ACF Fall 2017
Edited by Jonathan Magin, Adam Silverman, Jason Cheng, Bruce Lou, Evan Lynch, Ashwin Ramaswami, Ryan Rosenberg, and Jennie Yang
Packet by Louisiana Tech A, North Carolina State A, Georgetown A, and Wisconsin

Tossups

1. An early leader of this group ran for the presidency in 1968 as the candidate for the Peace and Freedom Party and wrote the book *Soul on Ice*. One of the co-founders of this group shot and killed police officer John Frey, leading to members of this group leading a campaign to free that founder. The Mulford Act was passed in response to this group's open carrying of firearms. Fred Hampton, a prominent member of this group, was killed as part of J. Edgar Hoover's COINTELPRO campaign against it. This group provided free breakfast for schoolchildren in Oakland, where it was founded. For 10 points, name this black nationalist group founded by Huey Newton and Bobby Seale.
ANSWER: **Black Panther** Party [or the **Black Panthers**]

2. A song in this play about two women who came out from a wood features the refrain "Tridiridi-ralla-la." The main character of this play asks her cook to shoot her dog Diana for having sex with the neighbor's mongrels. An engaged man breaks up with this play's main character because she was training him to perform barnyard tricks with her whip. In this play, the title character's love interest decapitates her canary Serena on a chopping block, and dreams of building a hotel on Lake Como. This play is set at midsummer in a Swedish manor, and ends with the title woman taking a razor from her valet Jean and deciding to commit suicide. For 10 points, name this naturalist play by August Strindberg.
ANSWER: *Miss Julie*

3. Differences in this quantity can generate an electromotive force in the Seebeck effect. According to the equipartition theorem, every degree of freedom in a system adds an amount of energy proportional to Boltzmann's constant times this quantity. The third law of thermodynamics considers the entropy of a perfect crystal with the lowest possible value for this property. The change in Gibbs free energy of a system is equal to the change in enthalpy minus the change in entropy times this quantity. The minimum value this quantity can be equal to is absolute zero. For 10 points, name this measure of average kinetic energy, which can be measured using the Kelvin or Celsius scales.
ANSWER: **temperature** [prompt on "T"]

4. In one of this composer's works, the bassoons and low strings play the opening slow, legato melody in 3/4 ("three four"), which quotes the first four notes of the *Dies Irae* (DEE-ess EAR-ay). That melody comes immediately after a long E-flat roll in the timpani. The second movement of one of this composer's symphonies calls for triangle, cymbals, and bass drum to imitate a Janissary band. The second movement of another of this composer's symphonies opens with the violins playing a soft, staccato theme that ends with the entire orchestra playing a sudden *fortissimo* G-major chord. For 10 points, name this composer of the London symphonies, which include the "Drumroll," "Military," and "Surprise."
ANSWER: Franz Joseph **Haydn**

5. A hero from this modern-day country married a woman who spent three days bouncing so high that her head kept hitting the moon. A humpbacked flute player wanders around this country distributing unborn babies and is named Kokopelli. A girl floats into the air to escape punishment, inspiring her observers to also fly away, in a song from this country about how God's children have wings. A figure from this country is tricked by his fox nemesis into punching a baby made of turpentine and tar. Its folk heroes include a man who raced a steam engine and a man who traveled around this country planting apple trees. For 10 points, name this modern-day country whose folk heroes include Pecos Bill, Johnny Appleseed, and John Henry.
ANSWER: **U**nited **S**tates of America [or "the **US**A"; or **America**]

6. In a short story by this author, Eve abolishes the words that Adam gave the animals in the Garden of Eden. Another of this author's short stories depicts a summer festival in a utopian city, whose joy is based on the "abominable misery" of a child locked in a small room. This author of "She Unnames Them" and "The Ones Who Walk Away from Omelas" wrote a novel about Ged, a young mage who pursues and confronts his shadow. Her Hainish Cycle includes a novel in which Genly Ai travels to the planet Gethen, whose natives are both male and female. For 10 points, name this science fiction author of *A Wizard of Earthsea* and *The Left Hand of Darkness*.
ANSWER: Ursula **Le Guin**

