

## ACF Winter 2010: Temporary Autonomous Zone

Edited by Andrew Hart, Rob Carson, Trevor Davis, Dennis Jang, and Eric Mukherjee

Packet by Vanderbilt (Daichi Ueda, Greg Gauthier, Ryan Mastin, and Jack Hartz) and Harding (Jordan Crawford, Josh Duggins, Ben Hale, Caleb Robbins, Nick Rogers, and Jason Loy)

### Tossups

1. Both the Atkinson-Stiglitz Separability theorem and the Cortlett-Hague theorem relate this quantity for commodities to goods that are substitutable for leisure. The Lindahl form of this entity is employed in an equilibrium dependent on the personal marginal benefit of a public good. Christina and David Romer's recent study found the multiplier of a reduction in this entity to be roughly three. Ramsey developed an optimal set of rules based on the quantity demanded of each good to minimize total burden. Externalities can be limited by the Pigouvian type of them. Deadweight losses are caused by the imposition of, for 10 points, which financial charges collected by the government to finance the nation's budget?  
ANSWER: taxes [do not accept more specific answers]
2. Subdivisions of these units of land were once called cantreds, but that term was superseded by divisions of them known as baronies. The Chief Herald of the nation in which these divisions of land lie has granted many of them coats of armor since 1943, including a seal that depicts Patrick Sarsfield outstretching his hand. Naas is the seat of government of one of these units. The King's and Queen's examples of these units were established during the British Plantations movement in their home country, and those ones are today known as Offaly and Laois. These units are subdivisions of larger provinces like Leinster, Munster, and Connacht. For 10 points, name these divisions of land that include Limerick, Tipperary, and Cork, and are located on the Emerald Isle.  
ANSWER: the counties of Ireland
3. In one scene of this play, a character talks about the scarf he retrieved from the corpse of his slain friend with his lover. Earlier, the audience indirectly learns that the three judges of the underworld debated whether to place one character in this play in the Martian field or the field of love before sending him to Pluto and Proserpine. The climactic scene occurs during a performance of a play-within-this-play called *Soliman and Perseda*. Don Andrea forms the chorus of this play, accompanied by the spirit of Revenge. After Pedrigano helps Serberine kill Lorenzo's rival for Bel-Imperia's love, Hieronimo goes insane and takes revenge on everyone. For 10 points, essentially all the major male characters are dead by the end of which work by Thomas Kyd?  
ANSWER: *The Spanish Tragedy*
4. A dioxane-chloro version of the reagent in this reaction was developed by Kanth to increase selectivity for terminal substrates. Padra and Node developed the odorless reagents Dod-S-Me and MMS for this reaction. A common reagent used in this reaction is synthesized by adding 1,5-cyclooctadiene and some dimethyl sulfide to another compound. Its second stage involves addition of a hydroperoxide anion followed by a rearrangement with retention of configuration, while skipping that step allows the reactant to undergo a Suzuki coupling. The initial step of this reaction occurs with a particular stereochemistry due to steric hindrance, resulting in an anti-Markovnikov product. For 10 points, name this method of adding hydroxyl groups to alkenes, using boron.  
ANSWER: hydroboration-oxidation
5. This person holds the dubious distinction of having been replaced by Derek Jeter in a Gillette commercial with Roger Federer and Tiger Woods. This player scored the goal that eliminated Brazil from the 2006 World Cup. Just before that, this player lost in the Champions League final to the club he currently plays for. He sits behind only Alan Shearer and Andy Cole on the list of top Premier League scorers. He scored over 20 goals for five straight years at Arsenal. He has recently come under fire for a handball which set up the winning goal in a World Cup Qualifying Playoff to beat Ireland. For 10 points, name this French striker who is currently plying his trade at FC Barcelona.  
ANSWER: Thierry Daniel Henry

6. One part of this work sees a speaker describe the “Fourth of July plumes” on a selection of “red and yellow and blue” bathing caps. That Lucinda Childs text is recited from a bed during this work’s passage “Prematurely Air-Conditioned Supermarket,” which is followed in its “Prison” section by passages about Mr. Bojangles and quotes from Carole King’s “I Feel the Earth Move.” Many songs in this work consist of repetitions of solfege syllables and numbers, while others contain poetry by Christopher Knowles. Its three major sections are called “Train,” “Trial,” and “Field/Spaceship;” those sections are broken up by its so-called “knee plays.” For 10 points, identify this five-hour-long opera about a scientist, the first “portrait” opera by Philip Glass.

