Editors: Eric Mukherjee, Ike Jose, Will Alston, Patrick Liao, Ankit Aggarwal, Chris Chiego
Writers: Jaimie Carlson, JinAh Kim, Sarita Jamil, Lam Tran, Paul Lee, Max Smiley, Claudia Epley, Jay Misuk, Faheem Pahlwan, Paul Kasinski, Samantha Claypoole, Aayush Rajasekaran, Rein Otsason, Ben Cushing

Tossups:

1. **In the *Gylfaginnig,* one of these beings was said to have been born from yeast-drops when the breath of heat met the rime. Two of these creatures are tied to a millstone and sing the pirate Mysing into existence as revenge. One of these beings pretends that three hammer-blows felt like acorns falling on his head, but actually dodged them, letting them create craters where they landed. After refusing to let an ox cook, then eating all of it, one of these beings is hit by a pole which adheres to it, allowing it to fly away in the form of an (*) eagle.** One of these beings sweated a male and female out of its armpits and feeds on the milk of Audumbla, while another kidnapped Loki to steal the apples of Idun. Thiazi and Ymir are two of these beings, which fight the gods at Ragnarok. For 10 points, name these Norse creatures, also known as jotunn.
ANSWER: **giants** [accept **jotunn** before mentioned]

2. **Percy Grainger's *Blithe Bells* is a "free ramble" on part of a piece by this composer. Long melismas are used to pronounce "catholicam" and "ecclesiam" in the "Et in Spiritum Sanctum" movement of a piece by this composer, who used a Philipp Nicolai hymn as the basis for a piece featuring the chorale "Zion hears the watchmen singing." Parodic reworkings of this man's own choral music are littered throughout a mass by him which sets nine sections of the (*)** Nicene creed to music and ends with the movement "Dona Nobis Pacem." *Sleepers Wake* and the *Hunting Cantata* are among this composer's hundreds of cantatas, many of which were written while he worked for a church in Leipzig. He wrote a choral piece based on the first book of the New Testament. For 10 points, identify this composer of a famous Mass in B Minor and the *St. Matthew Passion*.
ANSWER: **J**ohann **S**ebastian **Bach** [or **Johann** Sebastian **Bach**; prompt on **Bach**]

3. One recent method for preparing this material involves using a simple sugar to synthesize it "bottom-up" with a controllable thickness; that is the Tang-Lau method, and it can be created from an intermediate called SLGO using hydrazine reflux. This material has a Berry phase consisting of massless Dirac fermions. This material has an anomalous half-integer (*) quantum Hall effect. It is most often synthesized using chemical vapor deposition on metal surfaces, but it was originally created using scotch tape and is 100 times stronger than steel. For 10 points, name this honeycomb-shaped structure, a single sheet of carbon atoms arranged hexagonally.
ANSWER: **Graphene**

4. **Adrienne Canterna's musical version of this story features a bar room brawl set to RunDMC's "Walk This Way." Christopher Gable used a gorilla caring for its dead baby as inspiration for a technically challenging scene in Kenneth MacMillan's version of this story in which a man dances with a corpse. Another musical work based on this story features the discovery of a lifeless body in its "Dance of the Girls with the (*)** Lilies," and it begins with a folk dance in which groups of peasants throw fruit. A ballet based on this work features a string theme over a steady brass beat in its "Dance of the Knights," in which male members of a family enter a masked ball. A fantasy-overture by Tchaikovsky depicts, for 10 points, what familiar story, which was adapted into a ballet by Sergei Prokofiev that includes an infamous "balcony scene"?
ANSWER: *Romeo and Juliet*

5. **One method of calculating this quantity sets its log equal to f-oh plus f-1 times the acentric factor, where f-oh and f-1 are empirically-determined functions of the temperature with sixth power, log, and negative first power terms. The log of this quantity is equal to A minus quantity B over quantity C minus T according to the (*)** Antoine equation. The Goff-Gratch and Arden-Buck equations are empirical methods of calculating this quantity, which is also calculated by the Lee-Kesler method. Volatile substances have high values for this quantity at room temperature. This quantity is relevant when collecting a product "over water," and for each pure component of a solution it is equal to the total value for the solution times the mole fraction of the component, according to Raoult's law. For 10 points, name this term for the pressure exerted by a gas in equilibrium with its liquid form.
ANSWER: **vapor** pressure