7. A salute named for this country's last king involved placing the right hand over the heart with the palm facing down. Over three million citizens of this country lost a combined 1.2 billion dollars after a series of pyramid schemes collapsed in 1997. An eccentric leader of this country built over three million pillboxes, each capable of holding only one person, to defend it from invasion, and declared this country the world's first official atheist state. This country was the only one to side with China during the Sino-Soviet split. King Zog of this country was forced to flee when it was invaded by Mussolini. For 10 points, name this country which was led for most of the Cold War by Enver Hoxha (HOE-dja).
ANSWER: **Albania** [or *Shqiperia*]

8. In one book, this thinker described how modern inventions such as the telescope led to "earth alienation" and compared the vita activa with the vita contemplativa. In another book, this philosopher examined a man who followed the categorical imperative "for the household use" to identify his own will not with practical reason, but with the will of the law. This author of *The Human Condition* also described how a man on trial repeated "stock phrases" and "self-inflicted clichés" to argue that his his actions were not caused by "radical evil," but by following orders during the Holocaust. For 10 points, name this thinker who coined the phrase "banality of evil" in *Eichmann in Jerusalem.*
ANSWER: Hannah **Arendt**

9. Decoy receptor 3 prevents this process from happening by competitively binding to the Fas ligand. Proteins that inhibit this pathway often contain BH1 or BH2 domains, for example, Bcl-2. The "extrinsic" form of this pathway involves the activation of the death-induced silencing complex. This process involves a family of proteins that are classified into "initiator" and "executioner" types. During this process, Bak and Bax form an ion channel on the mitochondrial membrane that allows for the release of cytochrome c. This process involves the activation of cysteine proteases known as caspases that destroy the cells. For 10 points, name this process of programmed cell death.
ANSWER: **apoptosis** [prompt on "(programmed) cell death" before mentioned]

10. Alan Baddeley modeled one form of this process with a phonological loop, improving on a model of this process by Atkinson and Shiffrin. A curve formulated by Hermann Ebbinghaus (EBB-ing-house) shows the weakness of this process in humans. This process can be manipulated by the "lost in the mall" technique, which was developed by a student of Elizabeth Loftus. George Miller found that the limits of this process involves the magic number "seven, plus or minus two," and the hippocampus helps transition between the short-term and long-term types of this process. For 10 points, name this mental process involving the encoding, storage, and retrieval of information.
ANSWER: **memory** [accept **working memory**; accept **short-term memory** or **long-term memory** before "short-term" and "long-term" are mentioned]

11. An ideology put forth by a leader of this country included tenets of economic production, cultural advancement, and fundamental majority interests, known collectively as the Three Represents. The 610 office suppressed a cult in this country. A leader of this country made a grand tour of its southern provinces in 1992 and coined aphorisms such as "to get rich is glorious" and "it doesn't matter if a cat is white or black, as long as it catches mice." Two former European colonies in the Pearl River Delta region of this country were reincorporated into it with the principle of "one country, two systems." For 10 points, name this country, which in 1997 regained control of the former British colony of Hong Kong.
ANSWER: **China** [accept **P**eople's **R**epublic of **C**hina; accept *Zhonghua renmin gonghe guo*; do not accept or prompt on Taiwan or Republic of China or *Zhonghua minguo*]

12. In this painting, the figure of a haloed woman with a dragon at her feet carved on a bedstead may represent St. Margaret. A signature on the back wall of this painting was the basis of an essay by Erwin Panofsky which suggested that this painting served as a legal document. In this painting, some oranges, representing wealth, are visible on a chest under a window. It includes tiny depictions of the Passion of the Christ around a convex mirror. A small dog stares at the viewer at the feet of this painting's subjects, a possibly-pregnant woman who holds hands with a man in a fur-trimmed coat. For 10 points, name this double portrait of a merchant and his wife by Jan Van Eyck.
ANSWER: The _**Arnolfini Wedding**_ [or The _**Arnolfini Portrait**_; or The _**Arnolfini**_ Portrait after "portrait" is read; or The _**Arnolfini Marriage**_ or the _Portrait of Giovanni **Arnolfini and his Wife**_ or anything else reasonable along those lines that includes the name **Arnolfini**]

