

ACF Regionals 2015: A Livable Community

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Tossups

1. The Quranic sura of this number, whose retelling of the Cain and Abel story notes that killing one person is like destroying all humanity, is called *Al-Ma'ida*, or "The Table." Zaydi Muslims of Yemen include their namesake Zayd ibn Ali in a set totaling this number of imams, unlike either the Twelvers or the Seveners in mainstream Shi'a Islam. This is the lowest positive number of wives *forbidden* to a Muslim man at any given time. On the Middle Eastern *hamsa* charm, there are this many protrusions extending out from a central eye symbol. A set of this number of observances includes *sawm*, mandating fasting during Ramadan. For 10 points, give this number of times observant Muslims must pray per day, a requirement stated within this number of "pillars" of the Islamic faith.
ANSWER: five [or 5]

2. A character in this novel recovers from the trauma of running over a little girl when a psychiatrist convinces him that he hates children. Another character in this novel declares that he will steal a typewriter, but then asks its owners for help when he cannot lift it. A doctor in this novel tries to resolve a crisis when he learns that his nephew and niece are in love with each other; those two relatives later have lunch in a boarding house in Lima before an earthquake kills them in one of this novel's ten sub-narratives. This novel begins with the epigraph "I write. I write that I am writing." Its protagonist starts a love affair with a matronly relative as insanity grips Pedro Camacho, an overworked creator of radio shows. For 10 points, name this semi-autobiographical novel by Mario Vargas Llosa.
ANSWER: Aunt Julia and the Scriptwriter [or La tía Julia y el escribidor]

3. An enzyme dependent on this metallic element as a cofactor is inhibited by hydroxyurea. An ion of this element is found in the +4 oxidation state bound to an oxo ligand in the key mechanistic step of an enzyme that also uses the cofactor tetrahydrobiopterin; that enzyme is phenylalanine hydroxylase. This element is used in the Bechamp reduction. The first known ligands of hapticity 5 were bonded to a central atom of this metal. It's not aluminum, but this element's trichloride is often used as a catalyst in the chlorination of arenes. This element is present both as the counter-ion and in the central complex ion of the dye Prussian blue. An alloy of this element and carbon can undergo martensite or pearlite phase transitions. For 10 points, name this transition metal found in ferrocene.
ANSWER: iron [or Fe]

4. Julius Pollux recorded that this hero's dog ate some snails, thus discovering a purple dye. This hero killed Syleus, who forced passersby to hoe his vineyard. This man killed Theiodamas in a dispute over a bull, and adopted a son as a companion who was later abducted by nymphs while fetching water. After Eurytus reneged on a promise to give a daughter to the winner of an archery contest, this man killed him and abducted Iole. This companion of Hylas killed Iphitus, for which he was punished by having to wear women's clothing and serve Omphale. This hero was killed by a shirt soaked in the blood of the centaur Nessus, which was given to him by his jealous wife Deianira. For 10 points, name this Greek hero who retrieved the cattle of Geryon while performing his twelve labors.
ANSWER: Heracles [or Hercules]

5. A man in this novel marries the widow of a fellow matchbox cover collector. In this novel's epilogue, the narrator visits a chapel and remarks on a "small red flame" burning, which "could not have been lit but for the builders and the tragedians." This novel's author's note reads "I am not I: thou art not he or she: they are not they." This novel's first section is titled for a phrase written on a skull in the narrator's dorm room, "Et in Arcadia Ego." This novel's narrator befriends a man who carries a teddy bear to Oxford, then gets divorced so he can marry Julia, who changes her mind after her father's deathbed reconciliation with the Catholic Church. For 10 points, name this novel in which Charles Ryder visits Sebastian Flyte at the title estate, written by Evelyn Waugh.

ANSWER: **Brideshead Revisited**, *The Sacred and Profane Memories of Captain Charles Ryder*

6. The six-item Fagerstrom Test assesses the severity of this disorder. The second most common use of the antidepressant bupropion is treatment of this disorder. The drugs cytosine and varenicline treat this disorder by being partially agonistic to a type of receptor that appears on both sides of the neuromuscular junction. The non-alpha 7 types of that receptor contribute to this disease by directly exciting dopaminergic and GABAergic neurons. The compound most directly responsible for this condition mimics the action of acetylcholine in namesake acetylcholine receptors. The most common way to treat this disorder is through replacement therapy in the form of gum or patches. For 10 points, name this disorder in which one becomes dependent on the active drug found in tobacco.

