

Tossups

1. This effect is plotted against atomic separation in the Slater-Néel curve. Its “super” form is due to mediation by intermediate anions in transition-metal oxides and is described by the Goodenough-Kanamori-Anderson rules. Three important cases of the carrier-mediated analogue of this effect are the RKKY, Zener, and double. Heitler and London proposed this effect to explain covalent bonding in hydrogen molecules. Its Hamiltonian, first described in the Heisenberg model, is usually written as negative two times a namesake integral, symbolized J , times the dot product of two spin operators. It is the origin of the (*) molecular field and only results in ordering of individual moments below the Curie temperature. It is generally grouped with anisotropic and dipolar interactions. For 10 points, name this quantum-mechanical effect caused by overlap of electron wavefunctions, responsible for antiferro- and ferromagnetism.
ANSWER: direct exchange interaction [or Heisenberg exchange; prompt on ferromagnetism or antiferromagnetism]
2. Two answers required. During an event involving these two people, the Hungarian ambassador claimed to have found a lucky rabbit’s foot in one of their jacket pockets. Senator Benjamin Tillman claimed that an event involving these two people required killing a thousand people to return normalcy. Philip B. Stewart of Colorado also attended an event with these two people, who met briefly afterward at Yale University, where Supreme Court Justice David Brewer quipped that one of them knew that George wasn’t the only “true Washington.” Deborah Davis wrote a book about an October 16, 1901 event involving these two people that led to one of them being the dedicatee of the (*) “Strenuous Life” rag and was commemorated in the lost opera *A Guest of Honor*, both by Scott Joplin. For 10 points, name these two people, one the sitting U.S. president, the other a black man who was invited to dine at the White House upon the publication of his *Up From Slavery*.
ANSWER: Theodore [or Teddy] Roosevelt [or TR] and Booker Taliaferro Washington [or Booker T.]
3. This person authored a 1990 paper with Jack Knetsch and Richard Thaler that documented a study in which people were reluctant to trade their coffee mugs, demonstrating the endowment effect. This thinker wrote that people mostly focus on “known knowns,” not “known unknowns” or “unknown unknowns” in a discussion of the W-Y-S-I-A-T-I or “what you see is all there is” phenomenon. This living person was one of the promulgators of the “Linda problem,” in which people paradoxically claimed that it was more likely that Linda was a (*) “bank teller and a feminist” than just a bank teller. A work by this thinker claims that the brain forms thoughts via two mechanisms, one fast and automatic, the other slow and effortful, which this person called “System 1” and “System 2.” For 10 points, name this author of *Thinking, Fast and Slow* who teamed up to create prospect theory with Amos Tversky.
ANSWER: Daniel Kahneman
4. In this novel, a crayon image of Donald Duck is placed side-by-side with a crucifixion scene with a crimson-red sun in an art collection by the patients of Ward Two A, where the son of Mr. and Mrs. Givings is interred. An adulterous character in this novel imagines himself as “an intense, nicotine-stained, Jean-Paul-Sartre sort of man.” In this novel, which opens with a disastrous staging of *The Petrified Forest*, a woman deals with the anxiety of her decision to abort her third child by sleeping with her neighbor (*) Shep Campbell. Its male protagonist resumes his affair with his coworker Maureen, thwarting his wife’s plans to move to Paris. This novel is about the decaying suburban marriage of Frank and April Wheeler and was adapted into a 2008 film directed by Sam Mendes. For 10 points, name this novel by Richard Yates.
ANSWER: Revolutionary Road
5. In Friedrich von Flotow’s opera *Martha*, the Act II quartet “Di vederlo” describes a lesson at these devices. Maurice Ravel quoted the *Dies Irae* in a “song of” one of these devices based on a Leconte de Lisle poem. A tone poem titled for one of these objects describes the story of Dornicka, who is murdered and dismembered, after which a magician barterers one of these objects for her feet and puts her back together. Saint-Saens wrote a tone poem describing Hercules’s time disguised as a woman titled for one of these devices “of Omphale.” A “golden” one of these devices is the title subject of a (*) Dvorak tone poem. The piano accompaniment to a song mimics one of these devices with repetitive semiquaver figurations and begins “My peace is gone / my heart is heavy.” For 10 points, name this device that Gretchen is “at” in a Schubert *lieder*.
ANSWER: spinning wheels [prompt on partial answer; or rouets; or spinnrade]
6. This person claimed that asking about the existence of a certain philosophical concept is akin to asking how Dostoevsky knew that Raskolnikov’s hair was light brown. This thinker derided a Frenchman for inventing a “crucial finish line” in this person’s refutation of the “Cartesian theater.” This person defined a concept based on access alone, refusing to acknowledge the phenomenal aspect of that concept. This thinker refers to the self as the “center of narrative gravity” in a theory that denies the existence of the “hard problem,” (*) qualia, and philosophical zombies. This person advanced the “multiple drafts” cognitivist model of mind in his work *Consciousness Explained*. For 10 points, name this Tufts professor who wrote *Darwin’s Dangerous Idea*.
ANSWER: Daniel [Clement] Dennett