13. Buildings used for this ritual are often octagonally shaped. After one occurrence of this event in the Bible, the "heavens were opened" and a voice came from heaven saying, "Thou art my beloved Son, in whom I am well pleased." In Matthew 28, this action is enjoined to be done on people from all nations, in the name of the Father, the Sun, and the Holy Spirit. This ritual can be performed through affusion. The Swiss Brethren movement believed in this practice's "believer's" version and opposed doing this practice on infants. This sacrament often makes use of a namesake font. For 10 points each, name this action done by John on Jesus, in which people are immersed in water.
ANSWER: **baptism** [or infant **baptism**]

14. Applying this operation to a vector-valued function gives the entries of that function's Jacobian matrix. According to Schwarz's theorem, the order of applying one type of this operation does not matter. This operation is not defined when a function is not continuous, or when it has cusps or corners. The "partial" type of this operation keeps all independent variables constant except for one. This operation can be evaluated on a function by the help of the power rule and the chain rule. This operation applied to a straight line gives a constant. For 10 points, name this operation in calculus that gives the instantaneous rate of change of a variable, the reverse of integration.
ANSWER: first **derivative**s [or **differentiation**; or partial **derivative** or partial **differentiation** before "partial" is read]

15. This character responds to being called "the poor cat i' th' adage" by declaring "Prithee, peace / I dare do all that may become a man / Who dares do more is none." This character discusses the risk of punishment in the afterlife, saying "upon this bank and shoal of time / we'd jump the life to come." In a soliloquy, this character describes a tale "Told by an idiot, full of sound and fury / signifying nothing." This character is vanquished by a man who was "from his mother's womb / untimely ripp'd" after seeing Birnam Wood come to Dunsinane. This character walks on a heath with Banquo before meeting three witches. For 10 points, name this Thane of Glamis ["glahmz"] who murders King Duncan in Shakespeare's "Scottish play."
ANSWER: **Macbeth**

16. Just a month before this event, its target refused a crown offered to him by a subordinate three times, which this event's perpetrators found insincere. This event's date had to be moved up because its target was planning to leave on a campaign to Parthia. In the aftermath of this event, the last major proscription—whose victims included Cicero—was ordered to avenge it. The main perpetrators of this event fled to Greece, where they were defeated at the Battle of Philippi by Marc Antony and Octavian. For 10 points, name this event that occurred on the Ides of March in 44 BC, during which a group of conspirators led by Cassius and Brutus stabbed a Roman dictator to death.
ANSWER: **assassination** of Julius **Caesar** [or **murder** of Julius **Caesar**; or **stab**bing of Julius **Caesar**]

17. One of these entities called Eko Atlantic is being developed to help protect Lagos from the effects of climate change. Durrat al-Bahrain is a series of these structures which are designed to attract foreign investment to the Southern Governorate of Bahrain. The Dutch province of Flevoland consists entirely of these kinds of geographic features, which were created in the 1950s and 60s. China has recently come under international criticism for constructing several of these features on top of reefs in the South China Sea. For 10 points, name these landforms built for the Kansai and Chubu Airports, and include the World and Palm Jumeirah off the coast of Dubai.
ANSWER: artificial **island**s [accept artificial **peninsula**s; accept any answer involving landmasses made of **reclaimed land**; prompt on "city" or "cities" since the full name of the location described in the first sentence is "Eko Atlantic City"]

18. This element is the most common to be extracted from its oxide using a silicothermic reduction. It's not sodium, but the anhydrous form of this element's sulfate is commonly used as a laboratory drying agent. This compound is used as a reducing agent in the Kroll process to produce titanium. This metallic element is found in compounds which exist in a Schlenk equilibrium and are often used to alkylate aldehydes and ketones. Those alkyl bromide compounds of this element are Grignard reagents. This metal is coordinated to a porphyrin ring in chlorophyll, and this element's sulfate is called Epsom salts. For 10 points, name this alkali earth metal, which burns with a bright, white flame and has symbol Mg.
ANSWER: **magnesium** [or **Mg** before read; do not accept or prompt on "manganese"]

19. In a film from this country, the title character, a serial killer, stabs victims with a knife attached to a camera and records their deaths. Another film from this country ends in the Palladium music hall, where Richard Hannay gets "Mr. Memory" to reveal that the title organization is a spy ring. Michael Powell, the director of *Peeping Tom*, hailed from this country, as did a director whose film *The 39 Steps* exemplifies his use of outlandish plot devices called MacGuffins. That filmmaker from this country directed a sequence in which Marian Crane is stabbed in her motel room's shower from the film *Psycho*. For 10 points, name this home country of director Alfred Hitchcock.
ANSWER: the **United Kingdom** [or the **U.K.**; or **England**; or Great **Britain**]