ANSWER: **nicotine addiction** [or **nicotine dependence**; prompt on "smoking" or any other answer indicating tobacco ingestion]

7. Though Kurt Huber wasn't one, he joined people of this sort at the guillotine after a sentence by Roland Freisler, came down on Christoph Probst and Hans Scholl. During the 22 March Movement, Daniel Cohn-Bendit led these people in occupying a building in Nanterre. People of this sort spread leaflets against the Nazis as part of the White Rose group, and were benefitted with a free but secular service by the Jules Ferry laws. These people made up the *Burschenschaften*, which were dissolved in the Carlsbad Decrees after one of them named Carl Sand murdered the writer August von Kotzebue. Charles de Gaulle's administration nearly fell when a group of these people launched the May 1968 protests in France. For 10 points, name these people who go to places like the Sorbonne to learn.

ANSWER: university **students** [accept University of **Munich** students during the first sentence]

8. This line is replaced with gibberish in a sketch from the "Ben Stiller Show" set in a grocery store. A character suggests that this line should appear on his tombstone instead of "always in the wrong place at the wrong time" shortly before shooting himself in the shoulder, killing a man behind him. This line is said after a man drops a lighter on a trail of leaking jet fuel, which somehow leads to a plane that's already off the ground exploding. This line is first said as a response to, "Do you really think you have a chance against us, Mr. Cowboy?" by a cop who is communicating with a criminal in the Nakatomi Plaza building via walkie-talkie. For 10 points, name this line which is repeated by Hans Gruber shortly before his death, the catchphrase of John McClane in the *Die Hard* movies.

ANSWER: "**Yippee-ki-yay**, motherfucker"

9. A photograph of a work in this medium shows the Cross of Lorraine painted in white over a wash of black paint that drips down in long streaks. That photo is part of a series by Brassaï on this medium, which heavily influenced Jean Dubuffet. A group of artists in this medium used the symbol of a three-pointed crown and was called SAMO ["same"-o]. A work in this medium shows a man pressure-washing cave paintings, while another shows two members of the London police kissing each other. The film *Exit Through the Gift Shop* is about this medium, which includes a work in which a rioter with a backwards cap and a scarf around his mouth prepares to throw a bouquet of flowers. For 10 points, name this medium emulated by Jean-Michel Basquiat and practiced by the anonymous English artist Banksy.

ANSWER: **graffiti** [prompt on "street art"; prompt on "painting"]

10. After becoming the first High King of Ireland since Brian O'Neill, a man with this first name died fighting John de Bermingham at the Battle of Faughart. At the Feast of the Swans, another man with this name was knighted by his father before going on a campaign to avenge the death of John Comyn. A third man of this name was supported by the English victory at the Battle of Halidon Hill, which was not enough to overcome his rival David II's claim to the throne. In addition to a brother of Robert the Bruce and the son of John Balliol, people with this name include a king who was probably the lover of Piers Gaveston and who lost the Battle of Bannockburn. For 10 points, give this name held by the English kings during the Scottish wars of independence, including one nicknamed Longshanks.

ANSWER: Edward [or Edward Bruce; or Edward Balliol; or Edward I; or Edward II]

11. In "Reflections on" this city, Hannah Arendt controversially imagined what she'd do as a poor black mother here. A woman from this city wrote about being attacked by acid in her memoir *Warriors Don't Cry*; another memoir about this city, named for its *Long Shadow*, retells a plan developed by Virgil Blossom. Melba Pattillo Beals and Daisy Bates were people opposed by this city's Capital Citizens' Council. The so-called "Lost Year" in this city led to a Supreme Court ruling in *Cooper v. Aaron* that states must follow Supreme Court decisions even if they disagree with them. The 101st Airborne division was sent to this city by the President. For 10 points, name this city where governor Orval Faubus opposed the 1957 enrollment of nine black students to desegregate Central High School.

