Tossups

1. Reaction with tri-phenyl-phosphine and carbon tetrachloride converts these compounds into alkyl chlorides in the Appel reaction. Tetrabutyl ammonium fluoride can be used to remove silyl ether protecting groups of these compounds. They can be converted to a better leaving group through reaction with tosyl chloride to form a tosylate. On an IR spectrum, this functional group displays a strong, broad peak at 3200 to 3500 inverse centimeters. A solution of zinc chloride and hydrochloric acid is used to determine their presence in the (*) Lucas test. In an E1 mechanism, sulfuric acid dehydrates it to form alkenes. Primary ones can be oxidized to carboxylic acids with Jones's reagent, and to aldehydes with PCC. For 10 points, name this functional group characterized by a hydroxyl at the end.
ANSWER: **alcohol** [or R-**OH** or R-**hydroxyl** until "hydroxyl" is read]

2. In one novel by this author, a character forces a village of people to line up and confess their sins, to try to discover the secret of the Frankish people's success. A chapter of another novel by him is a transcript of a hidden tape recording of a man's conversation in a pastry shop with the assassin who shoots him. In a third novel by him, two lovers write letters that are delivered by the illiterate Jewish clothes-peddler (*) Esther. The archivist Faruk is captured en-route to Naples and becomes the property of Hoja in his *The White Castle*. He wrote a novel whose narrators include a gold coin and the corpse of the miniaturist Elegant Effendi, as well as a novel in which the poet Ka witnesses a coup in Kars. For 10 points, name this author of *My Name is Red* and *Snow*, a Turkish Nobel prize-winner.
ANSWER: Orhan **Pamuk** [or Ferit Orhan **Pamuk**]

3. This man founded a socialist magazine called *The Messenger* with Chandler Owen. He proposed the "Freedom Budget" on the floor of the AFL-CIO. This man was president of a union of workers upset at constantly being called "George." This man's threats forced Franklin Roosevelt to sign Executive Order 8802, which created the Fair Employment Practices Committee and banned discrimination in the defense industry. Bayard (*) Rustin organized the event he is best known for leading, which is also where Martin Luther King delivered the "I Have a Dream" speech. For 10 points, name this leader of the Brotherhood of Sleeping Car Porters, who is best known for leading the 1963 March on Washington.
ANSWER: Asa Philip **Randolph**

4. An opera by this composer ends with an aria by the tenor lead, consisting entirely of thirty repetitions of an ascending Phrygian scale. In another opera by this composer, the countertenor lead sings a second-act hymn beginning "Thou dost appear beautiful," and an offstage chorus quotes Psalm 104. At the start of another of his operas, a white square in the lower-right corner of the stage highlights two people seated at desks. That opera has a solo violinist dressed as the (*) title character and includes a chorus that counts beats and sings solfège syllables. This composer's collaboration with Robert Wilson has scenes like "Train," "Trial," and "Spaceship" spaced between five knee plays. For 10 points, name this minimalist composer of *Akhnaten*, *Satyagraha*, and *Einstein on the Beach*.
ANSWER: Philip **Glass** [or Philip Morris **Glass**]

5. This man instituted the "prosbul" procedure to allow the wealthy to lend money safely. "Light and heavy" and "equivalence of expressions" are two of the group of arguments he labeled legitimate lines of interpretation. The question "If not now, when?" epitomizes this man's compassion, which led him to debate his stricter rival, (*) Shammai. This man established his namesake "seven rules" for interpreting Scripture. While standing on one foot, this man once told a Gentile that the statement "That which is hateful to you, do not do to your fellow" summarized the entire Torah. For 10 points, name this first century Rabbi in whose memory Jews eat a matzah sandwich on Passover.
ANSWER: Rabbi **Hillel** the Elder

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6. **In July 2014, auditors finally estimated the cost of this organization's monthly rebasing, commonly known as the "travelling circus." This non-US organization has made many "third-country agreements" as part of its FP7 program and its Common Fisheries Policy. Part of this organization bestows a "Freedom of Thought" prize won by (*)** Malala Yousufzai. Ending membership in this organization is the primary political concern of an organization led by Nigel Farage called UKIP (YOU-kip). The Schengen Agreement provides for free movement by citizens of this organization, which administers subsidies through a Common Agricultural Policy. This organization's central bank has given bailouts to Portugal and Greece. For 10 points, name this system of 28 European member states.
ANSWER: **EU** [or **European Union**; or **European Parliament**; or **EuroParl**]