20. This conflict is the main subject of the diary of Mary Boykin Chestnut. Mark Twain blamed Sir Walter Scott's novels for indirectly causing the start of this conflict. A popular marching song from this conflict describes the title character's body as "a-moulderin' in the grave." In a poem set during this conflict, a woman in "Frederick town" defies the army passing through by putting up a flag and daring them to shoot her. During this conflict, a firing squad executes Peyton Farquhar at Owl Creek Bridge in a story by Ambrose Bierce. For 10 points, name this setting of "Barbara Fritchie," a conflict where "John Brown's Body" was a battle cry for Union troops.
ANSWER: American **Civil War** [prompt on the Confederacy or the Confederate States of America or the CSA]

Tiebreaker. Velocity selectors are used in mass spectrometry to filter particles with a velocity equal to the ratio of the magnitude of this quantity and the B-field. The energy density of this vector quantity is equal to one-half times epsilon times the square of its magnitude. This quantity is spatially invariant in the vicinity of an infinite uniformly charged plate, in which case its magnitude is equal to the charge density divided by two epsilon-naught. This quantity is equal to a material's current density divided by conductivity, and it is defined as the negative gradient of electric potential. For 10 points, name this physical quantity that gives the force on a particle per unit charge, symbolized E.
ANSWER: **electric field** strength [prompt on "E"; do not accept "electromagnetic field"]
<Wisconsin / ed. Ashwin Ramaswami>

Bonuses

1. This process frequently uses indicators such as phenolphthalein and bromothymol blue. For 10 points each:
[10] Name this process, which uses a calibrated burette to slowly add one substance to another to determine the concentration of one of the substances.
ANSWER: **titration**
[10] This point for a titration is approximately equal to the point at which the indicator changes color, or the endpoint. It is defined as the point at which the number of moles of acid is the same as the number of moles of base.
ANSWER: **equivalence** point
[10] A form of this technique using an isothermal titration can be used to find the dissociation constant and binding enthalpy of enzyme-substrate interactions. Another form of this technique is often combined with thermogravimetric analysis.
ANSWER: **calorimetry** [accept isothermal titration **calorimetry**; prompt on "ITC"]

2. This play ends with Ben being instructed to kill his partner Gus. For 10 points each:
[10] Name this play about two hitmen who receive mysterious orders from the title device. Throughout the play, their unseen boss Wilson keeps changing their instructions.
ANSWER: The ***Dumb Waiter***
[10] *The Dumb Waiter* was written by this playwright of *The Birthday Party* and *The Homecoming*, who received the 2005 Nobel Prize in Literature.
ANSWER: Harold **Pinter**
[10] During the 1970s, Pinter worked on a screenplay based on this author's masterpiece. In that book, this author created a narrator whose obsessive jealousy makes him try to keep Albertine captive in his house.
ANSWER: Marcel **Proust**

3. Richard Taruskin described the choreography for this ballet as "ugly earthbound lurching and stomping." For 10 points each:
[10] Name this ballet, whose original choreography was created by Vaslav Nijinsky. The audience rioted at the 1913 premiere of this Stravinsky ballet, which includes a "Dance of the Earth."
ANSWER: The ***Rite of Spring*** [or Le ***Sacre du Printemps***]
[10] Nijinsky's sister Bronislava choreographed this Stravinsky ballet scored for mixed chorus, percussion, and four pianos. Bronislava's somber, rigid choreography reflects a woman's obligation to marry.
ANSWER: Les ***Noces*** (lay NOSS) [or The ***Wedding***]
[10] Sergei Diaghilev (dee-AH-ghee-lev), who commissioned many of Stravinsky's ballets, founded this ballet company. Many of this company's original dancers trained at the Imperial Ballet in St. Petersburg.
ANSWER: Ballets **Russes** (ROOSS)