ANSWER: **Einstein on the Beach**

7. According to a contemporaneous legend, a general of this ruler hid his men in two hundred sacks during his taking of Joppa; that general was Djehuti or Thuti. A stele depicting this ruler was found at Jebel Barkal in Napata. This man carried pontoon boats on oxcarts in order to cross the Euphrates when he attacked the Mitanni kingdom late in his reign. His first campaign was an attack on the kingdom of Kadesh, which culminated with a battle occurring after a march through the narrow Aruna Pass. His victories are commemorated with Cleopatra’s needles. This ruler ordered the removal of all record of his predecessor, including the destruction of images depicting her. For 10 points, name the successor of Hatshepsut, a pharaoh of Egypt who won the battle of Megiddo.

ANSWER: **Thutmose III** [or **Thutmosis III**]

8. One equation used to describe this process states that  $m \cdot a$  is equal to  $F \cdot x$  minus  $\beta$  times the velocity vector plus  $\eta$  of  $t$ . Levy stated that a process  $X$  is one of these if it is its own natural filtration and if  $X_{I+J} - X_I$  times  $X_{J+I} - X_J$  minus Kronecker  $\delta_{IJ}$  times  $t$  for all  $I$  and  $J$  is a martingale. This physical process is the classical example of a Wiener process, and Feynman developed a thought experiment that uses a ratchet to derive work from this process. This process is described by the Langevin equation, while it is used to predict the size of molecules based on one of Einstein’s Annus Mirabilis papers. It was first observed by its namesake via pollen grains in water. For 10 points, name this random movement of particles in a fluid.

ANSWER: **Brownian** motion

9. In this work, a discussion of the niceness of Miss Marie, also known as the prostitute Maginot Line, precedes the beating of a character for splattering a berry cobbler on the floor. Henry Washington performs a magic trick with a disappearing penny in this work, which contains a scene in which the protagonist is blamed by Junior for killing his cat. That protagonist is convinced by Soaphead Church to feed poisoned meat to his landlord’s dog. In its “Summer” section, the marigold seeds planted by Frieda and Claudia MacTeer fail to blossom, which signifies the premature death of the child born from Cholly’s rape of his daughter. The protagonist of this work idolizes Shirley Temple’s features. For 10 points, name this novel about Pecola Breedlove’s desire for an azure iris, by Toni Morrison.

ANSWER: **The Bluest Eye**

10. Alternatives to this procedure include the potassium hydroxide string test, and a process that creates a yellow solution by stimulating the release of 4-nitroaniline, the aminopeptidase test. It is partially used to determine the amount of teichoic acid present in a sample, and the Zheil-Neelsen procedure can be used when this is inconclusive. Results of this process are not conclusive for *Rickettsia*, spirochetes, or a genus of agents whose members cause leprosy and tetanus. It typically employs an iodine mordant, and methylene blue is used as a primary agent for organisms that do not respond well to crystal violet. It differentiates organisms by the amount of peptidoglycan present in their cell walls. For 10 points, name this stain for which bacteria can be either negative or positive.

ANSWER: **Gram** stain

11. This man was the target of an assassination attempt by Viktor Ilyin. His official cult of personality was centered on an exaggerated version of his role at Malaya Zemlya. This leader’s negotiations with a rival nation’s leader failed to prevent the passage of the Jackson-Vanik Amendment, which proposed sanctioning his nation. This leader shared power with Nikolai Podgorny and Aleksey Kosygin, and he negotiated SALT II and initiated détente. The Pravda article “Sovereignty and the International Obligations of Socialist Countries” introduced a policy named for this man that justified intervention in other socialist nations; that policy was his namesake doctrine that led to his invasion of Afghanistan. For 10 points each, name this leader effectively in charge of the Soviet Union from 1964 to 1982.

