio Gramsci, Pico della Mirandola, and the author of *The Prince*, Niccolò Machiavelli.

ANSWER: **Italy** [or the **Italian Republic**; be generous and accept **Florence**]

4. Version 3.0 of this language, released in December 2008, is notably incompatible with previous versions. Code examples in this language often use the variable names "spam" and "eggs." In this language, one can use a negative index to count backwards from the end of a list. This language uses the Tkinter (T-K-"enter") package to provide graphics and implements a dynamic but strong typing system called duck typing. This interpreted language, which spells out the keywords "and" and "not" instead of using symbols, is designed to have easily readable syntax. For 10 points, name this programming language named for a sketch comedy show whose name begins with "Monty."

ANSWER: **Python**

5. Right before this event, Ebenezer Richardson shot a twelve-year-old named Christopher Seider. A speech given in response to this event noted, "Facts are stubborn things." Troops were removed to Castle Island in its aftermath, and in a depiction of this event, a lone cat stands in the foreground amid billowing white smoke in front of a church. It occurred on King Street and resulted in the deaths of Samuel Gray and James Caldwell. This subject of a Paul Revere engraving resulted in the death of the African American merchant Crispus Attucks. For 10 points, name this March 5, 1770 confrontation in which British troops fired on a crowd in Massachusetts.

ANSWER: **Boston Massacre** [accept **Incident on King Street** before "King Street" is read]

6. This term mainly denoted self-betterment in English when J. G. Herder applied it to larger groups in German, inspiring Wilhelm von Humboldt to use it in anthropology. It is the second word in the title of a book that theorizes "survivals" and calls the "science" of this concept "essentially a reformer's science." This concept is likened to

“personality writ large” in the foreword of the book titled for its “patterns.” Edward Burnett Tylor wrote about the “primitive” form of this concept, which is plural in the title of a Clifford Geertz book about its “interpretation.” For 10 points, give this anthropological term that describes the different ways that distinct groups of people live.

ANSWER: **culture** [accept word forms; accept **Primitive Culture** or **Patterns of Culture** or **Interpretation of Cultures**]

7. A poem by a writer from this country states that “a boy brought the white sheet” and “a frail of lime [was] ready prepared” at “five in the afternoon,” when the titular man was killed. The author of a memoir set in this nation fought for the POUM against fascism before getting shot in the throat. A play written by an author from this nation features a monologue delivered by the Moon, who witnesses a duel between a groom and Leonardo. That play forms a trilogy with *Yerma* and *The House of Bernarda Alba*, and is entitled *Blood Wedding*. For 10 points, name this home country of Federico Garcia Lorca, also the setting of George Orwell’s *Homage to Catalonia*.

ANSWER: **Spain**

8. At the top left of this work, jagged mountains overlook a lake, while below that, less-severe mountains lead to a multi-arched stone bridge across a river. The central figure has a scarf thrown over her left shoulder, part of an intricate clothing design that includes an olive dress and richly-painted light-brown sleeves. Dark pillar bases can be seen on either side of this work, which is situated on a loggia overlooking a meandering road. It was parodied by Dada and Surrealist artists, including Duchamp, who added a mustache to it. For 10 points, name this Leonardo da Vinci portrait known for its enigmatic smile, depicting a woman thought to be the wife of Francesco del Giocondo.

ANSWER: **Mona Lisa** [or *La Gioconda*]

9. People's Democracy marchers in this region were assaulted at Burntollet Bridge. During the Stormont Era, this region's Unionist Party controlled its government during a period followed by the imposition of Direct Rule. The implosion of the Sunningdale Agreement led to this region's namesake act. Peace lines were constructed in this region's capital during The Troubles to prevent Protestant-Catholic internecine conflict, which was quieted by the Good Friday Agreement. Foreign rule of this region is opposed by the Provisional IRA. For 10 points, name this political subdivision of the modern United Kingdom with capital at Belfast.