6. **One work by this writer expresses surprise that the title figure died of malnutrition, saying, "Hell, our condition ain't changed any since Phyllis Wheatley's time." In that work, this author recounts yelling, "I'm here! Are you?" in a graveyard, and says "a people does not throw its geniuses away" and that as "witnesses for the future" it is our duty to collect them again, "bone by bone" if necessary. This author pretended to be the titular figure's (*)** niece in order to properly commemorate her in "In Search of Zora Neale Hurston." She also wrote about a woman whose stepson starts overeating because he feels emasculated by his wife Sofia. That novel by this author centers around a woman who finds independence making pants and develops a relationship with the singer Shug Avery. For 10 points, name this author who wrote about Celie in *The Color Purple.*
ANSWER: Alice **Walker**

7. **Irredentists from this ethnic group promote a notion of a "greater" or *Rayu* land for them. A set of Annals named for these people, which was originally a king-list called the *Sulalatus Salatin*, relates how their greatest sultanate was founded by Iskandar Shah. Many ethnic discrimination policies are designed to favor members of this ethnic group referred to as "sons of the earth." The term in these people's language for the lands where their tongue spoken is *Nusantara*. Ruling dynasties of this ethnic group include (*)** Perak and Johor, the latter of which sold land to Stamford Raffles. These people are called *bhumiputeras* in the country in which they are a majority, which grew out of the Straits Settlements. Members of this ethnic group ruled the Sultanate of Malacca. For 10 points, name this group whose name graces a peninsula whose biggest city is Kuala Lumpur.
ANSWER: **Malay**s [accept **Malaya** or **Bhumiputera**]

8. **This person broke a promise with Conrad Black to be apolitical by winning a seat in Henley in the 2001 general election. This editor of *The Spectator* was less than forthcoming about his affair with Petronella Wyatt and was sacked from the front bench by Michael Howard. The boss of this current MP for Uxbridge asked in October 2016 if "[he] could stay on message for a full four days." Along with Michael (*)** Gove, this person led a campaign that used a red bus which misleadingly stated that 350 million pounds a year could be used to fund the NHS. He defeated Ken Livingstone in a 2008 election for a title in which he was succeeded by Sadiq Khan. This Conservative politician was the most prominent backer of Vote Leave in the Brexit referendum, but did not become prime minister. For 10 points, name this current British Foreign Secretary and former mayor of London.
ANSWER: Boris **Johnson** [or Alexander Boris de Pfeffel **Johnson**; prompt on Boris]

9. **One character in this play asks his wife about his moleskin trousers, to which she snaps that they are hanging around his neck. That man mocks an Englishman's talk of "yogees and prawna" before that lawyer knocks up his daughter, and the play ends with him dropping a sixpence and muttering that the world's "in a terrible state of chassis." Maisie Madigan takes a gramophone in this play after the protagonists are unable to (*)** repay a loan, and another woman asks the Virgin Mary, "Where were you when me darling son was riddled with bullets?" That monologue by Mrs. Tancred about the death of Robbie is echoed by the protagonist when Johnny is killed by the IRA. Joxer Daly often gets one of this play's protagonists drunk. For 10 points, name this Sean O'Casey play about the much put-upon wife of Jack Boyle, who is compared to the title bird.
ANSWER: *Juno and the Paycock*

10. **This non-royal leader's official symbol was an eagle with the motto "protect us under your wings." This leader forced all workers and bosses to join a national trade union called the Vertical Syndicate. This leader's country has not pursued justice for his regime's crimes in an agreement known as the Pact of Forgetting. In 1959, this leader's government installed technocrats, many of them from Opus Dei, to reform his country's economy with their Stabilisation Plan, leading to a period of growth known as his country's (*)** "miracle." This man was promoted to Brigadier-General at age 33 after helping win the Rif War. He received backing during a civil war from Pope Pius XII and the Axis Powers and led the political movement Falange. For 10 points, name this dictator who led the Nationalists to victory in the Spanish Civil War and ruled Spain as *caudillo* from 1939 to 1975.
ANSWER: Francisco **Franco** Bahamonde

