

1. An economic effect named for this author arose from his description of a spiraling pattern of consumption in his essay "Regrets on Parting with my Old Dressing Gown". One of his works ends by noting "He who laughs last, laughs best"; that work's narrator meets the title character in the Regency Cafe, where they discuss the War of the Buffoons and the Enlightenment. This man stole plot elements from *Tristram Shandy* for a work whose protagonist believes that all (*) events are "written up above" in a "great scroll". This author of *Rameau's Nephew* and *Jacques the Fatalist* worked with Jean d'Alembert to produce a "Systematic Dictionary of the Sciences, Arts, and Crafts". For 10 points, name this chief editor of the *Encyclopedie*.

ANSWER: Denis Diderot

<Carson>

2. The law governing this phenomenon in one regime has a coefficient equal to C divided by the quantity T minus theta, where theta accounts for the exchange interaction. Gadolinium-containing MRI contrast agents show the "super" version of this phenomenon. It is displayed by all high-spin coordination complexes. This phenomenon arises in materials with positive susceptibility. This phenomenon, which is described by the linear Curie-Weiss law, arises in systems with (*) unpaired electrons and in ferromagnets above the Curie temperature. It arises when dipoles align in the same direction as an applied field. For 10 points, name this property of some materials in which they are attracted by external magnetic fields, often contrasted with diamagnetism.

ANSWER: paramagnetism [or word forms, like paramagnetic or paramagnets]

<Mukherjee>

3. This artist's early work includes a book of drawings from the Bronx and Central Park Zoos titled *Animal Sketching*. He did the set design for Erik Satie's *Socrate* and created the work *125* for JFK Airport. He constructed figures made out of cloth, buttons and wire for an installation in the Whitney Museum titled (*) *Circus*. The name for his most iconic creations was coined by Marcel Duchamp. One of his works is installed in front of the Federal Center Plaza in Chicago and evokes the image of a giant bird. This man created a 76-foot-long work for the ceiling of the East Building at the National Gallery of Art. For 10 points, name this artist of *Flamingo* and *Lobster Trap and Fish Tail*, best known for his mobiles.

ANSWER: Alexander Calder

<Bentley>

4. German linguist Theodor Noldeke wrote a popular "introductory history" of this book. Though it is not the Kebra Nagast, this book describes a campaign in the Year of the Elephant led by the Christian zealot Abraha. This book holds that mankind was created from a single clot of blood. An oft-memorized passage about a (*) chair that symbolizes God's rule over mankind is found in the second and longest section of this book. Three pagan goddesses are praised in a controversial section of this book known as the Satanic Verses. Sections named Yasin and Fatiha are found in this book, which praises the People of the Book. Compiled into book form by Abu Bakr and divided into suras, for 10 points, name this holy book verbally revealed by Gabriel to the prophet Muhammad.

ANSWER: Qu'ran [or Koran]

<McNamara>

5. One ruler of this dynasty expanded the Academy of Gondishapur. Another ruler was known as "the Sinner" after persecuting Christians. Another ruler of this dynasty ascended to power in utero via the crown placed on his mother's belly. This dynasty's final ruler was defeated at the "Victory of Victories", the Battle of Nahavand, by the forces of the Rashidun Caliphate. Another ruler of this dynasty, (*) Khosrau II, fought a series of battles against Heraclius' Byzantine forces. After besieging Edessa, another ruler of this empire captured the Roman emperor Valerian. Its first ruler was Ardashir. For 10 points, name this Persian dynasty of Shapur I which ruled from Ctesiphon.

ANSWER: Sassanid dynasty/empire [or Sassanians; prompt on "Persian" Empire; prompt on "Iran"ian Empire]

<Mukherjee>

6. This process is basically complete in subjects that pass the "wug test" without thinking. This process results from the setting of parameters according to the principles and parameters approach, and its progression includes the "telegraphic stage". A girl named Genie served as evidence for the critical period hypothesis of this process. In response to Skinner, a believer in an organic "device" for this process gave the (*) "poverty of the stimulus" argument, which implies that behaviorism couldn't explain its rapidity. That argument came from Noam Chomsky, who believed it was aided by a universal grammar. For 10 points, name this process which occurs without teaching in the minds of young children, allowing them to comprehend and utter sentences.