ANSWER: Little Rock, Arkansas [accept "Reflections on Little Rock"; accept *The Long Shadow of Little Rock*]

12. An international collaboration based in this country has produced evidence for bottom-to-down quark transitions and proof of non-kaon CP-violation. This country, which is home to the Belle experiment, also produced a physicist who discovered the temperature-dependence of resistivity due to electron scattering by magnetic impurities. Another physicist from here theorized that mesons carried the nuclear force, predicting the existence of pions. This country, which contains the KEK laboratory, also houses an underground facility where photomultiplier tubes detect rings of Cherenkov radiation in ultra-pure water. That facility found the first evidence of atmospheric neutrino oscillations and is named the Super-Kamiokande. For 10 points, name this birthplace of Jun Kondo and Hideki Yukawa.

ANSWER: Japan [or Nippon; or Nihon]

13. Laura Bohannon identified thirteen types of this practice among the Dahomey. John McLennan linked the origin of this practice in primitive society to infanticide. The Mosuo people of China practice its rare "walking" type. Rodney Needham began a debate over whether there is a meaningful difference between the "prescriptive" and "preferential" forms of this practice. This practice is analyzed as an exchange governed by a rule of reciprocity in the alliance theory of Claude Lévi-Strauss. The Nuer practice the "ghost" form of it, which, like the "levirate" form practiced by communities such as Orthodox Jews, involves the brother of a dead man. For 10 points, name this practice which is exogamous when it occurs between tribes, and which often involves the giving of a dowry.

ANSWER: marriage

14. One of this author's characters curses "novels, verses, songs," and "sonnets" as "pernicious amusements of idle minds" at the end of the play in which he appears. That character, Gorgibus, vows to marry off his daughter and niece or send the two to a nunnery. In another play by this author, a maid voices her opinion of a forced marriage but stops talking every time her master is about to slap her. In that play, two lovers repeatedly walk away from each other as Dorine tries to mend their relationship, which was ruined by Mariane's arranged marriage. One of this man's title characters has his licentiousness revealed to Orgon as Orgon hides under a table. For 10 points, name this playwright who satirized French society in his comedies of manners *The Affected Young Ladies* and *Tartuffe*.

ANSWER: Moliere [or Jean-Baptiste Poquelin]

15. This work claims that a philosopher must "fire his volley of new vocables out of his conceptual shotgun." It cites testimony from a woman who practices automatic writing to support the claim that "mental machinery" shows us a different reality than our senses. An installment in this work describes events which are transient, passive, "noetic," and "ineffable". Its first installment criticizes a "medical materialism" that would explain away George Fox by pointing to his colon disorder. This book, which includes "The Divided Self," discusses the "healthy-minded" temperament as opposite to the twice-born "sick soul." For 10 points, name this compilation of the 1901 to '02 Gifford lectures, in which topics such as mystic visions and conversion are discussed by William James.

ANSWER: *The Varieties of Religious Experience: A Study in Human Nature*

16. This composer borrowed a theme from his "Homage March" scored for four cellos in the *Andante* second movement of his *Cello Sonata in A Minor*. He worked his own name into the opening motif of a piano sonata in E minor, the only one he composed. His shorter piano pieces include ones given programmatic titles like "She Dances," "Gratitude," and "Homesickness." This composer wrote a five-movement work "in the olden style" concluding with a rigaudon. "The Abduction of the Bride" and "Arabian Dance" open the second four-movement suite he derived from music he wrote for an 1867 satirical verse drama. For 10 points, name this composer of the *Holberg Suite* who included "Morning Mood" and "In the Hall of the Mountain King" in his incidental music for *Peer Gynt*.

ANSWER: Edvard **Grieg**

17. While a mayor, this man replied to posters quoting "All men are created equal" by reciting the whole Gettysburg Address in English to student protesters. On a tour of his country's south, this leader formed an ideology based on "productive forces," "advanced culture," and the interest of the majority, the Three Represents. The "Shanghai clique" got power via connections to this man, who retained his predecessor's Premier, Li Peng. This key person in the Third Generation of CCP leaders came to power after Zhao Ziyang was purged as General Secretary. He began construction on the Three Gorges Dam, started the Falun Gong crackdown, and oversaw the transfers of Macau and Hong Kong. For 10 points, name this man who succeeded Deng Xiaoping to lead China during the 1990s.