7. **This lover of parades apocryphally forgot to issue a “halt” order at the end of one, thus forcing soldiers to march to Asia. Along with a Frenchman, this ruler planned a secret invasion that Andre Massena would have led. Upon the foreign seizure of Malta, the Knights Hospitallers disowned Ferdinand von Hompesch and elected this person as their new Grand Master. This ruler, the namesake of an abortive invasion of British-controlled India, was killed by a group led by a dismissed (*) Hanoverian general, Count Bennigsen, who burst into this person’s bedroom and found him cowering behind the drapes. Upon this man’s assassination, his son Alexander I came to power. For 10 points, name this son and successor of Catherine the Great who ruled as Russian tsar between 1796 and 1801.**
ANSWER: Tsar **Paul I** of Russia [prompt on **Paul**; or **Pavel I** Petrovich Romanov; prompt on **Pavel**]
8. **This writer described how Garry “could not breathe beneath the load / Of the dead bodies” in a poem about the death of “six thousand veterans practis’d in War’s game.” In another poem, this writer explained that “The eye—it cannot choose but see; We cannot bid the ear be still,” explaining why this writer sits on an “old grey stone” instead of reading books. The subject of one of this author’s “sonnets dedicated to liberty” has “a voice whose sound was like the sea; Pure as the naked heavens, majestic, and free.” This author of (*) “Expostulation and Reply” wrote that he “never felt a calm so deep” as when he saw a city sunrise so majestic that “Earth has not anything to show more fair.” This author counted the “five summers, with the length / Of five long winters!” that had passed since his visit to a structure on the river Wye. For 10 points, name this poet who told Milton that he “shouldst be living at this hour” and wrote “Upon Westminster Bridge” and “Tintern Abbey.”**
ANSWER: William **Wordsworth**
9. **The Fraunhofer Institute announced in June of 2012 that it had developed a method to store heat in pellets of these materials in biogas plants. Methanol can be dehydrated by pouring it over one form of these materials that is made up of a series of pentasil compounds patented by Mobil Oil. These materials are often used to convert mixtures of various (*) xylenes to p-xylene in a demonstration of their ability to serve as shape-selective catalysts. These materials were spread around to clean up the cesium that was spilled during the Fukushima Daiichi disaster. The “Y” types of these materials are used to catalyze hydrocarbon cracking because they can stabilize carbenium compounds. For 10 points, name these minerals that have an aluminum-and-silicon-to-oxygen ratio of one-to-two and are often used as molecular sieves to purify hard water.**
ANSWER: **zeolites**
10. **Composer and piece type required. The manuscript of one of these pieces contains a hearty “Au revoir!” inscribed over a trio inspired by the cavatina “Viene fra queste braccia” from *La Gazza Ladra*. Another of these pieces is preceded by a sixteen-bar modulatory bridge separating it from its companion work, an *Andante spianato* in G. The second of two of these works comprising their composer’s Opus 40 was described by Anton Rubinstein as a nation’s tragedy. One of them opens with a descending “A-E-E-E” followed by scale-wise ascent to a C-sharp, representing the same nation’s glory. The final seven of these works, published during their composer’s (*) exile in Paris, include Op. 53 in A-flat major, whose middle passage’s continuous left hand octaves represent galloping horsemen. All of them follow a rhythm with an eighth note, two sixteenth notes, and four eighth notes in 3/4 time. For 10 points, name these pieces, which include the “Military” and “Heroic.”**
ANSWER: Frederic Francois **Chopin’s polonaises**
11. **The commission for this painting was most likely made at a performance of a Meyerbeer opera by an actress who was Charles de Mornay’s mistress. The wallpaper in the background of this work is interrupted by a tile that shows several flowers in a narrow vase. A fake wooden bird with outstretched wings is shown this painting’s background, which also contains open cabinet with red and black doors. This work’s title characters are all seated on small (*) mats. A servant is looking back toward one of her masters in this painting, one of whose figures holds the pipe of a hookah that is placed between the title characters. For 10 points, name this painting by Eugene Delacroix that shows three of the title figures in a harem.**
ANSWER: *The **Women of Algiers** (in their apartment)* [or ***Femmes d’Alger** dans leus appartement*]
12. **This group’s main antagonist controlled an early publishing house called the Print Yard, which revised a number of religious books under the tutelage of a man named “Epiphany.” This group insisted that the “but” in the creed “begotten but not made” was important and refused to conduct a procession in a counterclockwise fashion. The Zealots of Piety opposed this group, which was split into “priested” and “priestless” denominations and disliked the changed spelling of the name of (*) Jesus and the reduction of the number of prosphora from seven to five. This group, which was formed in an event known as the *raskol*, was angered by the reforms of Patriarch Nikon. For 10 points, name this group of Eastern Orthodox Russians who split from the church in 1666 to carry on their traditional ways.**
ANSWER: **Old Believers** [or **starovery** or **staroobryadtsy**]