ANSWER: first language acquisition [or language learning, "learning a language," etc.; prompt on "learning to talk" or "learning grammar"; accept learning to pluralize or learning to pronounce before "parameters"]

<Jackson>

7. This protein forms aggregates in Hirano bodies. This protein is imaged using fluorescent phalloidin, and in red blood cells it complexes with band 4.1 protein at the ends of spectrin. It binds to catenins on the cytoplasmic side of adherens junctions. Upon binding to ATP, it switches from a globular form to a more aggregation-prone form, which creates a helical string. This protein is responsible for forming the mechanism that pinches cells apart in (*) cytokinesis, and it is also responsible for extending pseudopods in amoebas. Polymers of this protein move closer together during muscle contraction, due to myosin attaching to this protein and pulling. For 10 points, name this protein that forms the thin filaments of the cytoskeleton.

ANSWER: actin [or thin filaments before mention; prompt on "filaments" before mention]

<Mukherjee>

8. The author of this document had earlier stated his potential opposition to it in an open letter to Horace Greeley. Horatio Seymour declared it "a proposal for the butchery of women and children". A predecessor to this document, regarding "contrabands," was issued by Benjamin Butler and made official policy in the First (*) Confiscation Act. Its final version did not contain the colonization proposals present in the preliminary draft. It was issued following a victory for George McClellan over Robert E. Lee at the Battle of Antietam and was expanded to include the entire country by the Thirteenth Amendment. For 10 points, name this document that, in states engaged in open rebellion against the United States, freed the slaves.

ANSWER: The Emancipation Proclamation

<Bentley>

9. In one work, this man used an extended simile likening the Catholic hierarchy to broods of fairies. He began his magnum opus with twelve chapters of axiomatic definitions, and later in that work criticized the misinterpretation of Scripture by a "confederacy of deceivers." This thinker believed men are equally able to use body and mind to kill one another, and that competition, diffidence, and glory produce a "war of (*) all against all." He argued that absent a failure to protect against external invasion, nothing can break the covenant of absolute duty to the sovereign. For 10 points, name this tutor of Charles II, who was inspired by the English Civil War to write that the state of nature is "solitary, poor, nasty, brutish, and short" in *Leviathan*.

ANSWER: Thomas Hobbes

<Jackson>

10. This author mused "I have walked into Perigord, I have seen the torch-flames, high-leaping" in a poem about Narbonne, Excideuil and Rochecoart, "Provincia Deserta". Bertrams de Born cries "May God damn for ever all who cry 'Peace!'" in another poem by this author, who wrote of a man who seeks to "resuscitate the dead art of poetry" in his (*) *Hugh Selwyn Mauberley*. This author of "Sestina: Altaforte" described "the apparition of these faces in the crowd" as "petals on a wet, black bough" in "In a Station of the Metro". Sections like "Rock Drill" make up his longest poetic work, which uses Chinese characters and expresses approval of fascism in its "Italian" and "Pisan" sections. For 10 points, name this Imagist poet of *The Cantos*.

ANSWER: Ezra Weston Loomis Pound

<Jose>

11. Fossils from this period come from the laggerstatten of Sirius Passet and Chengjiang, and the Treptichnus pedum assemblage of trace fossils is used to define its base. The breakup of Pannotia began at its start. Archeocyathids are index fossils for this period, which features the first known crustacean fossils. Many of the most important fossils from this period were found in the (*) Burgess shale. This period is the first of the Paleozoic and is followed by the Ordovician. Trilobites make their debut in the fossils of this period. The time period before it is simply dubbed "pre-" this, and it featured a large boom in diversity of Earth's fauna, its namesake explosion. For 10 points, name this geologic period named for the Latin name of Wales.

ANSWER: Cambrian period

<Lasker>

12. One author from this country wrote a novel in which the orphans Esteban and Sofia encounter the French revolutionary Victor Hugues and a novel set on Lenormand de Mezy's plantation that stars the slaves Mackandal and Ti Noel. That author from this country wrote *Explosion in a Cathedral* and developed the theory of *lo real maravilloso*, a forerunner to magical realism, in the prologue to *The Kingdom of this World*. Another author from this country described his verse as "a wounded deer seeking refuge on the mountain" and wrote "Cultivo Una Rosa Blanca", which appears in (*) *Versos Sencillos* and was adapted into the patriotic song "Guantanamera". Alejo Carpentier and Jose Marti were from, for 10 points, which Caribbean island nation?