4. The Australian government was rocked by a constitutional crisis in the summer of 2017, which forced seven members of this body to resign. For 10 points each:
[10] The crisis concerned the eligibility of members of this body of the Australian government which consists of a Senate and a House of Representatives. The Prime Minister of Australia is a member of this body of government.
ANSWER: Australian **Parliament** [prompt on legislative branch or legislature]
[10] At the root of the crisis was Section 44 of the Australian constitution, which prevents members of Parliament from holding this status.
ANSWER: **dual citizenship** [or **foreign citizenship**; or **allegiance** to a **foreign** country]
[10] Thankfully, the US's federal office eligibility laws haven't caused a constitutional crisis yet. However, this two-word hyphenated phrase that sets out presidential eligibility by birth is still somewhat ambiguous.
ANSWER: **natural-born citizen**

5. This country was called "the happiest barrack" for its relative freedom and high standard of living during the Cold War. For 10 points each:
[10] Name this Eastern Bloc country ruled by the ideology of "goulash communism." It attempted to rebel against Soviet domination in 1956, but was brutally crushed.
ANSWER: **Hungary** [or *__Magyarorszag__*]
[10] This leader of Hungary after the Hungarian Revolution implemented goulash communism. This man succeeded Imre Nagy (IM-ray NODGE) as prime minister, who left the Yugoslav embassy when this man falsely promised Nagy safe passage.
ANSWER: Janos **Kadar**
[10] During the Hungarian Revolution, people targeted members of the AVH, one of these types of organizations. Lavrentiy Beria led one of these groups in the Soviet Union during World War II.
ANSWER: **secret police** [prompt on police]

6. Herbert Simon used the term "satisficing" to describe how this concept is "bounded" for individuals. For 10 points each:
[10] Name this adjective, which in the social sciences, describes an individual with a set of complete preferences. This adjective is applied to somebody who always makes optimal decisions with perfect information.
ANSWER: **rational**ity [or **rational** actor]
[10] Economic preferences usually have this kind of constraint. It is defined as the total amount of money a person has available to spend.
ANSWER: **budget** constraint
[10] If an individual's preferences between two goods is a straight line, the goods are said to be this type of substitute.
ANSWER: **perfect** substitute

7. These devices can use a beam splitter or a half-silvered mirror to operate. For 10 points each:
[10] Name these devices that can measure differences in phases of light taking different paths. One of these devices was used in the Michelson-Morley experiment.
ANSWER: Michelson **interferometer**
[10] Interferometers create light-and-dark fringe patterns, which include dark fringes caused by this process. As opposed to constructive interference, this phenomenon is caused by light waves that are completely out of phase.
ANSWER: **destructive** interference
[10] Ring-shaped fringe patterns are also present in "rings" named for this scientist. This scientist created that phenomenon by placing a convex lens on top of a flat lens and shining light through them.
ANSWER: Sir Isaac **Newton**

8. This government is sometimes named after the city of Edo, where its shoguns lived. For 10 points each:
[10] Name this last shogunate of Japan, which was ended by the Meiji Restoration.
ANSWER: **Tokugawa** Shogunate [or *__Tokugawa__ bakufu*]
[10] This policy, called *sakoku* in Japanese, was enforced by the Tokugawa shogunate and only ended in 1853, when Commodore Matthew Perry forced Japan to sign the Treaty of Kanagawa.
ANSWER: **isolation**ism [accept descriptive answers that mention things like **no foreign trade** or **no foreign contact**]
[10] The only European country allowed to trade with Japan during the isolationist period was this one, which maintained a trading post on the island of Dejima in Nagasaki Harbor.
ANSWER: the **Netherlands** [or the **Dutch**]

9. In one account, this man lies in bed with his lover without making a move for three nights. For 10 points each:
[10] Name this knight who fails to ask a question that would heal the Fisher King, who was wounded by the Dolorous Stroke.
ANSWER: Sir **Perceval** [or **Percival**; or **Parsifal**; or **Parzival**]
[10] Sir Perceval is the earliest knight in Arthurian legend to embark on the quest to retrieve this object, for which he travels to the Waste Land to meet the Fisher King.
ANSWER: the Holy **Grail**
[10] Perceval was introduced into the Arthurian legends by this author, who also wrote *Erec et Enide* and *Lancelot, the Knight of the Cart*.
ANSWER: **Chretien** de Troyes