13. In 2008, protesters in this country rallied around the “candle-light girl” after the *PD Notebook* broadcast an inflammatory program about the risk of mad cow disease from U.S. beef exports. The ratio of credit card debt to household income in this country, which is serviced by the LG Card Co. credit-card provider, is one of the world’s largest at over 155%. This country’s tony culture was satirized in a song whose singer brags of being able to (*) drink an entire cup of coffee in one gulp. The largest electronics manufacturer in this country, which is traded on its KOSPI stock exchange, suffered an adverse patent-infringement judgment for over \$1 billion to Apple in 2012. For 10 points, name this home country of Samsung whose wannabe rich kids are satirized in Psy’s song “Gangnam Style.”
ANSWER: South Korea [or Republic of Korea; or Daehan Minguk; prompt on Korea]
14. This person was finally defeated after a boxing-in campaign of ditch-digging and wall-building trapped this person in Bruttium, where the decisive Battle of the Siler River was fought. Despite an early setback near Mount Garganus, this person defeated the inept Publicola and Clodianus. In one battle, this tactician instructed troops to climb down the side of a mountain with ropes made from vines, thus ambushing the enemy commander Glaber. Alongside (*) Crixus and Oenomaus, this Thracian led an army that was thwarted when Cilician pirates reneged on their agreement to take two thousand men to Sicily. This person led a revolt that was put down by Crassus, a victory for which Pompey stole all the credit. For 10 points, name this leader of the Third Servile War, a former gladiator whose followers were crucified along the Appian Way.
ANSWER: Spartacus
15. The second chapter of this book illustrates how nobody is safe from unforeseen calamity by recounting how the Holy Teacher Yixing was banished for hitting on the consort Yang Guifei. One section of this book describes an artificial island whose building stones were inscribed with holy texts, built by a man who dies from an illness so severe that his body boils water. This book’s opening paragraph mentions the colorful sala flowers portending that the prosperous will decline and the Gion Shoja bells signaling the impermanence of all things. This book’s description of a mysterious fire that torched the Imperial Palace was related in the earlier “An (*) Account of My Hut.” Its thirteenth and final chapter, an “Initiates’ Book,” describes how the Empress Kenreimon’in joins a Buddhist convent after her infant son drowns at the Battle of Dan-no-ura. For 10 points, name this account of the Gempei War between the Taira and Minamoto clans, a national epic of Japan.
ANSWER: *The Tale of the Heike* [or *Heike Monogatari*]
16. In one myth, a palace consisting of silver overlay and gold bricks is built for this god after a fire rages for six days. Despite brandishing a knife and a dagger, this god spares two messengers who were sent to spy on him after he denounced his enemy, who had sex with the Lady from the Sea. In another myth, this god coupled with a calf to prepare for a trip to the underworld, where he was trapped after partaking in a feast of mud. Tablets unearthed at Ras Shamra tell of the cycle of this god, who murders one of his enemies with two divine clubs but is temporarily bested by (*) Mot. This god is given his own place of residence after his father El is persuaded by his sister, Anat. This god had earlier accepted El’s task of slaying the tyrant Yam. For 10 points, name this Semitic god, whose followers in Canaan were repeatedly vilified in the Hebrew Bible.
ANSWER: Ba’al
17. One person who suffers from this disorder infers that another person has it because of actions surrounding the Living Classics Pageant and a costume of Adam from Michelangelo’s *Creation*. One sufferer of this condition has a relapse of it after photos presumably showing WMD locations in Iraq are broadcast on TV. This disorder, which is not recognized in the DSM-4, is suffered by Phillip Litt, who films the softcore porn series (*) *Girls with Low Self Esteem*. The person who suffers from this condition is worried that it will affect his performance as “Frightened Inmate Number Two” and wears cutoff jeans underneath his pants. For 10 points, name this syndrome that Tobias Fünke suffers from on *Arrested Development*, which is the fear of being naked.
ANSWER: never nude [accept word forms like never nudism; prompt on gymnophobia]
18. A work of microhistory about the region of one person with this name was written by the late USF historian Ward Stavig and is titled “The World of” [this person]. Another person with this name was captured along with Punchao, an idol of the sun. In response to another person with this name, authorities promised amnesty to sling-wielding soldiers and abolished custom houses and the reparto. The second person with this name was assisted by his resourceful wife Micaela Bastidas and, after he was (*) drawn and quartered, briefly had his struggle continued by Diego Cristobal. The second person with this name started out by capturing the governor Antonio de Arriga and decisively defeated Spanish troops at the Battle of Sangarara, but wasn’t able to capture Cuzco, where his distant ancestor was executed in 1572 as the “last Inca.” For 10 points, give this name taken by Jose Gabriel Condorcanqui, who rallied many indigenous people in a large-scale insurrection in Peru.
ANSWER: Tupac Amaru I or II [accept Jose Gabriel Condorcanqui before mention]