ANSWER: Republic of Cuba [or Republica de Cuba; accept Switzerland or the Swiss Confederation until "wounded deer" is read, since Carpentier was born in Switzerland but identified as Cuban]

<Wynne>

13. **This composer wrote a series of sonatas for nearly every instrument of the orchestra, most of which he could play, as well as a *Symphony in B-flat* for wind ensemble. He composed a suite for viola and orchestra for the English king George V, his *Trauermusik*. That piece is an example of his music for a purpose, or *Gebrauchsmusik*. He also created a choral piece setting Whitman's poem (*) "When Lilacs Last in the Dooryard Bloom'd," composed a series of *Symphonic Metamorphoses* on themes of Carl Maria von Weber, and wrote an opera based on the life of Matthias Grunewald. For 10 points, name this early to mid-20th century German composer of *Mathis der Mahler*.**

ANSWER: Paul Hindemith

<Thompson>

14. **During a festival for this god, an arrow was fired at an edible likeness of him and those young men who ate his body had to serve him for one year. In that festival, a priest who impersonated his lieutenant Paynal ran and led a procession. After the consecration of this god's Great Temple, a rack was erected to display the heads of 20,000 humans sacrificed to him. He was often depicted with a blue and black face. This god slew the 400 stars, led by his sister (*) Coyolxauhqui (co-yol-SHAW-chee), after they tormented his mother for becoming impregnated by a ball of feathers. This son of Coatlicue was guided by an eagle perched upon a cactus to lead his people to their new home. For 10 points, name this "left-handed hummingbird," an Aztec war and sun god.**

ANSWER: Huitzilopochtli [or left-handed hummingbird before mention]

<Gupta>

15. **One area in this city is linked by its Necklace District to its Grand Circus Park Historic District, while its building projects include a River Walk near the Renaissance Center. It's not Cleveland, but Quicken Loans moved its headquarters here in 2010. Its current mayor defeated Ken Cockrel in a special election after his predecessor, who had hosted a party at the Manoogian Mansion, went to (*) jail. In April 2012, this city's current mayor checked into a hospital twice during negotiations with Rick Snyder over whether the governor's office could appoint a state financial manager to sell art in the city museum to pay debts. Kwame Kilpatrick and Dave Bing have both been mayors of, for 10 points, what city known as the center of the U.S. automotive industry?**

ANSWER: Detroit

<Haddad-Fonda>

16. **He's not Henry VIII, but this man did greatly upset Hugh de Lusignan by claiming he didn't receive a papal dispensation to marry his first wife so that he could subsequently marry Isabella of Angouleme. He won a victory over rival claimant Arthur of Brittany at the Battle of Mirebeau. Following a later battle, this monarch agreed to a treaty whose Clause 61 he subsequently disobeyed, sparking the First (*) Barons' War. He participated in an unsuccessful rebellion while his brother, the king, was on the Third Crusade. This loser of the Battle of Bouvines was the youngest son of Henry II and was known early in his life by the epithet "Lackland". For 10 points, name this English monarch who was forced to sign the Magna Carta.**

ANSWER: King John I [or John Lackland]

<Bentley>

17. A demon flies towards a hanged woman in *Despair*, a scene in this artist's series on the seven vices. The enthroned St. Peter of his *Stefaneschi Triptych* is drawn similarly to Mary in his *Ognissanti Madonna*. The blue ceiling of his most famous work is decorated with stars and circular busts of Jesus and the Four Apostles. Christ extends his arms and is surrounded by a rainbow in his *Last Judgment*. He designed a tall bell tower in Florence. Angels fly recklessly above a craggy rock in the (*) *Lamentation* scene by this student of Cimabue; that scene was commissioned to atone for the sins of the usurer, Reginaldo Scrovegni. For 10 points, name this artist of the early Italian Renaissance who created the Arena Chapel frescoes.

ANSWER: Giotto di Bondone

<Bentley>

18. This character inadvertently starts a fight with a girl nicknamed "The Queen of Spades" while walking back from a dance. This character runs away from a fancy hotel called "The Herons" in Sandbourne and earlier accidentally drives the family horse Prince into a fatal collision with the mailman's cart. A troop of policemen find her sleeping on an altar in (*) Stonehenge, and the novel ends with her husband looking at the black flag signaling her death with her sister Liza-Lu. She befriends Retty Priddle and Izz Huett while working at Talbothay's Dairy Farm, where she meets her husband, who flees to Brazil after learning that she had been raped by Alec. For 10 points, name this "pure woman" who marries Angel Clare in the Thomas Hardy novel named for her.