ANSWER: Leonid Ilich **Brezhnev**

12. This composer met Enrico Fermi on a trip to a country which inspired a work that utilizes *Dies Irae* in its movement *Butantan*. That work, *Brazilian Impressions*, is one of his tone poems, along with *Church Windows*. One of his operas takes its title from a demon that represents the deadly sin of slothfulness. Another of this composer's works contains a movement in which Christian hymns are heard against the growls of vicious animals, called "Circuses." Another work by this composer of *Belphegor* and *Ancient Airs and Dances* is dedicated to the title structures depicted at various times of day, while another uses a recorded nightingale in its third movement. For 10 points, name this composer of *Roman Festivals*, *Fountains of Rome*, and *Pines of Rome*.

ANSWER: Ottorino **Respighi**

13. In one play, this character returns from space with the news that there is no better hope for man than there is on earth. In another play, this character is a monarch whose wife says he is "four-hundred years old." In another work, he falls in love with Dany and meets a man who wishes to cause chaos. That man lures his victims by telling them he will show them a "picture of the colonel." In the second play of this character's "cycle," he exclaims, "I'm the last man left, and I'm staying that way until the end. I will not capitulate!" after Daisy leaves him. He tracks down a murderer in *The Killer* and comes to terms with death in *Exit the King*. For 10 points, identify this Eugene Ionesco character who refuses to become one of the titular animals in *Rhinoceros*.

ANSWER: [King] **Bérenger**

14. This monarch requested that Clement XI issue the anti-Jansenist bull *Vineam Domini*. One his mistresses was implicated of witchcraft in the Affair of the Poisons. This ruler tried to install one of his sons by that mistress, Madame de Montspan, as regent for his son, but the Duke of Maine was arrested by this man's nephew, the Duke of Orleans. An invasion of the Netherlands by this ruler was ended with the Treaty of Nijmegen. His ministers included the Marquis de Louvois. This monarch was opposed by an alliance led by Leopold I and the Palatinate known as the League of Augsburg. This man made his son Philip of Anjou king of another nation after the death of Charles II, leading to the War of the Spanish Succession. For 10 points, name this French "Sun King."

ANSWER: **Louis XIV** [prompt on **Louis**]

15. The holiday of Zagmuk is sacred to this deity, who is also associated with the celestial object of Nibiru. Sometimes known as King of the Igigi, this figure was once called upon at a feast by Ansar, who gave him the name Asalluhi. "House of the raised head" is the translation of the name of his chief temple, Esagila. This figure tamed a winged dragon called the mushussu, which he then gave to his son Nabu. He is the son of Damkina and a figure who held Mummu with a nose-rope, Ea. He is the grandson of the sky god Anu, who gave him a bag of four winds to play with. For 10 points, name this deity who defeated Kingu and seized the Tablets of Destiny, the Babylonian god of thunderstorms who created human life after defeating Tiamat.

ANSWER: Bel **Marduk** [accept **Amar-utu**; **Meridug**; **Merodach**; or **Mardochaios**]

16. One of these constructs is called perfect if it is equal to its own commutator. The purpose of the Hölder program was to classify a certain type of these. Those of odd order are solvable according to the Feit-Thompson theorem. Any one of these of prime order is also cyclic. Symmetric types of this algebraic structure consist of permutations of a given number of elements. Examples of these include one that has a 194 by 194 character table created by Fisher and Greiss. One of these of order six is the smallest one of these that is non-commutative. They must be associative and have an identity, inverses and a zero element, and Abelian ones are commutative. For 10 points, name these algebraic structures that consist of a set and a binary operation performed on that set.