19. **Theories of these materials generally rely on a scalar order parameter defined as one half the average over the whole ensemble of three cosine squared of theta minus one. Electroinstability in one form of these materials is alternately named for Helfrich. Two widely studied examples of these materials are 5CB and the E7 mixture. Although not polymers, differential scanning calorimetry is commonly used to study these materials. de Gennes introduced a Landau type of phase-transition theory for these materials. The most commonly used type of these materials can be modeled using Maier-Saupe's mean field theory or (*) Onsager's theory, both of which treat the constituents of these materials as rigid rods. Those of these materials in the cholesteric phase tend to align in a helical manner, but otherwise have identical properties as the nematic phase. For 10 points, name this state of aggregation that is intermediate between a crystalline solid and an amorphous liquid.**
ANSWER: liquid crystals [or mesogens]
20. **One character in this play used to sit at one end of a coffee shop and glare at the occupant of his favorite seat until that person left. Another character in this play repeats the sentence "they're just missing the whole point." After one character in this play describes the general attitude of the central location as "live and let live," another says "live and let live is, at best, a load of crap." One of its characters describes parking his bike next to a fence and observing what he thought was a scarecrow, but was actually a (*) dead body. The father of its central character states that his son "did not look like a winner," condemning but forgiving Henderson and McKinney. The central character of this play, partly created by the Tectonic Theater project, dies after leaving his hometown to go to a gay bar. For 10 points, Moises Kaufman produced what play about the murder of Matthew Shepard in a Wyoming town, often protested by anti-gay groups such as the Westboro Baptist Church?**
ANSWER: *The Laramie Project*
21. **Hemopoetic cells undergo this process in the absence of colony-stimulating factors. One technique used to study cells performing this process involves using a terminal deoxynucleotidyl transferase. The Annexin V ("5") assay detects the occurrence of this process, which is inhibited during late stages of herpes simplex virus infections. This process can begin with the binding of (*) Fas ligands released by certain T cells to target Fas receptors. Proteins that mediate this process are themselves regulated by the *Bcl2* class of proteins. A class of proteins that mediates this process has a cysteine residue at their active site and cleave their substrates after aspartic acid residues. The activation of the adaptor protein Apaf-1 can initiate this pathway because it can activate caspases. For 10 points, the mitochondrial release of cytochrome c can trigger what process of programmed cell death?**
ANSWER: apoptosis [accept programmed cell death until mentioned]

Minnesota Open V

Packet by the editors (3): Auroi Gupta, Andrew Hart, Gaurav Kandlikar, and Cody Voight

Bonuses

- This author wrote a story about R.J. Bowman, who leaves a wad of cash in Sonny's country home as gratitude for getting his car out of a ditch, but collapses before he can get back on the road. For 10 points each:

[10] Name this author of "Death of a Traveling Salesman," who used Leota's beauty parlor as the setting for a story in which a rapist uses the title disguise from a freak show.