ANSWER: Tess Durbeyfield [or Tess d'Urberville; or Tess of the d'Urbervilles; prompt on "Durbeyfield" or "d'Urberville"]

<Gioia>

19. The applied strength of this technique is measured in RCFs, and tabletop versions of these instruments usually have a "Fast Temp" option. Polyribosome binding to mRNA is commonly measured using the isopycnic version of this technique. Using a sucrose gradient with this technique allows sedimentation velocity analysis, and in that case the coefficients are measured in Svedberg units. Cell fractionation uses this technique to extract (*) organelles, and this technique typically forms a pellet with a supernatant on top. It can also be used to remove blood plasma from formed elements. For 10 points, name this technique whose power is measured in units of g, which is used to separate mixtures by spinning them around really quickly.

ANSWER: centrifugation [or word forms of centrifuge]

<Mukherjee>

20. During this event, the U.S. created EXCOMM, which included Llewellyn Thompson and McGeorge Bundy. It was partially triggered by the Project Emily deal with the UK. Rudolf Andersen was a casualty of this event. Depth charges were dropped on the B-59 during it, leading to a scramble from Wrangel Island. The agreement that ended this event was negotiated by U Thant and was named for the (*) Hotline that it created. It was resolved by agreeing to remove the Turkish Jupiters. This incident was triggered by a Richard-Heyser-piloted U-2 taking pictures of several bases under construction near San Cristobal. 14 ships were turned back by a quarantine during, for 10 points, what Cold War incident, which ended with Khrushchev agreeing to remove the namesake weapons?

ANSWER: Cuban Missile Crisis [or the Caribbean Crisis; prompt on "October Crisis" to distinguish it from the Canadian thing]

<Mukherjee>

21. Tumors that secrete this hormone are treated with streptozocin. GLP-1 triggers its release, and analogues of it include NPH and Detemir. Six molecules of this hormone are coordinated to zinc in a vesicle. It leads to increased GLUT transporter activity in target tissues through tyrosine kinase activation. By activating PP2A, this molecule inhibits triglyceride breakdown, and in the liver it stimulates glycogen formation. One common disease sees peripheral tissues become (*) resistant to this hormone, which is secreted from the beta cells of the islets of Langerhans. This hormone's action opposes that of glucagon and serves to decrease blood glucose. For 10 points, name this hormone secreted from the pancreas, whose levels are insufficient in diabetes.

ANSWER: insulin

<Mukherjee>

22. These events were authorized by Innocent VIII's papal bull *Summis desiderantes affectibus*. Reginald Scot's criticism of these events led to his works being burned by James I. One of them took place in North Berwick, Scotland in 1590, thirty-six years before the Würzburg one. Gottfried Voigt claimed that nine million people were (*) victims of these events in Europe, which began in the fourteenth century and declined in the eighteenth century. Heinrich Kramer wrote a handbook to be used during these events, the *Malleus Maleficarum*. Another of these events was triggered by the slave Tituba being accused by Abigail Williams and was supported by Cotton Mather. For 10 points, name these events, one of which occurred in Salem in 1692.

ANSWER: witch trials [or witch hunts; accept logical equivalents]

<Bentley>

23. Around his neck, this character wears a silver dollar and a lock of hair which is later seized and thrown into a fire. He helps carry a basket of hot bread rolls for a drunk woman named Prue who tells him about how her child died when her milk dried up. Despite his trouble writing the letter G, he succeeds in writing a letter to his wife Chloe. This character, who was inspired by (*) Josiah Henson, has a vision of Jesus that inspires him to refuse to divulge information about Cassy and Emmeline. While traveling on a steamboat, he jumps overboard and saves the drowning Eva St. Clare. George Shelby arrives too late to save this character, who is flogged to death by Simon Legree's overseers. For 10 points, name this title slave of a Harriet Beecher Stowe novel.