ANSWER: **Northern Ireland** [or **Norlin Airlann**; do not accept or prompt on just Ireland]

10. One of these objects was turned to stone by Poseidon to punish the Phaeacians for helping Odysseus. Agamemnon cursed Cinyras when he sent him 49 of these, explaining the absence of Cyprians at Troy. One of these objects was created by the sons of Ivaldi and could be folded up and kept inside Freyr's pocket. In addition to Skidbladnir, these objects included one called Naglfar that was made of the nails of the dead. An angry Achilles refused to fight the Trojans until the ones belonging to him were in danger, and Homer gave a lengthy catalogue of them in Book II of the *Iliad*. For 10 points, name these vehicles that carried the Greeks to Troy across the Aegean Sea.

ANSWER: **ships** or **boats** [accept any reasonable equivalents]

11. In statistical mechanics, a failure to account for physics *not* described by this adjective leads to the Gibbs paradox. The WKB approximation is known as a “semi-*this*” method because it treats  $\hbar$  as a small parameter, as is the Bohr model of the atom because it treats electrons as point particles. This adjective describes a limit of the correspondence principle with large quantum numbers, which explains how quantum physics approaches this kind of physics on a large scale. For 10 points, name this adjective that describes physics before the development of relativity or quantum physics, such as the kind of mechanics based on Newton’s laws of motion.

ANSWER: **classical**

12. One of these animals is central to the 1977 film *Tintorera*. Alvy Singer explains that his relationship with Annie Hall fails by comparing it to one of these animals. In a film whose premise is that these animals could be used to

cure Alzheimer's Disease, the Samuel L. Jackson-played Russell Franklin is killed by one mid-sentence. Nova is killed by one of these animals in a 2013 film in which these animals are killed by bombs dropped from helicopters into tornadoes. In another film, one of these is finally stopped when a pressurized tank is shot by Brody, who delivers the line, "You're gonna need a bigger boat." For 10 points, name these animals, central to the *Jaws* films.  
ANSWER: sharks [or great white sharks; or Mako sharks; or tiger sharks]

13. This man established the Company of the Hundred Associates to encourage colonial development. He entered into his highest office following a crisis involving the canton of Grisons and Spanish ambition in the Valtellina valley in Italy. This successor to the Duke of Luynes implemented the reforms of the Council of Trent and was ushered into one position by Concino Concini. Marie de Medici unsuccessfully demanded this man's dismissal in the Day of the Dupes, and he defeated his country's Protestants after a year-long siege at La Rochelle. For 10 points, name this chaplain to Anne of Austria, a cardinal who served as the Chief Minister to Louis XIII.  
ANSWER: Cardinal Richelieu [or Armand-Jean du Plessis; prompt on the Red Eminence or l'éminence Rouge]  
Literature

14. The narrator of one poem by this author declares that he will "fly...on the viewless wings of Poesy" and tells the title creature that "no hungry generations tread thee down." He wrote a poem whose title object is told that "thy streets for evermore / Will silent be." In that poem, this poet stated that "Heard melodies are sweet, but those unheard / Are sweeter." Another of this man's poems states the phrase "tender is the night," and tells a creature that "Thou wast not born for death!" He also wrote a poem addressed to an "unravish'd bride of quietness" that suggests that "beauty is truth, truth beauty." For 10 points, name this author of odes to a nightingale and a Grecian Urn.  
ANSWER: John Keats

15. In the 20th century, Raymond Leppard worked over Joseph Joachim's orchestration of one of this composer's pieces, a sonata in C called the *Grand Duo*. The tonality of the Andante second section of one work by this composer rises chromatically from F major to A minor. The two symphonies this composer wrote in C major are differentiated by the words "Great" and "Little" and he also wrote a work that replaces a usual violin with a double bass and depicts a swimming fish. This man's eighth symphony has only two movements that known to be complete. For 10 points, name this Austrian composer of the *Trout Quintet* and his Unfinished Symphony.  
ANSWER: Franz Peter Schubert