ANSWER: **Jiang Zemin**

18. This architect incorporated elements of Kanak hut architecture in his design for a convention center located in Noumea, New Caledonia. He converted a gigantic automobile manufacturing plant into a convention center and trade fair district. He used ferroconcrete leaves to serve as both a heat source and protection against UV light in the roof of a museum which houses his Cy Twombly Pavilion. This architect of the Menil Collection designed an airport terminal on an artificial island in Japan and a glass-covered pyramidal skyscraper that eclipses everything else in London. With an American, he designed a color-coded building complex named for a former President of France. For 10 points, name this architect of the Kansai International Terminal, The Shard, and the Centre Pompidou.

ANSWER: Renzo **Piano**

19. In the Nivasch probabilistic algorithm for cycle detection, pairs of function output and iteration number are stored in strictly increasing sequences in these data structures. x87 floating point architectures organize registers into a type of these structures that allow for individual access to its constituents. An algorithm that stores intermediate vertices in this data structure is used for topological sorting and for finding connected components; that algorithm is the depth-first search. The "call" one of these structures stores information about the return addresses to which each subroutine in a computer program should return control once it finishes executing. Infinite recursion of these entities may lead to their "overflow." Push and pop are operations on, for 10 points, what last-in first-out data structures?

ANSWER: **stacks**

20. In this novel, a woman breaks off relations with her valet after he catches her covering her smallpox-disfigured face with powder. Its last chapter includes a chart assessing, on a scale from -10 to 10, the goodness, piety, and usefulness of several people. A man in this novel dies of an infection after cutting his knee on a piece of metal, which leads him to deliriously confess his love for the actress La Perichole. This novel's protagonist condenses his investigation of the main event into a book that is deemed heretical and burned along with him in a town square. In this novel, Brother Juniper watches as Jaime, Uncle Pio, Esteban, Pepita, and the Marquesa de Montemayor fall to their deaths. For 10 points, name this novel in which a rickety Peruvian structure collapses, by Thornton Wilder.

ANSWER: *The Bridge of San Luis Rey*

TB. In the debate about the origins of this event, Timothy Mason introduced a dichotomy between functionalism and intentionalism. Peter Novick's book about responses to it in American life coined the phrase "victimization Olympics." Raul Hilberg wrote a seminal book on this event, which is lumped in with events further east in Timothy Snyder's 2011 book *Bloodlands* and the "red equals brown" theory currently popular in Lithuania. A book on the *Industry* of people exploiting this event factored into the 2007 denial of tenure to Norman Finkelstein. Historian David Cornwell criticized Pope Pius XII for letting this event happen. People like Ernst Zündel and David Duke have denied the historicity of, for 10 points, what genocide for which Treblinka and Auschwitz were built?

ANSWER: the Holocaust [or haShoah; prompt on more general answers referring to Nazi German atrocities against Jews or other minority peoples]

Bonuses

1. M-FISH and Rx-FISH are often used to "paint" the specimens in this technique. For 10 points each:

[10] Name this technique, which produces a complete display of all 23 human chromosomes.

ANSWER: karyotyping [or karyotype]

[10] This term denotes any deviation from possessing an exact multiple of the haploid number of chromosomes. This general phenomenon, examples of which include Turner syndrome and Down syndrome, is easily detected by karyotyping.

ANSWER: aneuploidy

[10] Deletion of genes from the maternal copy of chromosome 15 causes this sister syndrome to Prader-Willi syndrome.

ANSWER: Angelman syndrome

2. Answer the following about the arguments in Plato's shorter Socratic dialogues, for 10 points each.

[10] Euthyphro defines this concept as "that which is loved by all the gods," falling into a dilemma: either gods don't have the will to resist things with this attribute, or their love is arbitrary.

ANSWER: piety [or the pious; or holiness; or the holy; or to hosion; or to eusebes]

[10] In the *Crito*, Socrates imagines the voice of these writings, which raised him like a parent raises a child. Since escaping his prison cell would violate these writings, he refuses to escape.