ANSWER: Uncle Tom

<Jackson>

24. One structure in this city features a sculpture in which bearded warriors look up at a winged woman who shouts and points a sword; that sculpture is called *Departure of the Volunteers*. A theater in this city depicts Poetry and Harmony in gilded angelic statues on its front face, and is home to a bifurcating Grand Staircase as well as a bronze chandelier insisted on by Charles Garnier, who designed that namesake (*) opera house of this city. Many famous people are buried in this non-Rome city's Pantheon building in its Latin Quarter. This city also features an I.M. Pei-designed glass pyramid in front of its art museum. For 10 points, name this city where the Champs-Élysées passes under the Arc de Triomphe, the home of the Louvre and the Eiffel Tower.

ANSWER: Paris

<Jackson>

1. This figure is embarrassed to be called a "mule driver" along with the protagonist of the book in which he appears, and in an earlier scene he asks the protagonist to deliver some letters to his parents if he dies. For 10 points each:

[10] Name this character, who is initially called the "loud soldier" but transforms into a quiet, contemplative figure. At the end of the novel in which he appears, he and the protagonist carry the Union flag together.

ANSWER: **Wilson** [prompt on "the **friend**"]

[10] Towards the end of that novel, Wilson is uncharacteristically told to shut up by this character. This character, the novel's protagonist, claims that a wound he got when a fellow retreating soldier hit him with a rifle is actually from an enemy bullet.

ANSWER: **Henry Fleming** [accept either underlined portion; prompt on "the **young** soldier" or "the **youth**"]

[10] Henry Fleming and Wilson appear with Jim Conklin in *The Red Badge of Courage*, which was written by this American author of *Maggie: A Girl of the Streets*.

ANSWER: Stephen **Crane**

<Kandlikar>

2. One shabad of this text encourages the reader to overcome the five vices of lust, ego, greed, attachment, and pride by reciting God's Name. For 10 points each:

[10] Name this text placed on elevated throne-like platforms and bowed to in *gurdwaras* such as the Golden Temple. This text is regarded as the eternal leader of its tradition.

ANSWER: Sri **Guru Granth Sahib** Ji [or **Adi Granth**]

[10] The *Sri Guru Granth Sahib* was compiled by Arjun Dev for this monotheistic faith that began in the Punjab region with Nanak. Its male adherents wear turbans.

ANSWER: **Sikhism**

[10] The shabads of the Guru Granth Sahib are grouped in sections named for these bases for musical melodies on the Indian subcontinent. They are often likened to modes or scales.

ANSWER: **ragas**

<Jackson>

3. In the 1970s, this country funded the TANZAM railway that connected Tanzania and Zambia. For 10 points each:

[10] Identify this country, whose more recent investment in Sudan has led some critics to blame this holder of a permanent seat on the UN Security Council for blocking a stronger anti-genocide policy in Darfur.

ANSWER: People's Republic of **China**

[10] Chinese assistance in building the TANZAM railway was secured after this first president of Tanzania visited Beijing. He had earlier presented his take on a form of socialism called Ujamaa in the Arusha Declaration.

ANSWER: Julius Kambarage **Nyerere** [or **Mwalimu**]

[10] Meanwhile, this first leader of Zambia gave a speech at the ground breaking ceremony of the railroad criticizing western opposition to the project. In his campaign against Rhodesia, he offered sanctuary for the black nationalist, Joshua Nkomo.

ANSWER: Kenneth David **Kaunda**

<Bentley>

4. In humans, the suprachiasmatic nucleus regulates these processes, which are partly controlled by the per and cry genes. For 10 points each:

[10] Name these cycles which include sleeping and waking, which generally speaking are intrinsic 24-hour biological processes mainly regulated by daylight.

ANSWER: **circadian rhythms**

[10] The suprachiasmatic nucleus is located in the anterior part of this organ within the brain, which is the master regulator of the endocrine system. It sends signals to the pituitary, which lies below it.

ANSWER: **hypothalamus**

[10] In plants, these light-detecting proteins are used to regulate circadian rhythms. One of them is sensitive to red light, while another is sensitive to far-red light.

ANSWER: **phytochromes**

<Mukherjee>

5. This country allied with Sweden in the Treaty of Compiegne, entering the Thirty Years War on the Protestant side. For 10 points each:

[10] Name this Catholic country, which was led into the war by the diplomacy of Cardinal Richelieu.

ANSWER: **France**

[10] The French armies returned from the war to repress this disorder provoked by the Parlement of Paris; a second version with noble support broke out in 1650.