16. In these cells, Lin28 prevents the cleavage of an miRNA called let-7, and methylation of DNA by Dnmt1 is repressed in the nucleus. Tcf3 and beta-catenin buffer the concentration of Nanog, which sequesters a transcription factor called Oct4 in these cells. The ecological term "niche" is sometimes applied to these cells. They are injected into a blastocyst of a pseudopregnant mouse in the first step of a gene knockout. Yamanaka pioneered the study of the induced pluripotent type of these cells, which can form the endoderm, ectoderm, or mesoderm. For 10 points, name these cells that have not yet differentiated into specialized cells, and which can be extracted from embryos.  
ANSWER: stem cells [or embryonic stem cells; or ES cells; or adult stem cells; or induced pluripotent stem cells; or iPS cells]

17. While praying on a roof, a character in this book has a vision of four-legged animals brought upon a sheet that God commands him to kill and eat, though they are not kosher. In the 28<sup>th</sup> and final chapter of this book, a man is found to be immune to snakebite while on Malta. Ananias and Sapphira suddenly perish in this book, which begins with the descent of the Holy Spirit. Dedicated to Theophilus, this book sees a man struck blind on his way to Damascus after witnessing the stoning of Stephen. Though not a Gospel, this book was likely written by St. Luke. For 10 points, name this fifth book of the New Testament which details the deeds of Peter and Paul after Christ's ascension.  
ANSWER: Acts of the Apostles

18. In one film from this country, a man claiming to work for the *Figaro-Pravda* named Lemmy Caution arrives in the titular city to capture Professor von Braun. A film from this country by the same director follows an admirer of Humphrey Bogart who dates the American Patricia, who sells copies of the *New York Herald*. In another film from this country, a boy lies about his mother dying to his schoolteacher Sourpuss, and later steals a typewriter from his father's office. Those films are *Alphaville*, *Breathless*, and *The 400 Blows*. For 10 points, name this nation that experienced a New Wave movement in the 1960s, the home country of Jean-Luc Godard and Francois Truffaut.

ANSWER: **France**

19. The central crime in this story occurs while its victim is “making Buffalo Bill's show look like magic-lantern views of Palestine.” This short story's narrator dreams about being chained to a tree by a redhead pilot until he hears the title character sitting on an accomplice's chest. That character, Bill, is hit between the eyes with a piece of brick, shot behind the ear with a rock, burned with a hot potato, and made to play Black Scout by the title character. That character of this story welcomes the chance to run away from his father, Ebenezer Dorset, although he is abducted for money. For 10 points, name this O. Henry short story about a child who pretends to be the titular Indian.

ANSWER: “The **Ransom of Red Chief**”

20. This man earned the nickname the “Black Pimpernel” for his ability to evade capture by the government. With Oliver Tambo, this man established the first black legal practice in his country. One of this man's symbolic acts of unity involved wearing a Springboks shirt while presenting the winners' trophy at the Rugby World Cup. This man established a Truth and Reconciliation commission in his country after succeeding F. W. de Klerk as president. This longtime prisoner at Robben Island became the leader of his country following democratic elections in 1994. For 10 points, name this first black President of South Africa.

ANSWER: Nelson Rolihlahla **Mandela** [or **Madiba**]

21. Free radical substitution of hydrocarbons using this element is uncontrollably exothermic and can cleave carbon-carbon bonds. This element is the most common one in magic acid. Oxygen has a positive oxidation state only when bonded to this element. This element is the strongest contributor to the inductive effect and was the first one known to form noble gas compounds when it was discovered that four atoms of it bind to xenon. Four atoms of it per monomer occur in Teflon, and along with chlorine, it is found in Freon. The binary acid of this element can etch glass and dissolve bone. For 10 points, name this lightest halogen, the most electronegative element.