7. **During this process, p31 is activated by a MAD1/MAD2 complex leading to the release of MAD2 from CDC20. Li and Nicklas showed that this process concluded with the sensation of tension which then leads to phosphorylation of Aurora B. Scc and Smc proteins form cohesins which are then cleaved to conclude this process. During this process, securins are ubiquitinated by the the APC/C complex, which relieves inhibition of separase. The cell (*)** cycle can be arrested at this process by colchicine, during which a karyotype may be taken. At the end of this process, all chromosomes are lined up at this process's namesake plate and the kinetochore microtubules are able to pull apart sister chromatids. For 10 points, name this part of mitosis that follows prophase and precedes anaphase.
ANSWER: **metaphase** [prompt on **mitosis**]

8. **In one novel by this author, one character angers another by correctly guessing that the racehorse Tragopan is owned by a Greek. In a scene from another novel by him, two characters pretend to be Havelock Ellis and Kraft-Ebbing while interrogating an old man about his homosexuality. He depicted Jujutla fighting a cock handled by the dwarf (*)** Abe Kusich in the garage of a character who causes a riot in front of Kahn's Persian Palace Theatre by attacking Adore Loomis. He created a protagonist who is shot by the cripple Peter Doyle and tormented by his editor Shrike. The protagonist of one of his novels becomes infatuated with Faye Greener, the girlfriend of Homer Simpson, and paints "The Burning of Los Angeles." For 10 points, name this author of *Miss Lonelyhearts* and *The Day of the Locust*.
ANSWER: Nathanael **West** [or Nathan **Weinstein**]

9. **This man's influence resolved a papal schism in favor of Innocent II and against Anacletus II. Pope Eugene III, one of this man's disciples, gave him a special commission after hearing of a defeat at the Siege of Edessa. As a doctor of the church, he is known as "Doctor Mellifluus." At the Council of Troyes, this man was the major advocate for the authorization of the Knights Templar, whose rule he personally wrote. This man denigrated the theology of Peter (*)** Abelard so thoroughly that he forced Abelard to retire to Cluny until his death. This man's preaching brought about the popular support that enabled the Second Crusade. For 10 points, name this 12th century French abbot who founded the Cistercian order.
ANSWER: **Bernard** of Clairvaux

10. **Vincenzo Giustiniani saved the original version of a rejected painting depicting this man, but it was destroyed in the 1945 bombing of Berlin. In that painting, an angel shrouded in a ripped sheet looks straight down at this man, to help him overcome writer's block. A near-naked assassin raises his sword to strike this man in another painting. Next to a figure thought to be this person is an elderly man who adjusts his eyeglasses to get a better look at some coins on a (*)** table, signifying spiritual blindness. His "Inspiration" and "Martyrdom" are portrayed in two paintings in the Contarelli Chapel; a third painting there shows a beam of sunlight traveling past an open window and falling on him, inspiring him to follow Christ. For 10 points, name this saint whose "calling" was illustrated by Caravaggio.
ANSWER: Saint **Matthew** the Apostle [or **Matthias**]

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11. **This man declared that it was "necessary to raise" the working class "in their own eyes by association, education, and discipline" in his pamphlet "The Extinction of Pauperism." This ruler disguised himself as the wood-hauling laborer "Badinguet" to escape the fortress of Ham. An attempted coup led by this ruler was easily put down after he arrived in Boulogne on the ship** *Edinburgh-Castle*. **His capital city was renovated to include the Bois de Boulogne and Bois de Vincennes by Baron (*)** Haussmann. This leader's forces attempted to install Archduke Maximilian of Austria as Emperor of Mexico. He was goaded into a war with Prussia by the Ems Dispatch and was captured at the Battle of Sedan. For 10 points, name this last emperor of France, who founded the Second Empire.
ANSWER: **Napoleon III** [or **Louis-Napoleon**; prompt on "Napoleon"; do NOT accept "Napoleon I"]