ANSWER: the laws of Athens [or customs of Athens; or decisions of Athens; or decrees of Athens; or the constitution of Athens; or nomos; or nomoi]

[10] In the *Apology*, this accuser gets a brief round of question-and-answer during a break in Socrates' speech. He assents to an analogy between the skill of properly raising youth and training a horse.

ANSWER: Meletus

3. A translation of a play nominally about this conflict, but allegorically about World War I and its aftermath, is titled *Tiger at the Gates*. For 10 points each:

[10] Name this event, which the title of a Jean Giraudoux play states "will not take place." Nevertheless, the poet Demokos and others want it to happen.

ANSWER: the Trojan War

[10] *The Trojan War Will Not Take Place* is among the Giraudoux plays translated by this author of *The Lady's Not for Burning*, who also adapted a Jean Anouilh play into *Ring Round the Moon*.

ANSWER: Christopher Fry

[10] Another of Fry's adaptations, of Anouilh's *The Lark*, depicts Joan of Arc. This Irishman also wrote a play about *Saint Joan*, and about the refinement of flower girl Eliza Doolittle in *Pygmalion*.

ANSWER: George Bernard Shaw

Note to moderator: Do not read the alternate answers for the first bonus part aloud.

4. This pope appointed Ludovico Trevisan to construct a fleet for use against the Turks; earlier, he was supposedly told he'd become pope as a youth by the Dominican friar Vincent Ferrer. For 10 points each:

[10] Name this successor of Nicholas V, who excommunicated Halley's Comet for being a bad omen for the defenders at the Siege of Belgrade.

ANSWER: Callixtus III [or Alonso de Borja or Alfonso de Borja]

[10] Callixtus III was a member of this originally Valencian family. This powerful Italian family included Callixtus' nephew Rodrigo, who later became Pope Alexander VI, and Rodrigo's children Cesare and Lucrezia.

ANSWER: Borgia [or Borja]

[10] Callixtus rose to power under an Aragonese king with this name, who was the father of Ferdinand I of Naples. The tenth Castilian king of this name was known as "the Wise" and sponsored the creation of astronomical tables.

ANSWER: Alfonso [or Alfonso V the Magnanimous of Aragon; or Alfonso X the Wise of Castile; or Alfonso el Magnánimo; or Alfonso el Sabio]]

5. This rule only applies to centrosymmetric molecules. For 10 points each:

[10] Name this selection rule that forbids electronic transitions that conserve parity.

ANSWER: Laporte selection rule

[10] Vibronic transitions can result from asymmetric vibrations, allowing for transitions which are forbidden by the Laporte rule. This doubly-eponymous rule predicts the intensity of vibronic transitions occurring simultaneously with electronic transitions.

ANSWER: Franck-Condon principle

[10] Vibrational spectroscopy can be used to probe these types of molecules, which are easily excited by electric fields. In general, they contain a separation of opposite charges due to atoms with differing electronegativities.

ANSWER: polar [accept any answer which indicates that the molecules have a dipole]

6. This country's copper coinage was printed with "Stella quarta decima," a Latin motto meaning "the fourteenth star" which implied that it wasn't intended to last long. For 10 points each:

[10] Name this New World republic led by John Chittenden, whose independent existence lasted only fourteen years. Its constitution banned slavery.

ANSWER: Vermont Republic

[10] This Revolution-era dude seized Fort Ticonderoga while fighting against New York's territorial claims to what's now Vermont. He led the Green Mountain Boys.

ANSWER: Ethan Allen

[10] This division of the Constitution contains the provisions for new states joining the Union, which Vermont tested for the first time. It uses the vague words "Persons held in service or labor" in its fugitive slave clause.

ANSWER: Article IV of the Constitution of the United States [or Article IV, Section 3]

7. Cue the Schoolhouse Rock music and answer the following about debating a bill on the floor of Congress. For 10 points each:

[10] When a bill goes to a vote on the floor, these officials are responsible for ensuring that party members attend and vote according to party policy. Steve Scalise and Steny Hoyer fill this role in the House of Representatives.