ANSWER: **groups**

17. John Collier introduced one attempt to modify this piece of legislation, the violation of which led to the wire-tapping case *Olmstead v. US*. The drafter of this bill was known for his use of "pressure politics." Its sponsor also co-sponsored a bill exempting farmers' cooperatives from anti-trust laws with Arthur Capper. Maryland governor Albert Richie openly refused to enforce this act, which was drafted by Wayne Wheeler. The Cullen-Harrison bill modified it to set a limit of 3.2 percent, raised from the original 0.5 percent. Sponsored by a namesake Minnesota representative, this act passed despite Woodrow Wilson's veto. It was supported by organizations like the Anti-Saloon League. For 10 points, name this companion piece to the Eighteenth Amendment that enforced prohibition.

ANSWER: **Volstead** Act [or **National Prohibition** Act]

18. This artist painted Venus and Apollo observing Achilles commemorating the death of his friend in *The Funeral of Patroclus*. Another of his works shows the titular scientist sitting at a red table covered in chemistry equipment while his wife leans over him. The subject of another of his paintings lays on an Empire-style sofa and looks over her shoulder. This artist of portraits of Antoine Lavoisier and Madame Recamier painted a work in which three men extend their hands towards a fourth man holding three swords. Another of his works shows the title character reaching for a cup of hemlock. For 10 points, name this artist of *Oath of the Horatii* and *Death of Socrates*, who depicted a revolutionary in his bathtub holding a note in *The Death of Marat*.

ANSWER: Jacques-Louis **David**

19. One work by this philosopher disagrees with P.F. Strawson's rejection of the "no-ownership" theory. This philosopher defended his distinction between veridical and non-veridical perception and advanced an epistemology he called "sophisticated realism," a position attacked for its dependence on sense-data in J.L. Austin's *Sense and Sensibilia*. This thinker's "right to be sure" concept of knowledge was attacked by Edmund Gettier. This man advanced an ethical theory called emotivism. His best-known work contains chapters such as "The Function of Philosophy" and "The Elimination of Metaphysics" and champions the verificationist principle. For 10 points, name this British logical positivist philosopher, the author of *Language, Truth, and Logic*.

ANSWER: Alfred Jules **Ayer**

20. In the middle of this work, the narrator stops to correct himself after using the phrase "waiting for the rain to stop." Another character in this work, a monkey-like woman, talks about a merchant who chopped up snakes and sold the pieces as dried fish. That woman inspires 60% fear and 40% curiosity in the only other character of the story, a lowly servant with a prominent, pus-filled pimple on his right cheek. This work sees that woman explain to the servant that it is not wrong for her to pluck the hair of dead corpses to make wigs because she needs to survive. Ultimately, the servant uses the same logic to strip the woman of her kimono in this short story. For 10 points, identify this short story named for the Kyoto gate at which it is set, a work of Ryunosuke Akutagawa.

ANSWER: "**Rashomon**"

21. One order of this taxonomic class of animals is known as Polypteriformes and can only be found in Africa. That order is found in the subclass Sarcopterygii, and an infraclass of this group is known as Teleostei and has the most members. Primitive members have ganoid scales, while more modern ones can exhibit cycloid scales that have annuli which can be used to predict age. An operculum covering the gills is present in all these organisms as well as a swim bladder. For 10 points, identify this class of vertebrates separated into 'fleshy-finned' and 'ray-finned,' and whose main difference with Chondrichthyes is their bony skeleton.

ANSWER: **Osteichthyes** [or **osseous** fish; or **bony/boned** fish until "bony"]