11. **In a poem by David Rakoff, a character created by this author is told "we'd all die if physical beauty was needed for others to render their duty" after writing to Dr. Seuss for medical help. The protagonist of another novel reflects that one of this author's creations "wasn't some metaphor or allegory" but actually "*here*, all around [him]"; that character who makes it rain sardines and reads Richard Burton's translation**

of *The Arabian Nights* in a library (*) renames himself after this author and ran away after his father, the sculptor Koichi, told him that he would have sex with his mother and his sister. In Oshima's favorite story by this author, the Traveler drinks tea on the Commandant's old grave and sees a machine carve "Be Just" into the Officer's back. For 10 points, name this man who is "on the Shore" in a novel by Haruki Murakami, the author of "In the Penal Colony."
ANSWER: Franz **Kafka**

12. **The book *Wonderful Life* states that scientists will often describe Charles Doolittle as "that doofus who invented the non-existent Lipalian Interval to explain" this event. In a 1948 paper, Preston Cloud characterized a certain process as "eruptive" to explain this event. Many so-called "artifact" theories hold that this event only seemed to occur due to the prevalence of soft shells prior to it. This event may have been caused by a (*)** "methane burp" from the "clathrate gun" or by a combination of the rise of Hox genes and the reduction of aquatic bacteria, which led to higher oxygen levels in Earth's atmosphere. For 10 points, name this event that took place roughly 540 million years ago, which was marked by the rapid diversification of lifeforms on Earth, named for the first period of the Paleozoic Era.
ANSWER: **Cambrian explosion** [or **Cambrian radiation**]

13. **Valentine's aria from Gounod's *Faust* plays during a séance in this work, and its author included a Jewish convert to Catholicism as a parody of Hegelian Marxist György Lukács. The title of this work comes from *The Birth of Tragedy*'s discussion of Midas's hunt for Silenus and an "Olympic" structure which "shows its roots." Two characters in this novel are nicknamed "Castor and Pollux" by a (*)** doctor who gives the protagonist an x-ray of a Russian woman's skeleton. The protagonist of this work experiences a hallucination of two witches slaughtering a child while hiking during a blizzard after Naphtha's suicide, which spurs him to re-enter the outside world despite the possibly psychosomatic tuberculosis he developed while visiting his cousin Joachim. For 10 points, name this novel about Hans Castorp's stay in a Swiss sanatorium, by Thomas Mann.
ANSWER: The ***Magic Mountain*** [or Der ***Zauberberg**]

14. **This law provided the basis for *Hale v. Henkel*, which concerned the treasurer of MacAndrews and Forbes and his ability to invoke a personal Fifth Amendment right. Alan Greenspan criticized this law, saying "No one will ever know what new products … were killed by" this act "before they were born." Oliver Wendell Holmes argued that this law did not apply to a certain body as its business was giving exhibitions, which were purely "state affairs." This act was inspired by a similar act from its namesake senator's home state named for (*)** Valentine. The most famous application of this law involved a lengthy exegesis on the words "restraint of trade," and this act was later amended by an act sponsored by Henry Clayton in 1914. For 10 points, name this piece of legislation named after an Ohio Senator, which targeted anti-competitive behavior in industry.
ANSWER: **Sherman** Antitrust Act [or **26 Stat. 209, 15 U.S.C.** §§ **1–7**)]