12. **This object was created to win the favor of a virgin "from whose forehead shines the rainbow," although in the end, she did not marry its creator. Prior to its creation, a series of objects that were judged to be "ill-mannered" were accidentally created and then discarded, including a plough, a crossbow, a boat and a cow. An alternative interpretation views this item as a world pillar, as it grew roots into the earth after being buried beneath the hills of (*)** Sariola. It provides an explanation for why the sea is salty, as it was lost at sea when Louhi defeated Ilmarinen. For 10 points, name this magical mill that could endlessly produce flour, salt, and money and whose creation is described in the *Kalevala*.
ANSWER: the **Sampo** [or **Sammas**]

13. **Mechanisms can be characterized as having ex-ante, interim, or ex-post individual forms of this property. The weak axiom of revealed preference is a consequence of assuming this type of preference relation, which is defined to be complete and transitive. A good whose current utility depends upon past consumption was modeled in a paper about this type of addiction by Kevin Murphy and Gary (*)** Becker. A common modeling assumption states that an individual's forecasts are equal to the expectation conditional on present information, which is a hypothesis named for this type of "expectations." For 10 points, game theory typically assumes what type of utility-maximizing behavior in which people act reasonably?
ANSWER: **rational** [or **rationality**; or word forms]

14. **This poet wrote of a boy "who'd never heard / Of any world in which promises were kept, / Or one could weep because another wept". This author wrote that "all the instruments agree the day of his death was a dark cold day" in a poem eulogizing a fellow poet. One poem by him features the refrain: "She looked over his shoulder". Another poem by this author talks of "dense (*)** commuters" who come "from the conservative dark into the ethical life", and "ironic points of light" that "flash out wherever the Just exchange their messages". That poem begins "in one of the dives on Fifty-Second Street" and says: "we must love one another or die". For 10 points, name this poet of "The Shield of Achilles", "In Memory of W.B. Yeats", and "September 1, 1939".
ANSWER: W.H. **Auden** [or Wystan Hugh **Auden**]

15. **In a gas with a Maxwell-Boltzmann distribution, this effect transforms a sharp line into a Gaussian line profile. This effect is used to scan through frequencies to find resonances in gamma ray absorption in Mössbauer spectroscopy. A Galilean transformation of the phase velocity gives the equation for the classical version of this effect, while its (*)** transverse form occurs due to relativistic time dilation. When the sine of the Mach angle is less than one, this effect causes wave compression in front of a wave source. Wavelength shifts caused by this effect can be red or blue based on the direction of motion of a source of light. For 10 points, name this effect that changes the frequencies of receding and advancing wave sources.
ANSWER: **Doppler** effect [or **Doppler shift**]

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16. **Mausolus of Caria was the mastermind behind a war of this name that lasted from 357 to 355 BC and spelled the end for Athens's brief second empire. During a more famous war of this name, a side minted coins that depicted a bull goring a wolf, accompanied by inscriptions in Oscan. The assassination of Marcus Livius Drusus was a major cause of that war of this name, which ended with the defeat of the (*)** Marsi. Gaius Marius and Lucius Cornelius Sulla both served as generals for Rome in a war of this name that was fought over the enfranchisement of Rome's Italian allies. For 10 points, give this name of the 91 to 88 BC conflict in which Rome fought for control over Italy.
ANSWER: the **Social War** [or **War of the Allies**; or **Bellum Sociale**]

17. **An elliptic curve is a smooth, genus one curve that has this property, and a smooth curve is projective if and only if it has this property. A lattice has this property if all subsets have both a join and a meet. Every metric space with this property is a Baire space. In graph theory, the subgraph induced by a clique has this property, and a graph on *n* vertices with this property has chromatic number *n*. A problem *p* has this property for a (*)** complexity class *C* if it belongs to *C* and if there exists a reduction from any problem in *C* to the problem *p*. For a metric space, this property says that every Cauchy sequence has a limit in the space. For a graph, this property holds if there exists an edge between any two vertices. For 10 points, identify this property that describes a complexity class that is both NP and NP-hard.
ANSWER: **complete**ness [or word forms]

18. **The violinist Joseph Hellmesberger asked this composer to write an intermezzo to replace the scherzo of his only String Quintet. This composer paraphrased the main theme of his Fourth Symphony towards the beginning of the "Majestoso" first movement of his Sixth Symphony, and he ended that Fourth Symphony with a "Volksfest" finale. He included a loud cymbal crash in the second movement of his (*)** Seventh Symphony, in anticipation of Richard Wagner's death. This composer replaced the scherzo he originally wrote for his Fourth Symphony with the "hunt scherzo." His dislike of one of his symphonies led him to label it as his "Zeroth". For 10 points, name this Austrian composer of the *Romantic* Symphony.
ANSWER: Anton **Bruckner**