ANSWER: Eudora [Alice] **Welty** [the second story is "The Petrified Man"]

[10] In this Welty story, a little boy accidentally swallows lye and his grandmother Phoenix Jackson braves a wild dog and a hunter threatening to shoot her on her way to Natchez to pick up medicine.

ANSWER: "A **Worn Path**" [do not accept "The Worn Path"]

[10] In this Welty story from *The Golden Apples*, Eugene MacLain awakes from his dogmatic slumber after contemplating why he slapped his wife and begins to roam the streets of San Francisco.

ANSWER: "**Music From Spain**"
- The shrinking of this structure due to extreme cell death in patients of Huntington's chorea results in a dramatic alteration of the shape of the lateral ventricle. For 10 points each:

[10] Name this structure that, along with the putamen, makes up the striatum. This structure conforms to a C-shape, which resembles that of the lenticular ventricle.

ANSWER: **caudate nucleus**

[10] This almond-shaped structure is situated next to the hippocampus at the end of the caudate nucleus and next to the hippocampus. It has been proposed to play a key role in long-term fear conditioning.

ANSWER: **amygdala**

[10] The amygdala and the hippocampus, along with structures like the fornix, are part of this system, which controls emotions and long-term memory. The olfactory bulb is sometimes considered to be part of this system.

ANSWER: **limbic** system
- This composer stressed that young children be taught songs in the pentatonic scale and popularized the use of Curwen hand signs. For 10 points each:

[10] Name this developer of a method for musical instruction for children. The "Viennese Musical Clock" and "The Battle and Defeat of Napoleon" are two movements in an orchestral suite that he began with a musical sneeze.

ANSWER: Zoltan **Kodaly** [accept names in reverse order]

[10] Kodaly's love for the folk music of his native Hungary was channeled in this scordatura-filled piece for an unaccompanied instrument, his most famous chamber work.

ANSWER: **Sonata for Solo Cello**, *Op. 8* [or Kodaly's **Cello Sonata**]

[10] This Britten piece, in which thirteen variations each show off the capabilities of a different component of the orchestra, is based on Purcell's incidental music for *Abdelazar* and is a popularly used score for musical education.

ANSWER: *The **Young Person's Guide to the Orchestra***, *Op. 34*
- Answer the following about the pre-Gandhi struggle for Indian independence, for 10 points each.

[10] The movement was galvanized by the 1905 partition of this region, separating the Hindu west from the Muslim east. Only the western part of this historical region, with capital Calcutta, is part of modern-day India.

ANSWER: **Bengal**

[10] Initially, the Swadeshi movement urged Indians to boycott these specific British products, supporting home Indian manufacture of these things instead. The British economy took a huge hit as a result.

ANSWER: **textiles** [specific types, such as **clothing**, is acceptable]

[10] This unofficial leader of the independence movement before Gandhi was one of the architects of the Swadeshi movement. This Bengali guru and believer in spiritual evolution is regarded by Wikipedia as the first major Indian writer to use English.

ANSWER: Sri **Aurobindo Ghose** [either name is fine]