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**Bonuses**

1. Reactions of this type usually have a carbocation intermediate, and this kind of reaction occurs when tertiary halides are placed in hydroxylic solvents. For 10 points each:  
[10] Name this type of nucleophilic substitution reaction, the reaction center of which is a racemic mixture as opposed to its bimolecular counterpart.  
ANSWER: **SN1** reactions  
[10] One rule governing SN1 reactions is this one that states that of possible alkene products of a reaction, the more substituted one is the major product.  
ANSWER: **Zaitsev**'s rule  
[10] Another nucleophilic substitution is this one in which its namesake amide facilitates the formation of ketones from esters and carboxylic acid chlorides.  
ANSWER: **Weinreb** ketone synthesis
2. Heracles got quite angry when this man reneged on a promised reward consisting of his magic horses; in retaliation, Heracles slaughtered all of this man's sons save one. For 10 points each:  
[10] Name this father of Priam, the legendary founder of Troy.  
ANSWER: **Laomedon**  
[10] This daughter of Laomedon is the girl that Heracles saved by slaying the sea monster to which she was to be sacrificed.  
ANSWER: **Hesione**  
[10] Laomedon also annoyed Apollo and this Olympian when he refused to repay them for building the walls of Troy. This man was the father of Polyphemus and god of the sea.  
ANSWER: **Poseidon**
3. Identify the following things about the hundredth episode of *How I Met Your Mother*, for 10 points each.  
[10] The episode closes with this musical number, in which Barney Stinson expresses his desire to "send casual Friday down the laundry chute" and notes that the title phrase is "a truth you can't refute."  
ANSWER: **"Nothing Suits Me Like A Suit"**  
[10] Barney is played by this actor, who also held the title roles in both *Doogie Howser, M.D.* and *Dr. Horrible's Sing-Along Blog*. He plays a fictionalized version of himself in the *Harold & Kumar* movies.  
ANSWER: Neil Patrick **Harris** [prompt on **NPH**]  
[10] Barney puts on a suit in a bathroom stall with "Bullwinkle Part II" by the Centurions playing, as it's an homage to a scene in this 1994 film in which John Travolta's character Vincent Vega shoots heroin in a similar setting.  
ANSWER: **Pulp Fiction**
4. This president was disowned by the Whigs after twice vetoing bills to reestablish the Bank of the United States. For 10 points each:  
[10] Name this president dubbed "His Accidency" after succeeding William Henry Harrison.  
ANSWER: John **Tyler**  
[10] Tyler's administration put down this 1842 rebellion in Rhode Island. Its namesake created a rebel government due to dissatisfaction with only landowners being allowed to vote, and it led to the court case *Luther v. Borden*.  
ANSWER: **Dorr**'s Rebellion  
[10] This man started a program to create a naval base on the Mississippi while serving as Tyler's Secretary of the Navy. He was appointed Secretary of State to replace Daniel Webster, but soon after died along with Thomas Walker Gilmer in an explosion aboard the *Princeton*.  
ANSER: Abel Parker **Upshur**

5. For 10 points each, identify the following about philosophy inspired by the works of Descartes.
 

[10] This thinker's obviously named *Philosophical Treatise* criticized Descartes' conception of innate ideas. He also tried to revive Epicureanism and is considered a forerunner of sensationalism.

ANSWER: Pierre **Gassendi**

[10] Gassendi mainly objected to Descartes' ideas found in this book, in which his framework of "methodic doubt" led him to distrust the truth of ideas which could be posed by an "evil genius" trying to deceive him. Descartes also declared "Cogito, ergo sum," in this work.

ANSWER: **Meditations on First Philosophy**

[10] This author of *Search After Truth* believed that "we see all things in God" and attempted to systematize Descartes' philosophy in the aforementioned work. He also founded Occasionalism.

ANSWER: Nicholas **Malebranche**
  
6. Members of this religious group believe that mountain ranges were formed by bombs dropped from the "Mother Wheel," a self-contained planet built in "Nippon" that orbits about forty miles above the Earth. For 10 points each:
 

[10] Name this sect that celebrates Saviours' Day. It was founded by Wallace Fard and led by Elijah Muhammad and Louis Farrakhan, the latter of whom preaches a message of black superiority.

ANSWER: **Nation of Islam** [prompt on **NOI**]

[10] The Nation of Islam also taught that this evil doctor spent 600 years on Patmos with 59,999 followers, selectively breeding the white race.