19. **In this work, the argument that "the many will kill us" is brought up in response to a claim that only the opinion of a man who understands justice should be regarded. This work alludes to the *Iliad* in a dream involving a woman in white telling a man that he will go "to Phthia" (THIGH-uh) in three days. One speaker in this work claims that another is betraying his children by not fulfilling his duty to educate them. A speaker in this work says that those who have witnessed laws and justice enter into an implied (*)** contract with the city. That character in this work says that he cannot forsake his agreements because he has remained in Athens and willingly submitted to the law. For 10 points, name this Platonic dialogue in which Socrates refuses the title friend's offer to help him escape from prison.
ANSWER: *Crito*

20. **In one of this man's plays, a woman opens an envelope expecting to find a letter of thanks, but finds only a hundred-dollar bill. In another of his works, a character wishes Peter would call her "my glancing stream, my crystal girl" as she watches him dance with Olga. A senator talks a woman into signing a statement falsely accusing a (*)** black man of raping her in a play by him. One of his characters dies because her lover Florence turned on the gas while she was sleeping; another was shot while trying to run to Mexico to start a pacifist newspaper. For 10 points, name this author of *The Respectful Prostitute*, who wrote about Garcin, Inèz, and Estelle realizing that "hell is other people" in his play *No Exit*.
ANSWER: Jean-Paul **Sartre** (SAHR-truh) [or Jean-Paul Charles Aymard **Sartre**]

Bonuses

1. This philosopher divided inference into the categories of abduction, deduction, and induction. For 10 points each:
   [10] Name this American philosopher who categorized grades of clearness in "How to Make Our Ideas Clear" and advocated the scientific method in "The Fixation of Belief".
   ANSWER: C.S. **Peirce** (PURSE) [or Charles Sanders **Peirce**]
   [10] C.S. Peirce was one of the founders of this American philosophical movement. Its other proponents include William James and John Dewey.
   ANSWER: **Pragmatism** [or **Pragmaticism**]
   [10] In Peirce's triadic semiotics, the connect of a sign or "representamen" to an object produces this, which is the effect of the sign on the person processing it.
   ANSWER: **interpretant**

2. Douglas McArthur said "I will return" after leaving this country, which was then taken over by the Japanese. For 10 points each:
   [10] Name this archipelagic country which the United States gained control of after the Spanish-American war.
   ANSWER: Republic of the **Philippines** [or Repúblika ng **Pilipinas**]
   [10] Along with Representative John McDuffie, this Senator authored the 1934 Act granting independence to the Philippines after ten years.
   ANSWER: Millard Evelyn **Tydings**
   [10] Millard Tydings headed a committee investigating this man's claims. This man inspired a political cartoon by Herblock showing an elephant backing away from a shaky stack of paint cans.
   ANSWER: Joseph Raymond **McCarthy**

3. A title character of this play asks "What's in a name? That which we call a rose by any other name would smell as sweet" in its balcony scene. For 10 points each:
   [10] Name this Shakespeare play, in which members of the feuding Montague and Capulet families fall in love.
   ANSWER: *Romeo and Juliet*
   [10] The action of this George Bernard Shaw play begins when Captain Bluntschli, a mercenary from the Serbian army, climbs a drainpipe onto the balcony of the young Bulgarian woman, Raina Petkoff.
   ANSWER: *Arms and the Man*
   [10] Elyot Chase and Amanda Prynne meet frequently on their balconies in this Noël Coward play, in which the divorced protagonists accidentally book adjoining suites while honeymooning with their new spouses.
   ANSWER: *Private Lives*

4. Methemo-glob-inemia causes characteristic mid-80s readings in this technique. For 10 points each:
   [10] Name this technique in which a sensor is placed on a fingertip or earlobe, enabling one to measure the amount of bound hemoglobin.
   ANSWER: **pulse ox**imetry [prompt on "oximetry"]
   [10] Pulse ox readings are higher for these oxygen-rich blood vessels since they carry blood from the heart and lungs to the body. The pulmonary one is an exception, since it's deoxygenated.
   ANSWER: **arteri**es
   [10] Your pulse ox will *not* appear off if you are suffering from this condition, in which a diatomic gas with a triple bond steals the hemoglobin real estate normally needed by oxygen.
   ANSWER: **carbon monoxide** poisoning [or obvious equivalents, such as **CO** poisoning]