10. This author concluded "logic is logic / That's all I say" in a comic poem about a "wonderful one-hoss shay." For 10 points each:
[10] Name this American author, who exclaimed "Build thee more stately mansions, O my soul!" in a poem which praises the "heavenly message" brought by the title "child of the wandering sea."
ANSWER: Oliver Wendell **Holmes**, Sr. [do not accept or prompt on "Oliver Wendell Holmes, Jr."; the poem is "The Chambered Nautilus"]
[10] Oliver Wendell Holmes wrote the poem "Lexington" about this war, whose beginning is described in Longfellow's poem *Paul Revere's Ride*.
ANSWER: The **American Revolution** [or the **Revolutionary** War]
[10] During the American Revolution, this poet wrote "To His Excellency, General Washington." Men like John Hancock quizzed this slave about literature for hours to make her prove she was capable of writing poetry.
ANSWER: Phillis **Wheatley**

11. For 10 points each, answer some questions about the rare key of G-sharp minor:
[10] The turbulent second movement of this composer's String Quartet No. 8 is in G-sharp minor. That quartet features this composer's signature DSCH motif and quotes his opera *Lady Macbeth of the Mtsensk District.*
ANSWER: Dmitri Dmitriyevich **Shostakovich**
[10] Chopin wrote his sixth of these pieces in G-sharp minor. He also wrote pieces of this type nicknamed "*Black Keys*" and "*Revolutionary*."
ANSWER: piano **étude**s
[10] This Russian synesthetic composer wrote his Piano Sonata No. 2 in G-sharp minor. This composer also wrote *Prometheus: Poem of Fire* and a piece meant to be played just before the end of the world, *Mysterium.*
ANSWER: Alexander Nikolayevich **Scriabin** (scree-AH-byin)

12. One side in this war passed the Self-Denying Ordinance, preventing members of Parliament from simultaneously being military officers. For 10 points each:
[10] Name this war, fought between the Roundheads and the Cavaliers. It ended with the defeat of Royalist forces and the execution of Charles I.
ANSWER: **English Civil** War
[10] The army of Parliament during the English Civil War was given this name. Thomas Fairfax was its commander-in-chief, though his subordinate Oliver Cromwell later became leader after the war.
ANSWER: **New Model Army**
[10] Oliver Cromwell sacked this Irish city during the English Civil War, resulting in the slaughter of many Irish civilians. Its commander, Arthur Aston, was beaten to death with his own wooden leg.
ANSWER: **Drogheda** [dro-eh-duh]

13. The title character of this novel tries to adopt Murasaki many times and is refused, so he decides to kidnap her. For 10 points each:
[10] Name this Heian-era story about the title prince, the son of Emperor Kiritsubo, written by Lady Murasaki Shikibu.
ANSWER: The *Tale of Genji* [or *Genji monogatari*]
[10] *The Tale of Genji* is considered the first modern example of this literary form, the most common type of long fiction. Literary critics often try to identify the "Great American" work of this type.
ANSWER: **novel**s
[10] In *The Tale of Genji*, the chapter "Vanished into the Clouds" uses this form to symbolize Genji's death.
ANSWER: it is left completely **blank** [accept **blank** chapter]

14. Common mutations of this protein occur on its DNA-binding core domain, and such mutations are associated with bladder and colorectal cancers. For 10 points each:
[10] Name this tumor suppressor protein that is commonly described as "the guardian of the genome."
ANSWER: **p53** [or tumor protein **p53**]
[10] As a tumor suppressor, p53 protects against this disease by preventing excessive cell growth. This disease, which can be promoted by oncogenes, can be treated with chemotherapy.
ANSWER: **cancer**
[10] MDM2 mediates the degradation of p53 by adding on this small protein, which is found in almost all cells. Proteins tagged by a poly-chain made of this protein usually go to the proteasome for degradation.
ANSWER: **ubiquitin**

15. The Book of Shapur is an important text in this religion, whose only remaining temple is the Temple of Cao'an. For 10 points each:
[10] Name this dualistic religion founded in Persia, which teaches about a conflict between the World of Light and the World of Darkness.
ANSWER: **Manichaeism** [or **Manichaean**]
[10] The prophet Mani, founder of Manichaeism, wrote a "Living" type of this kind of work, whose name means "good news." In Christianity, there are three "synoptic" types of these works that describe the life of Jesus.
ANSWER: **gospel**s [accept **synoptic gospel**s]
[10] This bishop initially converted from Manichaeism to Christianity after hearing a child's voice saying, "take up and read." In one of his most famous works, this author defended Christianity after the Sack of Rome.
ANSWER: Saint **Augustine** of Hippo