5. One major reason that this denomination arose was that slaveholders were denied missionary status in their parent denomination. For 10 points each:
 [10] Name this single largest Protestant denomination in the United States, whose membership includes Jimmy Carter. One of their six theological seminaries is located in Louisville, Kentucky.
 ANSWER: **Southern Baptist** Convention [prompt on **Baptist**]
 [10] The SBC split from this denomination, founded in 1814, which was succeeded by the Northern Baptist Convention. It was named for how often the leaders of the denomination would meet at a national convention.
 ANSWER: **Triennial** Convention
 [10] This denomination of Baptists arose in 1895 and is now the largest predominantly black Christian denomination in the U.S.
 ANSWER: **National Baptist** Convention, USA, Inc. [accept **National Baptists** or just **National**, since Baptist was in the prompt]
6. In one novel written in this language, a hypersexual married couple eventually occupies separate bedrooms when the wife writes her Master's thesis on the Brontes, and they are separated when she dies in a freak accident in Helsinki. For 10 points each:
 [10] Name this language, used in *To Know a Woman* by Amos Oz. Other writers who used this language include A.B. Yehoshua, a critic of Jews living outside of Israel.
 ANSWER: **Hebrew** [or **Ivrit**]
 [10] The greatest Hebrew-language poet is this author, the author of "In the Flicker of Sundown," who vividly described a 1903 pogrom in Kishinev, Moldova, in his "In the City of the Slaughter."
 ANSWER: Hayyim [Nahman] **Bialik**
 [10] This Hebrew novelist crafted a Jewish Don Quixote who only seeks a mate for his daughter in his novel *The Bridal Canopy*. He won the 1966 Nobel Prize in Literature along with Nelly Sachs.
 ANSWER: Shmuel [Yosef] **Agnon** [or Shai **Agnon**; or S.Y. **Agnon**]
7. The Kramers-Kronig relations can be used to relate the two parts of this quantity, and taking the ratio of those two parts yields the loss tangent. For 10 points each:
 [10] Name this quantity that consists of two parts: one determining a medium's polarization without losses, the other describing the medium's losses. Materials with a high value for this quantity are inserted between the plates of a capacitor.
 ANSWER: complex **relative permittivity** [or complex **dielectric constant**]
 [10] The square root of the relative permittivity yields this measure for a nonmagnetic medium. The extinction coefficient is the imaginary part of this measure that gives the ratio of the speed of light in a vacuum to the speed of light in a particular medium.
 ANSWER: **index of refraction** [or **refractive index**; prompt on **n**]
 [10] The Kramers-Kronig relations are an example of this transform. It is the convolution of a function with one over pi t.
 ANSWER: **Hilbert** transform
8. After this king passed the reins to his son Stephen II, this man's brother Duke Almos rebelled. For 10 points each:
 [10] Name this king of Hungary who took over for Ladislaus I and earned his nickname from his passion for self-education.
 ANSWER: **Coloman the Book-Lover** [or **Coloman I**; prompt on **Coloman**; accept **Kalman** or **Konyves** for "Coloman"]
 [10] Coloman the Book-Lover was a member of this Hungarian royal line that began with Geza and his son Saint Stephen I and ended with the death of Andrew III in 1301.
 ANSWER: **Arpad** Dynasty [or **Arpads**; or **Arpodok**]
 [10] Coloman the Book-Lover's greatest achievement was realized in the *Pacta conventa*, which formalized Hungary's takeover of this rival after Coloman vanquished its last native king, Petar Svacic.
 ANSWER: Kingdom of **Croatia** [or Kraljevina **Hrvatska**; or Kingdom of the **Croats**; or Kraljevstvo **Hrvata**]
9. Name these cool places to buy books, for 10 points each.
 [10] Lawrence Ferlinghetti founded this San Francisco bookstore and printing house that made waves by publishing Allen Ginsberg's *Howl and Other Poems* in 1956.
 ANSWER: **City Lights** Bookstore
 [10] This edifice on Paris's Left Bank is named for an earlier bookstore where Pound, Hemingway, and Joyce all hung out.
 ANSWER: **Shakespeare and Company** [or **Shakespeare and Co.**]
 [10] This independent research library on Capitol Hill is funded by Amherst College, contains eighty-two copies of the First Folio, and puts out its own series of annotated Shakespeare plays.
 ANSWER: **Folger** Shakespeare Library [or just **Folger** Library]