ANSWER: Dr. **Yakub**

[10] Fard's teachings were influenced by those of the Noble Drew Ali, the author of the *Seven Circle Koran* and founder-prophet of this other pseudo-Islamic sect which believes that Chicago will become a second Mecca.

ANSWER: the **Moorish Science** Temple of America
  
7. This poem ends with the speaker mourning his unawareness of the "blessed Hope" that "trembled through" the title character's "happy good-night air." For 10 points each:
 

[10] Identify this poem in which the narrator encounters the title creature on a winter day, hearing its "full-hearted evensong of joy illimited" as he "leant upon a coppice gate"?

ANSWER: "The **Darkling Thrush**"

[10] This British author of "The Darkling Thrush" also wrote other poems, like "Neutral Tones" and "Channel-Firing," but is better known for novels like *Far From the Madding Crowd* and *Tess of the D'Urbervilles*.

ANSWER: Thomas **Hardy**

[10] The speaker of this Hardy sonnet is hassled by "purblind Doomsters" and notes that he would "bear, and clench myself, and die" if only "some vengeful god would call" down to him and laugh.

ANSWER: "**Hap**"
  
8. Many basic ways of storing information in a computer's memory have been devised. For 10 points each, identify these data structures.
 

[10] Usable in one or many dimensions, these structures contain elements that can be identified by indices and accessed in constant time.

ANSWER: **arrays**

[10] One of the major data structures used by the LISP programming language, these structures are comprised of nodes that point to other nodes in a linear fashion.

ANSWER: **linked lists** [or **lists**]

[10] These objects are sometimes placed at the end of linked lists, and usually stores "nil" as a value. They can cut out the time needed to check for a null value.

ANSWER: **sentinel nodes**

9. This artist created a starkly realistic depiction of Pope Leo IV's magical firefighting powers in the painting *The Fire in the Borgo*, which he designed and his student Giulio Romano probably painted. For 10 points each:  
 [10] Name this Italian Renaissance painter, better-known for painting *The School of Athens*.  
 ANSWER: **Raphael** [or Raffaello **Sanzio** da Urbino]  
 [10] The first title character of this Raphael painting has shattered his lance in the second title character, but swings at the latter with a sword from atop his white horse anyway. In Paolo Uccello's painting of this title, the first title character is stabbing the second in the nose with a golden lance.  
 ANSWER: *St. **George and the Dragon***  
 [10] This Raphael work shows two angels catching Jesus' blood in chalices as St. Jerome and Mary Magdalene kneel below him, while Mary and John look on.  
 ANSWER: *The **Mond Crucifixion*** [or ***Crocifissione Gavari***]
10. The title character of this novel orders Miguel Angel Face (FAH-say) to eliminate his opponent General Canales. For 10 points each:  
 [10] Name this novel whose actions are precipitated by a murder carried out by a lunatic called "The Zany."  
 ANSWER: *El **Señor Presidente*** [accept *The **President***; or ***Mister President***]  
 [10] Other novels by this Guatemalan author of *El Señor Presidente* include *The Cyclone*, *The Green Pope*, and *The Eyes of the Interred*, which form his "Banana Trilogy."  
 ANSWER: Miguel Angel **Asturias**  
 [10] Asturias also produced a seminal translation into Spanish of this ethnic group's canon of myths, the *Popul Vuh*.  
 ANSWER: **Mayans** [accept **Quiche** Mayans]
11. This man used the Companion Cavalry to win decisive victories at Issus and Gaugamela. For 10 points each:  
 [10] Name this great Macedonian conqueror, the son of Philip II.  
 ANSWER: **Alexander the Great** [or **Alexander III**; prompt on **Alexander**]  
 [10] After this coastal city of the Levant refused to allow Alexander to sacrifice at its shrine to Heracles, he took it in a siege of unprecedented proportions, building a massive causeway to reach the island it was built on.  
 ANSWER: **Tyre**  
 [10] During Alexander's first major battle, at the Granicus river, he was saved from almost certain death by this cavalry commander. Later, Alexander killed this man in a drunken quarrel.  
 ANSWER: **Cleitus** the Black
12. Its first of three sections was meant to "suggest something of the mysterious sense of fatality" that surrounds the personality of its title figure. For 10 points each:  
 [10] Name this 1942 musical work for narrator and orchestra that incorporates the popular ditties "Springfield Mountain" and "The Camptown Races."  
 ANSWER: *A **Lincoln Portrait***  
 [10] *Lincoln Portrait* was composed by this composer, whose works include *Billy the Kid*, *Appalachian Spring*, and the ballet *Rodeo*, which contains the famous "Hoedown" section.  
 ANSWER: Aaron **Copland**  
 [10] This final symphony by Copland features themes from his *Fanfare for the Common Man* in its fourth movement. Bernstein suggested a cut of eight measures at the end of the work, differing from Koussevitzky's premiere.  
 ANSWER: Symphony No. **3**
13. Identify some things related to the Treaty of Tordesillas, for 10 points each.  
 [10] The treaty recognized this country's exclusive claim to all new world territory more than three hundred seventy miles west of the Cape Verde Islands. At the time, this country was ruled by Ferdinand and Isabella.  
 ANSWER: Kingdom of **Spain** [or Reino de **España**]  
 [10] This Spanish-born pope instigated the treaty's creation with bulls that declared the Spanish rights. This man was the father of Cesare and Lucrezia Borgia.  
 ANSWER: **Alexander VI** [accept **Rodrigo** Borgia; prompt on **Borgia**]  
 [10] This Portuguese king from 1481 to 1495 negotiated the treaty. He is known for reestablishing absolute power by extracting an oath from his nobles and for executing the powerful Fernando II of Braganza.  
 ANSWER: **John II**