ANSWER: **fluorine** [or **F**]

X. This country's western border was set at the Morgan Line after its attempt to take over the Julian March. The man who founded this country ordered the execution of Draža Mihajlović and refused to abide by Stalin's central authority, as a result of which this country was expelled from the Cominform in 1948. Another leader of this country toppled Ivan Stambolić as leader of a local Communist Party and asserted control over Vojvodina and Kosovo to realize his vision of “Greater Serbia.” That leader was Slobodan Milošević. For 10 points, name this former Balkan nation that was led by Josip Broz Tito and broke up into six nations in the early 1990s.

ANSWER: Socialist Federal Republic of **Yugoslavia** [or **SFRY**]

X. The strength of this phenomenon can be measured using the Wilhelmy plate method. The dispersion relation for water waves has two terms, one governed by gravity and one governed by this phenomenon. The strength of this phenomenon is usually measured in dynes per centimeter, as it has dimensions of energy over area. The strength of this phenomenon is lowered by surfactants, and it arises because liquid molecules at an interface experience attractive hydrogen bonds only from one side. For 10 points, name this phenomenon which allows water striders to walk on water, a cohesion observed in liquids on their interface with air.

ANSWER: surface tension

X. Discussions of the grand nature of a spider's web interrupt an argument carried out by volumes in a library in a satire by this author. In one novel by this author, residents of the city of Lindalima revolt against Laputa, a kingdom that fights by throwing stones down onto belligerents. One of this author's written works suggests the use of 120,000 children in a "fricassee or ragout." That pamphlet, which recommends that poor Irish people sell their babies as food, is titled *A Modest Proposal*. The protagonist of this author's most work meets the minuscule Lilliputians on an extensive global voyage. For 10 points, name this Anglo-Irish author of *Gulliver's Travels*.

ANSWER: Jonathan Swift [accept *The Battle of the Books* before "author" is read]

1. The elements of this type of liability are mens rea, actus reus, concurrence, and causation. For 10 points each:

[10] Name this type of liability that is more serious than tort liability.

ANSWER: criminal liability [accept crime or other word forms of "crime"]

[10] At common law, this criminal offense was defined as the breaking and entering of the dwelling of another in the nighttime with intent to commit a felony therein.

ANSWER: burglary [do not accept or prompt on any other answer]

[10] This legal concept, which denotes causation that is legally sufficient to warrant punishment, is typically required for criminal liability in addition to "but-for causation."

ANSWER: proximate cause [accept word forms of "cause" such as "causation"]

2. One aspect of this deity set the sun and moon in motion, ruled over the wind, and was known as Ehecatl. For 10 points each:

[10] Name this Aztec god of the morning star who stole bones from Mictlan and mixed in his own blood in order to recreate the human race. His name translates to "feathered serpent" and Hernán Cortés was mistaken for him.

ANSWER: Quetzalcoatl

[10] This twin brother of Quetzalcoatl had the head of a dog and was the Aztec god of thunder. He was also the god of death in the sense that he guided dead souls to the underworld.

ANSWER: Xolotl

[10] This Aztec god of rain ruled over his namesake level of the afterlife, a paradise populated by people whose deaths were related to water. His wife Xochiquetzal was kidnapped by Tezcatlipoca.

ANSWER: Tlaloc

3. The Haber process adds hydrogen gas to this gas' strong triple bond. For 10 points each:

[10] Name this most common elemental gas in Earth's atmosphere.

ANSWER: diatomic nitrogen gas [or N<sub>2</sub>]

[10] In compounds, nitrogen usually forms three bonds. However, nitrogen is bonded to four hydrogen atoms in this common cation, the conjugate acid of ammonia with formula NH<sub>4</sub><sup>+</sup>.

ANSWER: ammonium

[10] Treating ammonia with a very strong base, on the other hand, can yield this anion with formula NH<sub>2</sub><sup>-</sup>. An organic functional group with the same name can be produced by reacting amines with carboxylic acids.