15. **This work claims that the "speculative" philosopher must reconcile man as a part of nature and man in the context of the discussion of free will. It uses the example of a shopkeeper deciding whether or not to overcharge a customer to argue that acts are only good when they are done out of duty. This work claims that the good will is the only thing that is good in itself and not derivatively, and that making false (*)** promises is wrong not because it results in the loss of reputation and credit, but because it derives from a flawed maxim. It argues that people should act as if their hypothetical maxims would legislate universally to a kingdom of ends in one formulation of the Categorical Imperative. For 10 points, name this work by Immanuel Kant which provides a foundation for his views on morality.
ANSWER: *Groundwork of the Metaphysics of Morals* [or *Foundations of the Metaphysics of Morals* or *Grounding of the Metaphysics of Morals* or *Grundlegung zur Metaphysik der Sitten*]

16. **Details about life in a border area of this region include a birthday invitation sent to a fort commander's wife that was found among the Vindolanda tablets. Cogidubnus was a client king of this region. The schooling a governor of this region received at Massilia may have led him to try and find Thule. That governor of this region defeated Calgacus, who did *not* say "the Romans make a desert and call it peace" at the Battle of (*)** Mons Graupius, as related in the biography of a governor of this region by Tacitus. Agricola was a governor of this region. The Silurian king Caractacus won the battle of Caer Caradoc in a futile effort to resist the Roman invasion of

this region led by Aulus Plautius and launched by Claudius in 43 CE. For 10 points, name this region whose northern border was marked by Hadrian's Wall and which was separated by a narrow channel from Gaul.
ANSWER: **Roman Britain** [or **Britannia**e; or **Roman England**; prompt on Britain and England]

17. **A painting of rural areas in this country was described as "all you feel about [this country]...when you cannot go there" and contains a watering can lying in a field under a large tree next to a red square surrounding a shed. Paintings from a series named after this country sometimes feature the colors of its flag in the background, but their foregrounds are dominated by thick black ovoids between black rectangles. An artist from this country depicted its countryside in *The Farm* and (*)** *The Tilled Field* and placed a tall yellow and red ladder next to the title animal of his *Dog Barking at the Moon*. Robert Motherwell painted an "elegy" for this country, whose Civil War inspired a painting containing a horse in agony, a house on fire, and the head of a screaming woman. For 10 points, name this country, the home of Joan Miro and the setting of *Guernica*.
ANSWER: Kingdom of **Spain** [or Reino de **Espana**]

18. **The anti-melanoma drug talimogene laherparepvec is an engineered form of this organism that secretes GM-CSF. This organism's UL30 polymerase associates with its UL42 processivity factor. This organism blocks the function of TAP using its protein ICP47. This virus is the most common viral cause of erythema multiforme. This virus can enter cells after binding to Nectin-1 of glycoprotein D, and its glycoprotein B and C bind to heparan sulfate. This virus can create whitlows on the (*)** fingers and hands. This virus encodes a thymidine kinase that is targeted by valacyclovir and acyclovir. This virus' latency associated transcript allows it to lay dormant in ganglia. For 10 points, name this virus responsible for both genital lesions and cold sores.
ANSWER: **HSV** [or **herpes simplex** virus 1 or 2; prompt on herpes]

19. **A 1993 paper by Andrei Shleifer and Robert Vishny demonstrates that the social cost of this phenomenon is reduced when there is competition in the provision of a certain kind of good. That paper uses the example of an expensive bottling machine to argue that this phenomenon can lead to requests for unnecessarily expensive equipment. One study on this phenomenon by Raymond Fisman and Edward Miguel examined the rates of parking violations in New York City by (*)** diplomats at the United Nations to proxy for this. A common index for this political phenomenon was developed by Daniel Kaufman, and decentralized forms of this phenomenon appear to hurt economic growth while centralized forms of it can act similarly to a tax. For 10 points, name this phenomenon which can be defined as "the sale by government officials of government property for personal gain" which is rampant in the politics of Africa, post-Communist Russia, and Illinois.
ANSWER: **corruption**