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5. This artist gained initial fame for engraving Trumbull's *Declaration of Independence* before entering a mature phase where he produced landscapes like *Indian Vespers*. For 10 points each:
    [10] Name this artist who titled a painting after a phrase from Keats's "Sonnet to Solitude". That painting depicts the friends William Cullen Bryant and Thomas Cole standing on a promontory in the Catskill Mountains.
    ANSWER: Asher **Durand**
    [10] Durand and Cole were both members of this school of American landscape painting, named for a natural feature in New York state.
    ANSWER: **Hudson River** School
    [10] In this painting by Cole, which isn't from a series, a man lounges on a giant book and looks out at a Gothic temple in the foreground, Greek colonnades in the midground, and an Egyptian pyramid in the background.
    ANSWER: The **Architect's Dream**

6. The best kinetic equation for modeling these substances is the Vlasov equation. For 10 points each:
    [10] Name this "fourth state of matter" that is a fluid of ionized matter.
    ANSWER: **plasma**s
    [10] This quantity is basically a constant of motion for particles in a plasma and is thus the first adiabatic invariant. It's often expressed in units of the Bohr magneton.
    ANSWER: orbital **magnetic** dipole **moment** [or orbital magnetic **dipole moment**; prompt on "moment"]
    [10] Due to magnetic moment and energy conservation, this process can occur as a particle approaches a region of converging magnetic field lines because the particle's velocity in the direction of the increasing magnetic field is decreased to zero and then reversed. It's the basis of much plasma confinement.
    ANSWER: magnetic **mirror**ing

7. This mountain range is home to the Quechua people. For 10 points each:
    [10] Name this mountain range that contains the highest peak in South America, Mount Aconcagua. Cuzco and La Paz are both located in this mountain range.
    ANSWER: **Andes** mountains
    [10] This ethnic group is found primarily in the Andes and Altiplano of Peru and Bolivia. Most speakers of this ethnic group's language live in the basin of Lake Titicaca.
    ANSWER: **Aymara** people
    [10] This archaeological site is located near Lake Titicaca in western Bolivia and contains the megalithic Gate of the Sun. It was the capital of a major empire that lasted through much of the first millennium AD.
    ANSWER: **Tiwanaku**

8. Machiavelli criticized this ruler for replacing a large portion of his infantry with Swiss mercenaries. For 10 points each:
    [10] Name this prudent king of France, who signed the Treaty of Picquigny with Edward IV to isolate his main rival, Charles the Bold.
    ANSWER: **Louis XI** [or The **Universal Spider**; or The **Spider-King**; or any answers mentioning both **spider**s and **Louis**; prompt on "Louis (the Prudent)"]
    [10] Louis's brother Charles joined this Charles the Bold-forged alliance of feudal nobles that stood against Louis XI.
    ANSWER: The **League of the Public Weal** [or La **ligue du bien Publique**]
    [10] Charles the Bold and Philip the Good ruled this medieval kingdom bordering France. This kingdom was named for a people led by Gundobad, who issued that people's namesake "Code."
    ANSWER: **Burgundy** [or **Burgundian** Code]

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9. This author wrote about Joseph Knecht's intellectual and spiritual journey in *The Glass Bead Game*. For 10 points each:
[10] Name this Swiss author who wrote about an Indian youth seeking a deep personal meaning after an encounter with the Buddha in his novel *Siddhartha*.
ANSWER: Hermann **Hesse** (HESS-uh)
[10] A 1927 biography of Hesse was written by this German poet of the nonsense poem "Karawane". He also wrote the *Dada Manifesto*.
ANSWER: Hugo **Ball**
[10] The introduction for the French edition of Hesse's *Journey to the East* was written by this French author of *The Counterfeiters*. He wrote about the tubercular Michel's growing passion for young men in *The Immoralist*.
ANSWER: André **Gide**