ANSWER: amides [or NH<sub>2</sub><sup>-</sup>]

4. He retired from imperial rule to a garden at his Greek-Byzantine palace in modern-day Split, Croatia. For 10 points each:

[10] Name this Roman emperor who notoriously persecuted Christians in a series of early 4<sup>th</sup> century CE edicts. In 293, he established a tetrarchy to more effectively govern the empire.

ANSWER: Gaius Aurelius Valerius **Diocletian**us Augustus

[10] Diocletian reduced the powers of this imperial personal bodyguard, which was led by prefects. Much of the intrigue in the Crisis of the Third Century can be attributed to this unit, who installed emperors almost at will.

ANSWER: **Praetorian Guard** [or **Praetoriani**]

[10] Diocletian implemented an edict setting a maximum for these quantities in order to curb inflation caused by debased coinage.

ANSWER: **prices**

5. The title figure of this work was also depicted by its artist “at the Saint-Bernard Pass” and “in his study.” For 10 points each:

[10] Name this historical painting whose artist can be found seated in the center background, as the titular emperor lifts a crown above his kneeling wife at a ceremony in the cathedral of Notre Dame.

ANSWER: *The **Coronation of Napoleon*** [or *Le **Sacre de Napoléon***]

[10] In this other work by the artist of *The Coronation of Napoleon*, the title figure holds a note while sitting murdered in his bathtub. It is set shortly after a visit from Charlotte Corday.

ANSWER: *The **Death of Marat*** [or *La **mort de Marat***]

[10] This artist painted *The Coronation of Napoleon* and *The Death of Marat*, and showed three Roman men reaching for swords in *The Oath of the Horatii*.

ANSWER: Jacques-Louis **David**

6. The world’s largest river linking two major river systems, the Casiquiare, joins this river to the Orinoco. For 10 points each:

[10] Name this river named for its dark waters, which run side by side with those of a lighter river without mixing as it meets the Solimões River. The two rivers then form South America’s longest river.

ANSWER: **Rio Negro** [or **Negro** River; accept **Guainía** River]

[10] The Rio Negro is the largest left tributary of this river, the second longest in the world.

ANSWER: **Amazon** River

[10] The meeting of the waters takes place near this capital city of the Amazonas state of Brazil, which will serve as one of the host cities of the 2014 World Cup.

ANSWER: **Manaus**

7. He argued that the spirit of the Absolute causes the natural progress of events in his *Lectures on the Philosophy of History*. For 10 points each:

[10] Name this German philosopher who included his thesis-antithesis-synthesis dialectics in such works as *The Phenomenology of Spirit*.

ANSWER: Georg Wilhelm Friedrich **Hegel**

[10] Hegel inspired this author’s claim that the advent of liberal democracy is bringing about history’s final phase, a claim he made in his *The End of History and the Last Man*.

ANSWER: (Yoshihiro) Francis **Fukuyama**

[10] This philosopher rejected the view of liberal democracy as the endpoint of history and instead claimed it moves towards an attainable goal. He is best known for writing *Political Liberalism* and *A Theory of Justice*.

ANSWER: John Bordley **Rawls**

8. The first line of the Marines' Hymn memorializes this battle, where the Boy Heroes were killed. For 10 points each:

[10] Name this bloody 1847 American victory fought at the site of a castle that defended a certain national capital.

ANSWER: Battle of **Chapultepec**

[10] The Battle of Chapultepec occurred during this war, which was ended with the Treaty of Guadalupe-Hidalgo and fought between the United States and its southern neighbor.

ANSWER: **Mexican**-American War

[10] Although never passed, this proposal sought to ban the extension of slavery into territory acquired following the Mexican-American War. It was put forward by a namesake Pennsylvania politician.

ANSWER: **Wilmot Proviso**

9. This quantity varies with roughly the 3.9th power of mass. For 10 points each:

[10] Name this stellar property. It is proportional to 10 to the power of bolometric magnitude divided by 2.5.