ANSWER: whips [accept House Majority Whip; accept House Minority Whip]

[10] The House Committee on Rules issued a record number of this kind of rule in 2013, prohibiting amendments to a bill under consideration from the floor. In this kind of congressional session, the proceedings are confidential.

ANSWER: closed [accept closed rule; accept closed session; accept secret session]

[10] When the House and Senate versions of a bill differ, they set up this ad hoc panel in order to reconcile the differences in their bills before passing it and sending it to the President.

ANSWER: joint conference committee

8. The apparent influence of the Bulgarian Bogomils on this sect led locals in France to call them *Bougre*, a purported etymology for the British slur "bugger." For 10 points each:

[10] Name this Christian sect whose egalitarianism, dualistic cosmology, and belief that a Satanic "Rex Mundi" created the world led Pope Innocent III to call for their destruction.

ANSWER: Cathars [or Albigensians]

[10] These animals were allowed in the Cathars' otherwise-vegan diet. Saint Peter made a living off of them before meeting Jesus.

ANSWER: fish

[10] This higher rank among the Cathars was held to strict ascetic standards after the *consolamentum* ritual. As in Manichaeism, people below this rank were called "hearers."

ANSWER: perfects [or parfaits; or bonhommes; or bonus homo; or boni homines; prompt on "elect"]

9. The two golden rules of these devices summarize the characteristics of their ideal types, and they have two inputs and one output. For 10 points each:

[10] Name these very high-gain electronic devices whose ideal versions have infinite gain, infinite input impedance, zero out impedance, infinite bandwidth, and zero input offset voltage.

ANSWER: operational amplifiers [or op-amps; prompt on "amplifiers"]

[10] Op-amps also involve this kind of coupling, meaning electrical energy is transferred via physical conduction. This term also names a kind of flow of electric charge that is often contrasted with alternating current.

ANSWER: direct coupling [or DC coupling; accept direct current; prompt on "conductive coupling"]

[10] Ideal op-amps also have a value of zero for this phenomenon. In CCDs, the relative strength of this phenomenon decreases proportionally with the square root of the time elapsed, which approximates the number of entering photons.

ANSWER: noise

10. In one work by this man, a figure in red sits on a rock in front of a noose hanging from a long branch, while in another, a crowd of people file into entryways marked "Chicago," "New York," and "St. Louis." For 10 points each:

[10] Name this artist of a series of paintings showing the process of African Americans re-situating themselves in the northern United States, entitled *Migration*.

ANSWER: Jacob Lawrence

[10] Jacob Lawrence was a member of this black cultural movement named for a New York neighborhood. Other members included Romare Bearden and Aaron Douglas.

ANSWER: Harlem Renaissance

[10] After the Harlem Renaissance, Romare Bearden cut and pasted cloth and paper to show a woman lying on one of these objects. Harlem painter Faith Ringgold also told stories by creating these objects.

ANSWER: quilts [or story quilts; accept *Patchwork* Quilt; prompt on "blankets"]

11. This 1969 collection combines two previous volumes, one of which contained only 77 of its 385 total poems. For 10 points each:

[10] Name this collection of confessional poetry, which includes poems in which a man "grew hot, got laid, felt bad, survived" and found himself "full of the death of love."

ANSWER: *The* Dream Songs

[10] *The Dream Songs* follow this character, to whom John Berryman admitted a resemblance but also noted that this man "pays no income tax." A character who speaks "in blackface" refers to this man as "Mr. Bones."

ANSWER: Henry

[10] John Berryman was haunted by the suicide of this relative, who "rose with his gun...and did what was needed." Sylvia Plath lamented of this relative, "I never could talk to you / The tongue stuck in my jaw."

ANSWER: his father [or Daddy; accept other answers indicating one's biological male parent]

12. The figures in this Black Hills monument were originally planned to have torsos. For 10 points each:

[10] Name this monument by Gutzon Borglum that depicts the faces of four presidents including George Washington and Thomas Jefferson.

ANSWER: Mount **Rushmore** National Monument

[10] After Borglum's death in 1941, this man took over construction of Mount Rushmore and ultimately decided that it would look better without the torsos.