10. Unusually, the main theme of the second of these works is a fugue. For 10 points each:
[10] Name these orchestral works that include an unnumbered one in F major subtitled "Urbs Roma". The third of them is a two-movement work featuring a pipe organ.
ANSWER: **symphonies** by Camille **Saint-Saëns** [prompt on partial answers]
[10] Saint-Saëns is best remembered today for this suite of musical jokes, which includes the "Royal March of the Lion", "Aquarium", and "The Swan".
ANSWER: *The **Carnival of the Animals*** [or *Le **carnaval des animaux***]
[10] The performers are asked to imitate the awkward style of beginners in this movement of *The Carnival of the Animals*. It depicts rather unusual animals and consists of etude-like scalar passages, modulating upwards from C major.
ANSWER: "**Pianists**" [or "*Pianistes*"]

11. This religious term is often used as a general name for unquestioningly accepted principles. For 10 points each:
[10] Name these articles of faith revealed by God, which are binding upon faithful Catholics. No statement from the Second Vatican Council has this designation.
ANSWER: **dogma**ta
[10] This document, also known as the Dogmatic Constitution of the Church, was approved at Vatican II by an overwhelming majority of bishops. This document declares in its second chapter that the Church is "the People of God."
ANSWER: *Lumen Gentium* [or *The **Light of the Nations***]
[10] This figure is given the title "Mediatrix" by *Lumen Gentium*. Pius XII defined dogma regarding this figure *ex cathedra* in the apostolic constitution, *Munificentissimus Deus*.
ANSWER: **Mary** [or **Maria**; or obvious equivalents]

12. This model is by definition the concordance model of cosmology since it is the currently accepted and most commonly used model. For 10 points each:
[10] Name this "standard model" of Big Bang cosmology.
ANSWER: **lambda-CDM** model [or **lambda-cold dark matter** model; or **LCDM**; or **cold dark matter** with **dark energy** model]
[10] The lambda-CDM accounts for this facet of modern cosmology, which was only discovered in 1998, during observations of high-redshift supernovae. Dark energy is responsible for it.
ANSWER: **accelerating** universe [or the fact that the expansion of the universe is **accelerating**; or obvious equivalents; prompt on things like "(the universe's rate of) expansion (is not constant)"]
[10] This American astronomer's "law" relates the recessional velocity of an object – as determined by its redshift – to its distance from the Earth, which proved that the universe was expanding.
ANSWER: Edwin **Hubble**

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13. Annette Weiner analyzed the frequent exchange of immovable goods, such as women's property, with movable ones, such as men's gifts, in this system of exchange. For 10 points each:
[10] Name this system of exchange consisting of red and white objects that are traded in north and south directions. Everyone can participate in this system on Dobu, though in other places only chiefs participate.
ANSWER: **kula** ring exchange
[10] White armbands called *mwali* were made of these things and frequently traded in the kula exchange. Cowrie ones were used as currency among indigenous North Americans, as well as some East Africans.
ANSWER: sea**shell**s
[10] Marcel Mauss introduced this term to refer to exchanges that metonymically represent the entire society their participants are a part of, and not simply a trade of goods.
ANSWER: **total prestation**

14. This Dissenter promoted religious toleration with his *Remarks on Blackstone's Commentaries*. For 10 points each:
[10] Name this English scientist who discovered what he called "dephlogisticated air", but refused to accept the chemical revolution and reject phlogiston theory.
ANSWER: Joseph **Priestley**
[10] This element was the actual "dephlogisticated air" discovered by Joseph Priestley. Antoine Lavoisier named this element and identified its role in combustion reactions.
ANSWER: **oxygen** [or **O**2]
[10] This city was the site of a series of 1791 anti-Dissenter riots sometimes named for Priestley, who was living here. Thomas Attwood addressed this city's Political Union during the Days of May.
ANSWER: **Birmingham**

15. This poet addressed a "deathless daughter of Zeus", who rides a dove-drawn chariot, in her hymn to Aphrodite. For 10 points each:
[10] Name this author who, according to legend, loved a boatman named Phaon. This ancient female poet from Lesbos is sometimes called the "Tenth Muse."
ANSWER: **Sappho** of Lesbos
[10] This Latin poet adapted Sappho for the 51st of his 116 surviving *carmina*, "Ille mi par esse deo videtur." He also wrote about travelling across many peoples and harsh seas to bid farewell to his dead brother.
ANSWER: **Catullus** [or Gaius Valerius **Catullus**]
[10] This contemporary author and classics professor adapted Sappho for *If Not, Winter*. She drew on Catullus 101 for her book *NOX*, which opens like an accordion, and updated the myth of Geryon in *Autobiography of Red*.
ANSWER: Anne **Carson**