10. This city was home to a shrine to Jupiter Latiaris, where all regional cities used to gather during an annual celebration in which they split the sacrifice of a white bull. For 10 points each:
 [10] Name this city that was founded by Ascanius and later ruled by Amulius, who usurped the throne of his brother Numitor. The first king of Rome was originally an infant who was cast away from this city.
 ANSWER: **Alba Longa**
 [10] This outcast of Alba Longa was the first king of Rome who killed his brother Remus in a quarrel.
 ANSWER: **Romulus**
 [10] This wife of Romulus was the only married woman carried off during the Rape of the Sabine Women. She was the central woman to “intervene” in the subsequent quarrel between the Romans and Sabines.
 ANSWER: **Hersilia**
11. The value of the longitudinal diffusion rate is inversely proportional to the flow velocity by this equation, and its mass-transfer term models the impact the adsorption of the analyte to other particles. For 10 points each:
 [10] Name this equation that also takes into account the fact that particles of the analyte can take various paths to the detector. This equation is used to calculate the height of theoretical plates.
 ANSWER: **van Deemter** equation
 [10] In gas chromatography, this term refers to the length of time it takes for particles of an analyte to reach the detector once injected. Each compound generally has a unique value for this property on a given column.
 ANSWER: **retention** time [or **migration** time]
 [10] Most gas chromatographs use either thermal conductivity detectors or ones based on the passing of analyte molecules through one of these phenomena, which results in the molecules’ ionization. A chemical test involving this phenomenon must often be screened for that annoying bright yellow color that sodium makes when you put it in one of them.
 ANSWER: **flames** [accept synonyms like **fire**, accept **Flame Ionized** Detectors; prompt on **FIDs**]
12. This man’s brother Alfred designed many of the houses in their planned communities. For 10 points each:
 [10] Name this “King of Suburbia” who founded a namesake Long Island suburb in 1947.
 ANSWER: William [Jaird] **Levitt** [accept **Levittown**, New York]
 [10] The original Levittown rental and homeowner agreements contained one of these provisions, which were later struck down in *Shelley v. Kraemer*, stating that only Caucasians could rent or buy the properties.
 ANSWER: **racial covenants** [or racially **restrictive covenants**; accept close equivalents; prompt on **covenants**]
 [10] The earlier planned suburb of Coral Gables, Florida was developed entirely under the principles of this turn-of-the-century American urban planning philosophy that arose contemporaneously with the Garden City movement and inspired the McMillan Plan for redesigning Washington D.C.
 ANSWER: the **City Beautiful** movement
13. Name some highlights from the illustrious career of James Tobin, for 10 points each.
 [10] A “Tobin tax” is levied during these transactions. George Soros made a boatload of money on Black Wednesday by shorting the British pound in one of these transactions.
 ANSWER: **currency exchanges** [accept any answer that involves **trading between two types of currency**]
 [10] Tobin developed a ratio that places an asset’s market valuation in the numerator and the asset’s replacement valuation in the denominator and is denoted by this English letter.
 ANSWER: Tobin’s **q** [that’s a Q, if you can’t see it]
 [10] Tobin’s developed his Tobit model of regression for censored variables of this type, which are correlated to the error term. According to the AK model, economic growth is a result of forces of this type.
 ANSWER: **endogenous** [variables, growth, forces, etc.; accept word forms]
14. In this play, a woman is stabbed to death after her father Lusignan, who is horrified at the prospect that she would want to marry a Muslim, forces her to plea for a one-day delay of nuptials. For 10 points each:
 [10] Name this play in which Nerestan’s efforts to release his sister and several other Christian slaves from captivity in the Turkish Sultan Osman’s palace go horribly awry.
 ANSWER: **Zaire**
 [10] *Zaire* is one of the serious dramas written by this French author, whose masterwork contains an injunction to “cultivate our garden” and centers on the intrigue between Cunegonde and Candide.
 ANSWER: **Voltaire** [or Francois-Marie **Arrouet**]
 [10] Voltaire wrote an unfinished satirical poem with this title, a comical response to Jean Chapelain’s work of the same name. Schiller’s play with this title contains the line “against stupidity the gods themselves contend in vain” and includes a scene in which the title character falls in love with an English knight.
 ANSWER: *The* **Maid of Orleans** [or *Die* **Jungfrau von Orleans**; or *La* **Pucelle d’Orleans**]