20. **This text is meant to have one syllable for each thirtieth-unit of a day that takes place in 40 years, or 432,000 syllables. This text contains the line "truth is one; sages call it by various names" as well as a passage recited when a seven-year old boy becomes "twice-born" by having a sacred thread tied around his arm. This text contains the greatest exaltations of an embodiment of dawn called Ushas, as well as the marginal Dyaus Pita, who is linked by philologists with (*)** Zeus. This text is comprised of ten sections called *mandalas*, which are divided into poetic verse called *sukta*. *Hotar* priests recite this text during the *yajna* fire ceremony. This text contains the Gayatri Mantra, as well as a description of the creation of four castes. It's the longest of the texts which the *Upanishads* comment on and contains hymns to gods like Indra. For 10 points, name this largest of the Vedas.
ANSWER: **Rig** Veda

Bonuses:

1. This process includes "cross-linked" and "native" versions. For 10 points each:
[10] Name this procedure used to map DNA-protein interactions. Protein-specific antibodies are used to select out desired sections of DNA, which are then purified and sequenced.
ANSWER: **chromatin** **immunoprecipitation** [or **ChIP**]
[10] Cross-linked ChIP is often used to find the target of "factors" that initiate this process, in which RNA strands are generated from DNA. This step precedes RNA processing and translation.
ANSWER: **transcription** [do not accept or prompt on translation; prompt on answers like mRNA synthesis]
[10] After becoming cross-linked through formaldehyde or UV light, chromatin can sheared into fragments using this process, in which sound waves are pulsed through the sample. . It is also used to disrupt cell membranes.
ANSWER: **sonication**

2. This speaker of this poem has a vision of the Cross, in which it recounts its time as a tree and its later time bearing the crucified Jesus. For 10 points each:
[10] Name this poem in alliterative verse which tells the story of the Cross to mirror that of Christ.
ANSWER: the **Dream** of the **Rood**
[10] The Dream of the Rood is written in this language. The Exeter Book is the largest extant collection of literature in this language, and the Nowell Codex, containing a copy of *Beowulf*, was also written in this language.
ANSWER: **Old English** [prompt on English or Anglo-Saxon; do not accept or prompt on "middle English"]
[10] This name is given to the Middle English author of *Sir Gawain and the Green Knight*, who described the title virtues in his alliterative poems *Patience* and *Cleanness*.
ANSWER: the **Pearl Poet** [or the **Gawain-Poet**]

3. The American Revolution was full of forward thinkers, but some did not live to see their views enacted. For 10 points each:
[10] This South Carolinian accompanied his father Henry to the Continental Congress before joining George Washington's troops as a lieutenant colonel. He was a proponent of arming slaves and was succeeded in command by Tadeusz Kościuszko, another foe of slavery.
ANSWER: John **Laurens**
[10] In 1778, Laurens duelled with this man in defense of George Washington, as depicted in the 2015 musical *Hamilton*. A native of England, this man was later courtmartialed for abject failure at the Battle of Monmouth.
ANSWER: Charles **Lee**
[10] Laurens died at Battle of Combahee River in this state. Other revolutionary battles fought in this state include Battle of Eutaw Springs and Siege of Charleston, where Benjamin Lincoln was forced to surrender six weeks in.
ANSWER: **South Carolina**

4. Shiva addresses this goddess with 108 names which are listed in the Chandi section of the Markandeya Purana. For 10 points each:
[10] Name this many-armed warrior goddess manifestation of *shakti*, responsible for the defeat of the buffalo demon Mahishasura.
ANSWER: **Durga**
[10] Durga's defeat of Mahishasura is commemorated during this festival, which takes its name from the number of nights over which it takes place.
ANSWER: **Navratri**
[10] This Hindu festival of lights is celebrated twenty days after Dussehra, the end of Navratri. During it, families typically perform pujas to Lakshmi, as opposed to the violent Durga.
ANSWER: **Diwal**i [or **Dival**i]

5. One study found that the "Titchener circles," an example of these things, affects manual estimation of distance to a target but not instinctive grasping towards it. For 10 points each:
[10] Name these things, which include the "Fraser spiral," concentric circles that appear to be a spiral, and the Muller-Lyer one, in which the orientation of arrows affects perception of line length.
ANSWER: **optical illusion**

[10] This type of room appears square but is actually trapezoidal and inclined, so as to create the optical illusion that a person walking from one end to the other grows or shrinks incredibly.
ANSWER: **Ames room**
[10] This optical illusion was defined as Max Wertheimer as part of the Gestalt school of psychology. It causes people to think a succession of images is actually one moving element.
ANSWER: **phi** phenomenon