ANSWER: **Lincoln** Borglum [or **Lincoln Borglum**; or **James** Lincoln de la Mothe Borglum; prompt on "Borglum"; prompt on "his son"]

[10] Lincoln Borglum was named after Abraham Lincoln, whose namesake memorial in D.C. was created by this duo, a sculptor and an architect who also collaborated on the sculpture of the Marquis de Lafayette in Prospect Park.

ANSWER: Daniel Chester **French** and Henry **Bacon**

13. Name these Charles Dickens characters, for 10 points each.

[10] This orphan from *Great Expectations* meets his future benefactor, Abel Magwitch, in a cemetery while living with his sister and Joe Gargery. He later befriends Herbert Pocket and falls in love with Estella Havisham.

ANSWER: **Pip** [or **Phillip** Pirrip; or Phillip **Pirrip**]

[10] This title character befriends Smike, the long-lost son of his cruel uncle Ralph, and helps him run away from a school run by Wackford Squeers. This man finds happiness after taking a job with the kindly Cheeryble brothers.

ANSWER: **Nicholas** Nickleby [or Nicholas **Nickleby**]

[10] This old factory worker from *Hard Times* dies after falling into a mineshaft before he can marry his beloved Rachel. He is framed for the crime that forces Tom to flee to the Americas.

ANSWER: **Stephen** Blackpool [or Stephen **Blackpool**]

14. This general's mysterious assassination in the Benuecos woods was blamed on agents loyal to fellow general José María Obando to weaken Obando's leadership ambitions. For 10 points each:

[10] Name this "Grand Marshal of Ayacucho," who also defeated Melchior Aymerich on the slopes of an active volcano at Pichincha.

ANSWER: Antonio José de **Sucre**

[10] Sucre's victory at Ayacucho ensured the independence of this coastal country, the seat of a Spanish Viceroyalty which executed the last Inca emperor.

ANSWER: Republic of **Peru** [or República del **Peru**; or **Piruw** Ripuwlika; or **Piruw** Suyu]

[10] Sucre was killed after attending an 1830 conference described by this adjective in Gran Colombia. This adjective also denotes a military operation that swept northeast from Cúcuta.

ANSWER: **admirable** [or **Admirable** Congress; or **Admirable** Campaign; or Congreso **Admirable**; or campaña **admirable**]

15. This piece's iconic opening phrase, played by the right hand unaccompanied, begins, E-D sharp-E-D sharp-E. For 10 points each:

[10] Name this A minor bagatelle written for solo piano by Beethoven. It is endlessly performed by beginner-intermediate piano students.

ANSWER: Für Elise [or *Bagatelle No. 25*]

[10] This other Beethoven composition for solo piano is a technically rigorous set of 33 variations based on a C major waltz by a minor Austrian contemporary.

ANSWER: the Diabelli Variations [or 33 Variations on a Waltz by Diabelli; or 33 Veränderungen über einer Walzer von Diabelli]

[10] This two-movement Beethoven piece for piano, orchestra, and chorus, his Op. 80, prefigures several elements of his ninth symphony. It sets a German text of unknown authorship beginning, "Schmeichelnd hold und lieblich klingen."

ANSWER: the Choral Fantasy [or the Choral Fantasia; or Fantasy for Piano, Chorus, and Orchestra; or Fantasie für Klavier, Chor und Orchester]

16. Pineapple Express isn't just a mediocre movie starring Seth Rogen and James Franco; it's also a weather system consisting of a stream of warm, moist air. For 10 points each:

[10] In December 2014, a Pineapple Express brought a rare tornado to this city, which is experiencing a hipster migration from Silver Lake to Atwater Village. Oxnard and Thousand Oaks are northwestern suburbs of this city.

ANSWER: Los Angeles, California

[10] Pineapple Expresses originate in this archipelago which grows forty-five percent of the world's supply of macadamia nuts. It also contains the tallest mountain on Earth by base-to-peak height, Mauna Kea.

ANSWER: Hawaiian Islands

[10] A Pineapple Express caused major floods in this valley, which contains the cities of Eugene and Corvallis. This valley is one of the world's foremost producers of pinot noir.