14. Identify the following concerning the cell cycle, for 10 points each.  
 [10] These proteins are responsible for the modulation of various components and processes of the cell cycle. They operate by binding to namesake dependent kinases that in turn phosphorylate other proteins.  
 ANSWER: **cyclins**  
 [10] This heterodimeric protein is responsible for the phosphorylation of proteins needed for transition to the M phase from the G2 phase. Its structure consists of a cyclinB/CDK1 complex.  
 ANSWER: **MPF** [or **Maturation Promoting Factor**; or **M-Phase Promoting Factor**; or **Mitosis-Promoting Factor**]  
 [10] This transcription factor and binding partner of Mdm2 is responsible for ensuring that the cell cycle progresses without abnormalities. It is the prototypical tumor suppressor.  
 ANSWER: **p53**
15. During this stage in life, a person goes through three levels of circular reactions and learns object permanence. For 10 points each:  
 [10] Name this level of cognitive development during which children are prone to the A-not-B error.  
 ANSWER: **sensorimotor** stage  
 [10] This Swiss psychologist outlined the sensorimotor, preoperational, concrete operational, and formal operational stages in his theory of cognitive development.  
 ANSWER: Jean **Piaget**  
 [10] Piaget identified two main ways to internalize schemas and achieve cognitive equilibrium. One is assimilation, while the other is this method, which is to modify the old mental structure to fit the new schema.  
 ANSWER: **accommodation**
16. At the beginning of this story, the protagonist worries about the dust that will collect atop a bronze clock with a lion on top, as well as that her children might find her letters to and from both John and George. For 10 points each:  
 [10] Name this short story which describes the title character's reflections of her family and being left at the altar by George.  
 ANSWER: "The **Jilting of Granny Weatherall**"  
 [10] "The Jilting of Granny Weatherall" is a story written by this American author, who penned *Pale Horse, Pale Rider*, and wrote about the travels of Jenny Brown and Mary Treadwell on the title boat in *Ship of Fools*.  
 ANSWER: Katherine Anne **Porter**  
 [10] Porter's essay "The Never-Ending Wrong" discusses this trial of the 1920s. Upton Sinclair's work *Boston* fictionalizes this event, which is also described in Carl Sandburg's "Legal Midnight Hour."  
 ANSWER: **Sacco and Vanzetti** trial
17. Its exhibition at the 1877 Paris Salon drew accusations that its creator had cast it from a living model. For 10 points each:  
 [10] Name this 1876 sculpture that depicts a naked man with his right hand atop his head and which was named for the material from which it was created.  
 ANSWER: The **Age of Bronze** [or The **Bronze Age**; or The **Vanquished**; or L'**Age d'airain**]  
 [10] This man sculpted *The Age of Bronze*, but he is better known for another bronze statue in which a man rests his right elbow on his left knee and his head on his right hand called *The Thinker*.  
 ANSWER: Auguste **Rodin** [or François-Auguste-René **Rodin**]  
 [10] By making this 1878 statue over six and a half feet tall, Rodin hoped to similar casting accusations. Its subject seems to be moving forward, though both his feet are flat as he gestures with his right hand while speaking.  
 ANSWER: St. **John the Baptist Preaching**