6. This man was supported by Aquiles Serdan, who was killed in his basement for stockpiling weapons in Puebla. For 10 points each:
[10] Name this President, who served his country for only two years before he was killed during the Ten Tragic Days and succeeded by a man known as "El Chacal", Victoriano Huerta, in 1912.
ANSWER: Francisco **Madero**
[10] An American Ambassador to Mexico with this name organized Madero's overthrow in the Ten Tragic Days. A U.S. President of this name handled the Tampico Affair with Mexico as President in 1916.
ANSWER: **Wilson**
[10] Madero declared himself as the real president of Mexico and asked the citizens to rise in arms on November 20th in this statement, which called for the overthrow of Porfirio Diaz.
ANSWER: Plan of **San Luis de Potosi**

7. James Franco tried to reshoot this series with himself in the main role, but god it was awful. For 10 points each:
[10] Name this series of black-and-white, mock-vintage photographs. Its images include the photographer looking out skeptically at a cityscape and standing against an old door. It shows the photographer in a variety of stereotypical female roles like housewife and career girl.
ANSWER: *Untitled Film Stills*
[10] *Untitled Film Stills* was created by this photographer, who criticized pornography in her violent *Sex Pictures* series. Her *Untitled #96* depicts herself lying in an orange shirt on a kitchen floor holding an ad.
ANSWER: Cindy **Sherman**
[10] This other female photographer depicted Japanese children in internment camps as well as showing a determined-looking woman in *Migrant Mother*.
ANSWER: Dorothea **Lange**

8. In one of this author's stories, the narrator smokes marijuana with his wife's blind friend Robert, and the two share a spiritual experience while drawing the title building. For 10 points each:
[10] Name this author of *Cathedral*, as well as the short story collection *What We Talk About When We Talk About Love*.
ANSWER: Raymond **Carver**
[10] Carver's collection *What We Talk About When We Talk About Love* contains this short story about motel managers Holly and Duane, who discuss their failing marriage and Duane's affair with the cleaning lady Juanita.
ANSWER: "**Gazebo**" [description acceptable from Chris Ray]
[10] In the short story "So Much Water So Close to Home," the narrator Claire is perturbed that her husband Stuart may have committed this crime. Raymond Chandler wrote an essay on "The Simple Art of" this crime, while Agatha Christie wrote about it "on the Orient Express."
ANSWER: **murder** [or obvious equivalents]

9. For 10 points each, answer the following about photorealism in computer graphics:
[10] This technique generates a photorealistic image by starting at pixels from the image plane and recursively casting the namesake geometric entities to determine what sources of light contribute to each pixel of the image.
ANSWER: **ray tracing** [prompt on ray casting]
[10] Ray tracing is often thought of as one way of solving James Kajiya's integral equation that models this process. This is the process of converting a geometric description of a scene into an image. In another context, this is the process of making HTML code visible to a user.
ANSWER: **render**ing
[10] If tracing one ray through each pixel isn't enough to generate a realistic image, one can also perform this technique, in which multiple rays are shot through each pixel at different angles. This general technique in graphics is also used in some anti-aliasing algorithms.

ANSWER: **supersampling** [accept word forms]

10. Carp are said to become dragons by leaping through the Dragon Gate, a structure created because of one of these events. For 10 points each:
[10] During this kind of event, the grandson of Emperor Yao became famous for creating massive structures with soil stolen from the gods, which ended up collapsing and killing many people.
ANSWER: **floods**
[10] This mythological hero, whose evil stepbrother lit a barn on fire while he was on the roof, created a system of islands to allow political administration during the floods.
ANSWER: **Shun**
[10] This son of Gun eventually controlled the floods with the advice of Houji by creating irrigating canals along the Yellow River, which greatly increased agricultural productivity.
ANSWER: Da **Yu** [or **Yu** the Great]