ANSWER: **luminosity**

[10] The absolute magnitude of a star is defined to be the apparent magnitude the star would have if it were located at a distance of ten of these units. This unit is defined in terms of parallax and equals about 3.26 light years.

ANSWER: **parsec**

[10] This star has the lowest apparent magnitude, and hence appears the brightest in the night sky. It is the alpha star of Canis Major and is also known as the "Dog Star."

ANSWER: **Sirius**

10. An exceptional fighter in this novel, Shiva, stays with his father Wee Willie Winkie after losing his mother during labor. For 10 points each:

[10] Name this novel in which Saleem Sinai is one of the title group of people who were born at the hour of India's independence.

ANSWER: **Midnight's Children**

[10] This author of *Midnight's Children* received a fatwa for his controversial depiction of Muhammad and the Islamic faith in his novel *The Satanic Verses*.

ANSWER: (Sir Ahmed) Salman **Rushdie**

[10] The American diplomat Max Ophuls is killed in a Rushdie novel titled after one of these performers named Shalimar. Hans Schnier is the titular one of these performers in a novel by Heinrich Böll.

ANSWER: **clowns**

11. The term *rebbe* usually refers to leaders in this movement. For 10 points each:

[10] Name this movement founded by Baal Shem Tov in the early 18th century. Chabad is a sub-denomination of this larger movement, whose name literally translates as "piety."

ANSWER: **Hasidism** [or **Chasidism**; or **Hasidic Judaism**]

[10] Hasidic Judaism is a branch of this sect of Judaism, which is more observant than the Reform and Conservative movements.

ANSWER: **Orthodox** Judaism

[10] One common tradition observed by Hasidic Jews is wearing these objects at all times. These objects are located at each corner of the Jewish prayer shawl, though a blue dye called *tekhelet* is no longer added to them.

ANSWER: **tzitzit** [or **fringes**]

12. This civilization took neighboring peoples hostage for sacrifices in the Flower Wars. For 10 points each:

[10] Name this Mesoamerican civilization that had its capital at Tenochtitlan. It was brought down by a coalition of Tlaxcalans and a Spanish expedition led by Hernan Cortes.

ANSWER: **Aztecs** [or **Mexica**]

[10] The Aztecs destroyed the capital city of this prior civilization, Tula, in the mid-12<sup>th</sup> century. These creators of the Chac Mool introduced the cult of Quetzalcoatl and attacked the Mayans at Teotihuacan and Chichen Itza.

ANSWER: **Toltecs**

[10] This civilization, whose descendants are still around in Oaxaca, resided in vast cities like Monte Albán and Mitla. They also conquered Tehuantepec after being driven from their greatest cities by the Mixtecs.

ANSWER: **Zapotecs**

13. This poem mentions the construction of a commemorative obelisk with the line “We set today a votive stone.”  
For 10 points each:

[10] Name this poem about a location “by the rude bridge that arched the flood,” where “the embattled farmers stood / and fired the shot heard ‘round the world.”

ANSWER: “The **Concord Hymn**”

[10] “The Concord Hymn” is a poem by this Transcendentalist writer. His essays include “The Over-Soul” and “The American Scholar.”

ANSWER: Ralph Waldo **Emerson**

[10] This American magazine, which published many of the most influential Transcendentalist works, was Emerson’s brainchild. Margaret Fuller was its first editor.

ANSWER: *The* **Dial**

14. Answer the following about Japanese forms of art, for 10 points each:

[10] Specially made square sheets of paper are commonly used in this art of paper folding, an extension of which is kirigami, in which the paper is cut.

ANSWER: **origami**

[10] “Upright” and “slanting” are among the styles of this art of flower arrangement.

ANSWER: **ikebana**

[10] The making of these arrangements was outlined in the tract *Sakuteiki*. Often found at Zen temples, these constructs are made through the process of *ishi wo tateru koto* and their Japanese name means “dry landscape.”