15. A chapter-by-chapter rebuttal of this work is a dialogue between Theophilus and Philaethe. For 10 points each:
 [10] Name this work in which John Locke develops the distinction between primary and secondary qualities and claims that the mind at birth is a blank slate.
 ANSWER: An **Essay Concerning Human Understanding** [or An **Essay Concerning Humane Understanding**]
 [10] This Locke work, addressed to Philipp van Limborch, argues that the government should promote external interests like security and the church should promote internal interests like salvation.
 ANSWER: A **Letter Concerning Toleration**
 [10] As Lord Shaftesbury's secretary, Locke put his religious toleration to practice in drafting this document, which allowed any seven people of any religion to form a church. This never-ratified document authorized slavery and mandated that laws expire after a hundred years.
 ANSWER: Fundamental **Constitutions** of **Carolina** [or Fundamental **Constitutions** of the **Carolinas**]
16. This mathematician published a paper variously translated as *What are numbers, and what should they be?* or *The Nature of Meaning of Numbers*. For 10 points each:
 [10] Name this mathematician whose namesake domain is an integral domain A, such that A is a Noetherian ring, A is integrally closed, and every nonzero prime ideal of A is maximal.
 ANSWER: [Julius Wilhelm] Richard **Dedekind**
 [10] Dedekind cuts can be used to construct this set of numbers from the rationals. It is usually symbolized with a blackboard R.
 ANSWER: **real numbers** [or the **reals**]
 [10] These algebraic structures were introduced by Dedekind as an abstraction of a number system developed by Ernst Kummer. For a ring R, this is a subset I, that is itself an additive group, such that for x in R and y in I, the product of x and y is in I.
 ANSWER: an **ideal** [or **ideals**]
17. The figure playing a flute in this artist's *Young Men by the Sea* is reminiscent of the flautist in Luca Signorelli's *School of Pan*, and he showed people climbing onto already-filled up rafts in *The Sinking of the Titanic*. For 10 points each:
 [10] Name this artist, whose painting *Departure* shows a woman who is being tortured looking into a crystal ball in which she sees a newspaper in its left panel.
 ANSWER Max **Beckmann**
 [10] Beckmann's art was deemed "degenerate," as was the art of this Viennese artist. This artist's *The Bride of the Wind* shows him sleeping next to Alma Mahler, with whom he had a passionate relationship.
 ANSWER: Oskar **Kokoschka**
 [10] This other Viennese artist painted a work showing a baby being held by a young woman, beside whom stands a sad old woman, titled *Three Ages of Woman*. He also painted the *Beethoven Frieze* and *The Kiss*.
 ANSWER: Gustav **Klimt**
18. This thinker attempted to meld the amusingly disparate topics of J.S. Mill's *A System of Logic* and phrenology in his 1855 *Principles of Psychology*. For 10 points each:
 [10] Name this author who claimed that man could be "molded into fitness for new conditions of existence" in a Lamarckian sense in his *Social Statics*.
 ANSWER: Herbert **Spencer**
 [10] Spencer coined this four-word phrase in his *Principles of Biology* to describe Darwinian natural selection.
 ANSWER: **survival of the fittest** [must have exactly]
 [10] Spencer derived his faith in phrenology from reading the seminal book on the topic, *The Constitution of Man*, which this Scotsman authored after watching a demonstration of Johann Gaspar Spurzheim, who co-founded the discipline with Franz Joseph Gall.
 ANSWER: George **Combe**
19. At the end of this film, the protagonist tries to kiss his girlfriend but comically must salute passing soldiers instead. For 10 point each:
 [10] Name this comedy co-directed by Clyde Bruckman in which Johnnie Grey captains the *Texas*, which is in hot pursuit of the title vehicle for most of this film.
 ANSWER: *The* **General**
 [10] This silent-era comedian, nicknamed "The Great Stone Face" for his deadpan, starred as Johnnie Gray in *The General*.
 ANSWER: Buster **Keaton** [or Joseph Frank **Keaton**]
 [10] Silent-film actor Harold Lloyd's great comedy, *Safety Last!*, climaxes with Lloyd dangling off of one of these features on a skyscraper as he attempts to scale it to earn \$1,000.
 ANSWER: the hands of a **clock**

20. One room in this exceedingly creepy place contains a wedding cake overrun with rats, beetles, and spiders, having not been touched in years. For 10 points each:
[10] Name this dilapidated location, whose name is Latin for “enough,” where all of the clocks are set to “twenty minutes to nine,” the time at which the owner was jilted by her lower-class lover on her wedding day.
ANSWER: **Satis** House [or **Mrs. Havisham’s house** and synonymous answers]
[10] Satis House is the residence of Mrs. Havisham in this Dickens novel about Pip, the secret beneficiary of Abel Magwitch.
ANSWER: ***Great Expectations***
[10] Pip is brought to Satis House to play with Estella as part of an arrangement Havisham makes with this pompous merchant, who repeatedly takes credit for Pip’s rise in society.
ANSWER: Uncle **Pumblechook** [prompt on **Uncle**]
21. This document’s author wrote it after William IV asked him to form a ministry after Wellington refused. For 10 points each:
[10] Name this document that contrasted its author from Wellington and laid down the principles of the modern British conservative party.
ANSWER: the **Tamworth Manifesto** [accept reasonable answers including **Tamworth**]
[10] This British PM and MP for Tamworth authored the Manifesto. He repealed the Corn Laws and British police officers are cheekily named for him.
ANSWER: Sir Robert [Bobby] **Peel**
[10] After the Bedchamber Crisis resulted in Peel’s refusal to form a minority government, this Whig thought the better of his resignation and formed another government. When this man wasn’t scandalously boinking Caroline Norton, he served as Queen Victoria’s mentor.
ANSWER: Lord [or Viscount] **Melbourne** [or William **Lamb**]