11. This "West Philadelphia born and raised" character got his life "flip-turned upside down." For 10 points each:
[10] Name this character who is sent to live with his bourgeois aunt and uncle in California after getting in "one little fight" and scaring his mom.
ANSWER: The **Fresh Prince** [prompt on Will **Smith**]
[10] On the show *How to Get Away With Murder*, this professor teaches at the fictional Middleton University. Viola Davis won a 2015 Emmy for her portrayal of this questionably moral defense attorney.
ANSWER: **Annalise** **Keating** [accept either underlined part]
[10] After a critic dubs this bar "the worst bar in Philadelphia," its owners kidnap him and force him to write a more positive review. This bar miraculously manages to pass a health examination in the episode "Charlie Work."
ANSWER: **Paddy's** Pub

12. A pair of operators that govern this system are distinguished by the sign in front of the term i over m omega times p hat. For 10 points each:
[10] Name this system in which the energy levels are equally spaced. It is the quantum analogue of a system governed by Hooke's Law.
ANSWER: quantum **harmonic oscillator** [or Q**HO**]
[10] These polynomials appear in the solution for the QHO's wavefunction. These polynomials are equal to negative 1 to the n times e to the x squared times the nth derivative of e to the x squared.
ANSWER: **Hermite** polynomials.
[10] The energy levels of the QHO are equal to h bar times omega times the quantity n plus this constant. In other words, the zero-point energy is equal to this constant, times h-bar, times omega.
ANSWER: **one-half**

13. The slow drop-by-drop addition of one solution of known concentration to a solution of unknown concentration is a hallmark of this method. For 10 points each:
[10] This chemical laboratory method is often used to determine the concentration of an unknown chemical. Indicators that change color such as phenolphthalein are often used to determine reaction completion.
ANSWER: **titration**
[10] In titration, this reagent that contains potassium thiocyanate often replaces Fehling's solution and detects reducing sugars.
ANSWER: **Benedict's reagent**
[10] In an iodometric titration, the I-3-minus is oxidized back to I-minus using this anion.
ANSWER: **thiosulfate** [or **S2O3 2-**]

14. "The Vicar of Bray" is a satirical 18th century song about how the title character switches sides in British religious debates. For 10 points each:
[10] After the ascension of "Royal James" the vicar converted to this Christian denomination after finding that "The Church of Rome / would fit full well [his] constitution," conveniently just as "popery grew in fashion".
ANSWER: Roman **Catholic**ism [or the **Church of Rome** and **Popery** before mention]
[10] The vicar proved his loyalty to James II by "shout[ing] down" laws of this type, exemplified by the Clarendon Code and the Test Acts that prohibited Catholics from holding office. A similar set of laws were enacted in Ireland.

ANSWER: **Penal** Laws [anti-prompt on <u>Clarendon Code</u> or <u>Test Act</u>s before they are mentioned]
[10] The vicar swore allegiance to King William during this schism over whether or the Church of England should accept the Glorious Revolution. Another schism of this name occurred in Revolutionary France over whether or not to accept the Civil Constitution of the Clergy.
ANSWER: **nonjuring** schism

15. Name these modern composers whose music has been used in films, for 10 points each:
[10] Excerpts from this composer's *Lux Aeterna* can be heard in the moonbus scene from *2001: A Space Odyssey*. This composer is best known for micropolyphonic music such as *Atmospheres* and *Apparitions*.
ANSWER: Gyorgy **Ligeti**
[10] This composer received an honorary Academy Award in 2007 for his contributions to film music. This Italian film composer's most famous piece is probably "The Ecstasy of Gold" from *The Good, The Bad and The Ugly*.
ANSWER: Ennio **Morricone**
[10] This composer made careful use of silence in the scores he composed for over 100 films, such as after a gunshot during a battle scene in *Ran*. He's better known for pieces like *Rain Coming* and *Rain Tree Sketch II*, the latter of which was dedicated to his idol Olivier Messiaen.
ANSWER: Toru **Takemitsu**