ANSWER: rock **gardens** [or **karesansui**]

15. Answer some questions about things you need to know if you’re growing bacteria in the laboratory, for 10 points each:

[10] You’ll probably plate the bacteria in one of these shallow glass dishes that are usually circular and are named for a German biologist.

ANSWER: **Petri** dishes

[10] Broth used as a culture medium can be used to culture bacteria in a Petri dish, as long as you add this component so it hardens into a solid substrate. This gelatinous substance is derived from algae.

ANSWER: **agar** [do not accept “agarose”]

[10] If you accidentally create a lawn of bacteria, you’ll resort to this technique of progressively spreading bacteria thinner and thinner across the plate, each time with a sterile loop, until you can isolate single colonies.

ANSWER: **streaking**

16. Sixty female prisoners in this country were freed in October 2013. For 10 points each:

[10] Name this civil war-wrought country led by Bashar al-Assad.

ANSWER: **Syrian** Arab Republic

[10] In February 2012, this diplomat was appointed at the head of the UN-Arab League envoy to Syria and created a ceasefire beginning that April. Ban Ki-Moon succeeded this man as Secretary-General of the UN.

ANSWER: Kofi **Annan**



[10] The UN has also announced that it will use drones to monitor the border of this other war-torn country. The rebel group M23 mainly operates in the North Kivu province of this nation.

ANSWER: **Democratic Republic of the Congo** [or **DRC**; or **Republique democratique du Congo**; prompt on “Congo”]

17. A famine during this period was linked to the eruption of the Huaynaputina volcano in Peru. For 10 points each:  
[10] Name this period of turmoil that came after the death of Fyodor I. During this period, Vasili Shuiski defeated an army under Mikhail Molchanov and Ivan Bolotnikov at Vosma and Tula.

ANSWER: **Time of Troubles** [or **Smutnoye Vremya**]

[10] The Time of Troubles saw the rule of this usurper of the Rurik Dynasty, who battled a False Dmitri, Grigori Otrepiev, during his rule. He also gave the Russian Orthodox Church its own patriarchate.

ANSWER: Boris Fyodorovich **Godunov** [prompt on “Tsar Boris”]

[10] The Time of Troubles did not end until Mikhail I of this dynasty became Tsar in 1613. The last ruler of this dynasty was executed by the Bolsheviks.

ANSWER: **Romanovs**

18. This creature sorts faster and slower molecules into different vessels by opening and closing a gate. For 10 points each:

[10] Name this hypothetical being proposed by a Scottish scientist in a thought experiment. Its namesake proposed it as a way to violate the second law of thermodynamics.

ANSWER: **Maxwell’s demon**

[10] This scientist pointed out that Maxwell’s demon would need to expend energy in order to measure molecular speeds. He also wrote a letter signed by Albert Einstein, which pushed the United States to pursue an atomic bomb.

ANSWER: Leo **Szilard**

[10] Richard Feynman described a “ratchet” that uses this phenomenon to extract energy from randomly moving air molecules. Einstein showed that the average displacement due to it varies with the square root of elapsed time.

ANSWER: **Brownian motion**

19. Dorothea Brooke marries Will Ladislaw, ceding the inheritance from her previous marriage to Edward Casaubon, in this author’s novel *Middlemarch*. For 10 points each:

[10] Name this Victorian author of *Silas Marner*. Stephen Guest and Philip Wakem vie for the affection of Maggie Tulliver in her novel *The Mill on the Floss*.

ANSWER: George **Eliot** [or Mary Ann **Evans**]

[10] Septimus Harding’s management of Hiram’s Hospital comes under criticism in this other Victorian novelist’s *The Warden*, which is the first volume of his *Barsetshire Chronicles*.

ANSWER: Anthony **Trollope**

[10] This Victorian poet wrote the line “Glory be to God for dappled things” in his poem “Pied Beauty.” This priest and author of “The Windhover” described his poetry as using “sprung rhythm.”