ANSWER: Willamette Valley

17. Alexander offered to spare this city if it allowed him to make a sacrifice at its temple to Melqart, but their refusal led him to build a massive causeway from which to barrage this city with his siege weapons. For 10 points each:

[10] Name this Phoenician city that was besieged and destroyed during Alexander's campaigns. It later served as the seat of an archbishop named William who chronicled the Crusades.

ANSWER: Tyre

[10] At the Battle of the Hydaspes River, Alexander faced these units that were deployed by his enemy Porus. These massive animals were used for charges and for scaring horses, and were a notable part of Hannibal Barca's army.

ANSWER: elephants

[10] Like Alexander, a Greco-Bactrian ruler with this name launched an invasion of India and established the Indo-Greek Kingdom. Another man with this name was the first Antigonid ruler of Macedon.

ANSWER: Demetrius [accept Demetrius I of Bactria or Demetrius I Poliorcetes of Macedon]

18. For semisimple matrices, these entities form a linearly independent set which spans the column space of the matrix. For 10 points each:

[10] Name these vectors which, when multiplied by their associated matrix, return themselves multiplied by a scalar. That associated scalar is a solution to the characteristic equation of these vectors' initial matrix.

ANSWER: eigenvectors

[10] This theorem asserts that a real square matrix with positive entries has a strictly positive eigenvector with a unique largest eigenvalue. When applied to Markov transition matrices, it allows one to show the existence of a stationary distribution.

ANSWER: Perron-Frobenius theorem

[10] Along with Hamilton, this mathematician names a theorem stating that a matrix returns the zero matrix when substituted into its own characteristic polynomial. He also names a type of graph that encodes the abstract structure of a group.

ANSWER: Arthur Cayley

19. The young protagonist of this novel attends many movies with his mother. For 10 points each:

[10] Name this novel set in the Pampas in which Toto Casals struggles with his sexuality.

ANSWER: *Betrayed by Rita Hayworth* [or *La traición de Rita Hayworth*]

[10] This South American author of *Betrayed by Rita Hayworth* also wrote about the political prisoner Molina, who acts out scenes from his favorite movies, in *Kiss of the Spider Woman*.

ANSWER: Manuel Puig

[10] The fourth film Molina brings up involves the appearance of one of these creatures during an island honeymoon. They feature prominently in Colson Whitehead's novel *Zone One*.

ANSWER: zombies

20. These deities helped the Romans achieve victory at the Battle of Lake Regillus, and one of them defeated King Amycus of the Bebryces in a boxing contest during their time as Argonauts. For 10 points each:

[10] Name these twins, the brothers of Helen. One of them shared his immortality with the other, allowing Zeus to transform them both into the constellation Gemini.

ANSWER: Castor and Pollux [accept Polydeuces instead of Pollux; or Dioscuri; or Castores; or Tyndarids; or Tyndaridae]

[10] Castor and Pollux attempted to abduct the Leucippides, who were betrothed to these Messenian twins. In the ensuing struggle, these men killed Castor, and were in turn killed by Pollux.

ANSWER: Idas and Lynceus [or Aphareides; or Apharetidae]

[10] After this non-Paris man kidnapped Helen, Castor and Pollux stormed the town of Aphidna to rescue her. His pal Pirithous got stuck in the underworld as they tried to abduct Persephone.

ANSWER: Theseus

21. This inconsiderate scientist left a substance that could end the world to his three children, who keep it in Thermos containers. For 10 points each:

[10] Name this creator of ice-nine whose dysfunctional children Angela, Newt, and Franklin appear in *Cat's Cradle*.

ANSWER: Dr. Felix Hoenikker [or Dr. Felix Hoenikker]

[10] *Cat's Cradle* is a novel by this author who wrote about Billy Pilgrim becoming "unstuck in time" in *Slaughterhouse-Five*.

ANSWER: Kurt Vonnegut, Jr.

[10] In *Cat's Cradle*, this dictator of San Lorenzo commits suicide via ice-nine. All of the world's water freezes after this man's body tumbles into the ocean after a palace collapses.

ANSWER: "Papa" Monzano [or "Papa" Monzano]