18. Pierre-Victorien Vergniaud and Jérôme Pétion were two of their leaders, and they organized “federalist” uprisings after their fall from power. For 10 points each:
- [10] Name this faction of moderate French revolutionaries who opposed the Montagnards and who had a power base largely concentrated in the provinces, such as their namesake one.  
ANSWER: **Girondins** [or **Girondists**; or **Brissotins**]
- [10] The Girondins were led by this man and are sometimes named for him. He founded the antislavery Society of the Friends of Blacks and ran the newspaper *Le Patriote français* until being guillotined.  
ANSWER: Jacques-Pierre **Brissot**
- [10] This woman claimed to have a list of Girondins planning an uprising in Caen in order to gain admittance to see Jean-Paul Marat, and then proceeded to stab him in his bathtub.  
ANSWER: Charlotte **Corday**
19. Answer the following about Grand Unified Theories, for 10 points each.
- [10] Some GUTs like the Georgi-Glashow model predict that this particle will decay with a half-life on the order of 10 to the 33 years, but no such decay has ever been observed.  
ANSWER: **protons**
- [10] Most versions of string theory posit this property exists, in which particles can be paired with other particles that differ by a half unit of spin. It predicts the existence of the gravitino, gluino, and neutralino.  
ANSWER: **supersymmetry**
- [10] Bosonic string theory predicts the existence of 26 dimensions, though all other string theories use this many spacetime dimensions. M-theory adds one more dimension.  
ANSWER: **ten**
20. This Enlightenment author discussed the differences in the nature of visual and literary art in “Laocoon: An Essay on the Limits of Painting and Poetry.” For 10 points each:
- [10] Name this writer whose works include *Miss Sara Sampson* and one whose title character uses the Parable of the Three Rings to demonstrate to Saladin that Judaism, Christianity, and Muslim are equally good in *Nathan the Wise*.  
ANSWER: Gotthold Ephraim **Lessing**
- [10] Lessing was one of the direct influences on this German literary movement, which emphasizes the nature and human emotions. Its philosophical leader was Johann von Herder.  
ANSWER: **Sturm und Drang** [or **Storm and Stress**]
- [10] This leader of the Sturm und Drang movement wrote *Wilhelm Meister’s Apprenticeship*, *The Sorrows of Young Werther*, and the play *Faust*.  
ANSWER: Johann Wolfgang von **Goethe**
21. Answer the following questions related to a certain cabinet position and its holders, for 10 points each.
- [10] Which author of *America: the Last Best Hope* and former drug czar under George H.W. Bush was the center of much controversy related to his gambling in 2003?  
ANSWER: William John “Bill” **Bennett**
- [10] What position held by Bennett was first held by Shirley Hufstedler beginning in 1979 and is the head of a Department that was once a frequent target of Republican opposition, especially in Ronald Reagan’s 1980 campaign?  
ANSWER: United States Secretary of **Education**
- [10] What man, the fifth Secretary of Education, was Governor of Tennessee from 1979-87 and is the current senior Senator from that state?  
ANSWER: Andrew Lamar **Alexander**