ANSWER: Gerard Manley **Hopkins**

20. This work’s libretto was written by Charles Jennens, who had worked with its composer on *Saul*. For 10 points each:

[10] Name this oratorio that depicts scenes from the life of Jesus Christ. Its second part ends with the famous Hallelujah Chorus.

ANSWER: **Messiah**

[10] *Messiah* was composed by this German who spent much of his life as a composer for the English throne. His *Water Music* was premiered on a barge on the River Thames.

ANSWER: George Frederic Handel

[10] Handel's Opus 4 and Opus 7 were collections of concertos for this instrument. Poulenc wrote a G minor concerto for this instrument, timpani, and strings, and it was the primary instrument associated with Cesar Franck.

ANSWER: organ [accept any specific type of organ, like pipe organ]

21. In a poem by an author from this country, the speaker tells the listener to "wish for the road to be long" and asks the listener not to fear the Cyclopes or Poseidon. For 10 points each:

[10] Name this country that is home to Constantine Cavafy, who also wrote the poem "Waiting for the Barbarians." That poem asks, "What are we waiting for, assembled in the forum?"

ANSWER: Greece

[10] This other author from Greece wrote a novel in which the narrator encounters Madame Hortense and the pessimistic title character while on Crete. This author of *Zorba the Greek* also wrote *The Greek Passion*.

ANSWER: Nikos Kazantzakis

[10] Manolios represents this figure, who dies at the end of *The Greek Passion*. While hanging on the Cross, this man resists the possibility of escaping death in a Kazantzakis novel about his *Last Temptation*.

ANSWER: Jesus Christ [accept either]

X. Mary Lou accompanies one of this novel's central characters, who divorces Camille because he is more attracted to Inez. For 10 points each:

[10] Name this novel in which Sal Paradise and Dean Moriarty take a cross-country trip.

ANSWER: On the Road

[10] Japhy Ryder and Ray Smith undergo an intense drug-inspired trip in this Beat Generation author's *The Dharma Bums*. He also wrote *On the Road*.

ANSWER: Jack Kerouac

[10] Sal Paradise meets Remi Boncoeur in San Francisco which, in the real world, is home to this bookstore that was central to the Beat movement. Lawrence Ferlinghetti's obscenity trial was the result of a reading at this place.

ANSWER: City Lights Bookstore

X. Answer some questions about Canadians not being nice to each other, for 10 points each:

[10] The Stony Monday Riot preceded Lord Elgin's visit to this current Canadian capital city. Thousands of unemployed men in government camps went on a 1935 march known as the "on-to-[this city] trek."

ANSWER: Ottawa

[10] The Canadian government signed the Numbered Treaties with this collective set of Aboriginal Canadian tribes in order to settle their land. That arrangement hasn't worked out too well for these people.

ANSWER: First Nations

[10] Not included in the First Nations is this group of white-Aboriginal mixed-descent people. In the 19<sup>th</sup> century, Louis Riel led these people in the Red River and North-West rebellions.

ANSWER: Métis

X. Srinivasa Ramanujan found a sequence of numbers " $a$  sub  $n$ " such that, for all  $x$  greater than " $a$  sub  $n$ ," this function of  $x$  minus this function of one-half  $x$  is greater than or equal to  $n$ . For 10 points each:

[10] Name this function, which is denoted " $\pi$  of  $x$ " and counts the occurrences of a certain kind of number less than its argument. An upper bound on when this function exceeds the logarithmic integral is given by Skewes' number.

ANSWER: prime-counting function

[10] The natural numbers counted by the prime-counting function are contrasted with these natural numbers, which have factors other than one and themselves and are therefore not prime.

ANSWER: composite numbers

[10] This special type of prime number, named for a Frenchman, is equal to 2 to the  $p$  minus 1, where  $p$  is also prime. The GIMPS project is a distributed computing effort to find primes of this type.

ANSWER: **Mersenne** primes