16. This thinker gave up his job teaching philosophy and became a porter for Guy's Hospital during World War II. For 10 points each:
[10] Name this Austrian philosopher of language and logic who introduced the picture theory of language in his only published work.
ANSWER: Ludwig Josef Johann **Wittgenstein**
[10] Wittgenstein's *Tractatus Logico-Philosophicus* greatly inspired the discussions of a group of scientists and philosophers that met in this city. That group is named for the "circle" of this city.
ANSWER: **Vienna** Circle
[10] This thought experiment by Wittgenstein shows how one cannot experience the world from anyone else's perspective. In this experiment, each person possesses an insect that only they can see.
ANSWER: **beetle-in-a-box** experiment

17. Frameworks used to develop these applications include Apache Cordova, Ionic, and React Native. For 10 points each:
[10] Name these types of mobile apps. As opposed to native mobile apps, these apps are developed using one code base and work cross-platform, as they can be compiled to iOS, Android, or other platforms.
ANSWER: **hybrid** mobile apps
[10] Many hybrid mobile apps use web technologies for development, such as this markup language. This language can be combined with CSS and JavaScript to make websites, and it uses tags such as "div" and "H-one."
ANSWER: **HTML** [or **Hypertext Markup Language**; accept **XHTML** or **HTML5** or **HTML4** or **HTML3**]
[10] In contrast, building native apps for phones developed by this company requires learning Objective C or Swift. In September 2017, this company released iOS 11 to run on its latest mobile devices.
ANSWER: **Apple** Inc.

18. Answer the following about duels in American history, for 10 points each.
[10] In a famous duel, Aaron Burr killed this Federalist Founding Father and first Secretary of the Treasury.
ANSWER: Alexander **Hamilton**
[10] This man challenged Humphrey Marshall to a duel after Marshall insulted this man's resolution boycotting British broadcloth. He became Secretary of State in 1824 as part of a "corrupt bargain" with John Quincy Adams.
ANSWER: Henry **Clay**
[10] An island between Illinois and Missouri named for this adjective was a popular dueling site due to its unclaimed status. In the years following the Civil War, Republicans would figuratively wave a shirt with this quality when they brought up the war.
ANSWER: **bloody** [or **Bloody** Island; or "waving the **bloody** shirt"]

19. For 10 points each, answer the following about works written by Franz Kafka:
[10] In this short story, an executioner takes the place of a condemned man and is killed by the machine he loves. His death takes place over twelve hours while the machine incessantly writes "Be Just" on his skin.
ANSWER: "**In the Penal Colony**" [or "**In der Strafkolonie**"]
[10] In this Kafka story, the protagonist's father throws an apple that becomes stuck in his back. At the beginning of this story, Gregor Samsa wakes up to find that he has become a gigantic insect.
ANSWER: The ***Metamorphosis*** [or *Die **Verwandlung**]*
[10] This other story by Kafka is included as a parable in his novel *The Trial*. In this story, a man waits for admission in front of a large gate with a gatekeeper who tells him he cannot pass through.
ANSWER: "**Before the Law**" [or the parable **before the Law**; or **parable of the Law**]

20. This painting is the most famous representation of the *Rückenfigur* ["roo-ken-fig-ur"] visual motif. For 10 points each:
[10] Name this German painting. It features a young man with his back to the viewer looking out over a series of mist-covered rocky outcroppings.
ANSWER: *Wanderer above the Sea of Fog* [or *Der **Wanderer über dem Nebelmeer**; or *Wanderer above the Mist*; or *Mountaineer in a Misty Landscape*]
[10] Wanderer above the Sea of Fog was painted by this German Romantic artist, whose other paintings include *The Abbey in the Oakwood*, *The Sea of Ice* and *Chalk Cliffs on Rügen*.
ANSWER: Caspar David **Friedrich**
[10] *Wanderer above the Sea of Fog* is an example of this type of painting, which focuses on views of natural scenery. John Constable painted many examples of this type of painting in Dedham Vale.
ANSWER: **landscape**