16. This artist's painting of Adam and Eve discovering the body of Abel, *First Mourning*, was painted shortly after the death of his son. For 10 points each:
[10] Identify this Academic painter, who used the same young model in his paintings *The Shepherdess* and *The Bohemian*.
ANSWER: William-Adolphe **Bouguereau**
[10] Bouguereau and Alexandre Cabanel refused to allow the Impressionists to exhibit their works in the Paris Salon of 1863, leading to the establishment of this alternative salon that embraced excluded artists.
ANSWER: **Salon des Refusés**
[10] Cabanel and Bouguereau both produced paintings on this subject. Traditionally depicting the title goddess standing on a clam shell, as in Botticelli's version, Cabanel's version shows her lying on a bed of foam and gazing sleepily at the viewer.
ANSWER: The ***Birth of Venus*** [or *La **Naissance de Vénus***]

17. A 2006 paper by Samuel Scheffler asks if this action is "morally distinctive." For 10 points each:
[10] Name this type of action which Scheffler argues is characterized by the use or threat of violence to destabilize an existing social order.
ANSWER: **terrorism**
[10] Scheffler differentiates between general terrorism and terrorism named for this entity, which tries to strengthen, not destabilize, the social order. Max Weber claimed that this entity had a monopoly on the legitimate use of force.
ANSWER: the **state** [or **state** terror]
[10] This author of *Just and Unjust Wars* justified the "terror bombing" of German cities during WWII, claiming that supreme emergencies can justify "dirtying" one's hands.
ANSWER: Michael **Walzer**

18. In this novel, the hermit Kerewin bonds with a mute orphan and his adoptive father Joe, bringing her out of her reclusive lifestyle. For 10 points each:
[10] Name this novel in which Joe is imprisoned for child abuse after beating Simon for breaking a shop window. After Kerewin becomes seriously ill, she demolishes her tower, expecting to die within the year.
ANSWER: The ***Bone People***
[10] Keri Hulme's *The Bone People* is set in this nation, the birthplace of Katherine Mansfield. Its title comes from the Maori, whose word for "bone" also means "people" or "tribe."
ANSWER: **New Zealand**
[10] In Catton's *The Luminaries*, the protagonist Walter Moody and Lydia Wells are part of a set associated with these places. A W.G. Sebald book about a walking tour of Suffolk is titled for one of these places.
ANSWER: **planets** [or **Saturn**; prompt on <u>stars</u>; do not accept or prompt on "zodiac signs"]

19. Name the following about ancient, non-Roman Italians for 10 points each.

[10] The Iron Age Villanovan culture preceded this civilization that was an early rival to Rome. They helped transmit Greek culture to the Romans, whose legendary fifth king, Lucius Tarquinius Priscus, emigrated from this culture.
ANSWER: the **Etruscan**s
[10] This Oscan-speaking people were engaged in several conflicts with Rome, mostly in the 4th-3rd centuries BCE. This civilization defeated the Romans at the Battle of the Caudine Forks.
ANSWER: the **Samnite**s
[10] This entity, not a civilization per se, was a confederation of tribes and city-states in southern and central Italy that eventually formed a treaty with Rome, the *foedus Cassianum*, after their defeat at the Battle of Lake Regillus.
ANSWER: the **Latin League** [or the **Latins**]

20. In one work, this poet wrote that "Tomorrow, at dawn, in the hour when the countryside becomes white, I will leave." For 10 points each:
[10] Name this poet of *The Contemplations* who wrote about the French Revolution in *Ninety-Three*. The homeless and disfigured Gwynplaine throws himself into the sea in his *The Man Who Laughs*.
ANSWER: Victor **Hugo**
[10] Hugo is more famous for this novel about Quasimodo and his cruel guardian Claude Frollo, who lusts for and betrays the beautiful Esmeralda.
ANSWER: *The **Hunchback of Notre Dame*** [or ***Notre-Dame de Paris***]
[10] Frollo predicts that print will kill this medium. Hugo claims that this medium enjoyed greater freedom of expression than literature, and that "whoever was born a poet became" a person who works in this form of art.
ANSWER: **architecture** [or l'**architecture**; prompt on buildings or cathedrals]