16. The first chief residents of this building are depicted in statue form as Caesar and his wife; those statues decorate the sarcophagus of a chapel later added to this mansion by William Kent. For 10 points each:
[10] Identify this country house designed in Woodstock, England, by then-novice architect John Vanbrugh, for the Duke of Marlborough.
ANSWER: **Blenheim Palace**
[10] Blenheim Palace mostly avoided a popular style of English architecture named for this Italian, whose treatise *The Four Books of Architecture* was so influential that Thomas Jefferson abided by it for Monticello.
ANSWER: Andrea **Palladio**
[10] The popularity of the Palladian style in the British isles was further undermined by the elegant style invented by this Scottish architect of the Kenwood House and Osterley Park. He took into account furniture and other interior objects in his designs.
ANSWER: Robert **Adam**

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17. In the opening portion of this novel, Carl Linstrum rescues Emil's kitten, which has climbed up a telephone pole. For 10 points each:
[10] Name this novel about Alexandra Bergson's devotion to her farm.
ANSWER: *O Pioneers!*
[10] *O Pioneers!* is by this American author, who wrote of Jim Burden's love for the title Bohemian girl in her novel *My Antonia*.
ANSWER: Willa **Cather** [or Willa Sibert **Cather**]
[10] While examining prairie-dog holes in Chapter 7 of *My Antonia*, Jim and Antonia are attacked by a large one of these animals. Jim then kills this animal with a spade.
ANSWER: rattle**snake**

18. Robert Parr quantified this theory by defining its central concept as half the second derivative of total energy, with respect to electron number. For 10 points each:
[10] Identify this theory that classifies substances based on their atomic radius, oxidation state, polarizability, electronegativity, HOMO, and LUMO.
ANSWER: **HSAB** theory [or Pearson **hard soft acid base** theory; or **Pearson** theory]
[10] Parr's definition of hardness can be approximated as half of this quantity, minus electron affinity. This quantity is a measure of how easy it is to remove an electron from an atom in the gaseous state, and the second one is much higher than the first for sodium.
ANSWER: **ionization energy** [or **IE**; or **ionization potential**]
[10] Kornblum's rule, an application of HSAB theory, states that in ambient nucleophiles, this non-double-bond-forming reaction mechanism is more favorable for the more electronegative atom, because the carbocation (carbo-CAT-ion) is a hard acid.
ANSWER: **SN1** [or **unimolecular substitution**; prompt on **substitution**]

19. Answer the following about rewards for a heroic death in world mythologies, for 10 points each.
[10] Valkyries take slain warriors to this building in Asgard, where they drink mead and eat from an ever-regenerating pig until they're needed at Ragnarok.
ANSWER: **Valhalla**
[10] In this culture's lore, successful warriors who died in battle become hummingbirds that follow the sun. They also believed in a separate paradise for victims of water-related deaths.
ANSWER: **Aztec**s [or **Mexica**s]
[10] Heroes in the *Iliad* fight for this attribute, the renown or glory by which a person's deeds outlast their death. The first line of Herodotus's history notes that it aims to preserve this attribute of its subjects.
ANSWER: *kleos* aphthiton [or *klewos*]

20. This city's central square, the "Registan" (RAY-giss-tahn), included three Madrasahs, and it is the site of the Bibi-Khanum mosque. For 10 points each:
[10] Identify this city that was sacked by the armies of Ghenghis Khan in 1220. This city in Transoxiana was an important part of the Silk Road.
ANSWER: **Samarkand**
[10] This man founded a dynasty that ruled out of Samarkand in the 15th-century. His descendants included Ulugh Beg, and he was known for having a physical deformity.
ANSWER: **Timur** the Lame [or **Tamerlane**; or **Timur-Lang**]
[10] Timur's son Shah Rukh ruled out of this other city, rather than Samarkand. This city is in modern Afghanistan, and Babar described the splendors of this city in the *Baburnama*.
ANSWER: **Herat**