ANSWER: **Fronde**

[10] France was wracked by the Fronde after this queen of Hapsburg origin, Louis XIII's widow and Louis XIV's mother, became regent.

ANSWER: **Anne of Austria** [prompt on partial answer]

<Weiner>

6. For 10 points each, identify these Japanese cities.

[10] This city on Kyushu was once the center of Japan's Christian population. In August 1945, it was the second city to be hit by an atomic bomb.

ANSWER: **Nagasaki**

[10] The Keihanshin, Japan's second most populous urban area, is formed from Kyoto, Kobe, and this other city on the Yodo River.

ANSWER: **Osaka**

[10] The most populous Japanese city not located on the island of Honshu is this capital of the prefecture of Hokkaido.

ANSWER: **Sapporo**

<Haddad-Fonda>

7. Lu Xun ("loo shoon") used the events of this play as a metaphor for the Revolution of 1911 in a speech that asked "What Happens After" its protagonist "Leaves Home", while August Strindberg attacked it in *Getting Married*. For 10 points each:

[10] Name this play that features such characters as the syphilitic Dr. Rank and the blackmailing Krogstad and ends with a famous scene in which the protagonist slams the door while leaving her husband Torvald.

ANSWER: A **Doll's House** [or *Et Dukkehjem*; or A **Doll House**]

[10] The sculptor Arnold Rubek and his former model Irena are killed by an avalanche in *When We Dead Awaken*, another work by this Norwegian playwright who penned *A Doll's House*.

ANSWER: Henrik Johan **Ibsen**

[10] This widowed friend of Nora Helmer in *A Doll's House* manages to convince Krogstad to refrain from persecuting Nora for her forgery.

ANSWER: **Christine Linde** [accept either underlined portion]

<Mukherjee>

8. The first movements of 18th and 19th century symphonies were composed in this form. For 10 points each:

[10] Name this musical form, which features an exposition, development, and recapitulation.

ANSWER: **sonata**-allegro form

[10] Movements in sonata form sometimes end with one of these sections, whose name comes from the Italian for "tail." Beethoven often composed long ones for the endings of his symphonies' first movements.

ANSWER: **coda**

[10] Beethoven composed an especially long coda for the first movement of this symphony in E flat major. He originally planned to dedicate it to Napoleon, but tore up the dedication when Napoleon crowned himself emperor.

ANSWER: **Eroica** Symphony [or Symphony no. **3** in E flat major]

<Thompson>

9. I'm shining a flashlight through a circular hole. Answer some questions about the phenomenon that I see, for 10 points each:

[10] Identify this phenomenon in which light bends around the edges of a hole or aperture. Gratings that take advantage of this phenomenon are used in holography and monochromators.

ANSWER: **diffraction** [do NOT accept "refraction"]

[10] Diffraction through a circular aperture creates a series of concentric rings around a central disk. That disk is named for this British physicist.

ANSWER: George Biddell **Airy**

[10] The angle of the first minimum relative to the axis in the diffraction pattern of a circular aperture is equal to the wavelength divided by the diameter times this constant. One decimal place is acceptable.

ANSWER: **1.22**

<Mukherjee>

10. This work compares the "logical suicide" committed by Kirilov, the protagonist of Dostoevsky's *The Possessed*, with the plight of the title character. For 10 points each:

[10] Name this essay that examines the question of whether or not life is worth living and concludes that one must imagine the title character happy despite his seemingly futile task.

ANSWER: *The **Myth of Sisyphus*** [or *Le **Mythe de Sisyphe***]

[10] *The Myth of Sisyphus* was written by this Algerian-born French author, the preeminent philosopher of absurdism.

ANSWER: Albert **Camus**

[10] This essay by Camus is about a kind of individual who wants a degree of freedom for himself but shies away from crime so as to not become a tyrant and infringe on the freedom of others.

ANSWER: *The **Rebel*** [or *L'**Homme revolte***]

<Gupta>

11. For 10 points each, name these terms from ballet:

[10] Coming from the French for "to whirl," this move is performed by turning in place on one leg, with the other leg raised in the air.

ANSWER: **pirouette**

[10] Ballerinas usually perform pirouettes using this technique, in which a dancer supports her weight with her toes. It requires special shoes with a flattened box that provide extra toe support.

ANSWER: dancing en **pointe** [or **pointe**work]

[10] In this type of leap, a ballet dancer transfers her weight from one leg to the other. In the "grand" type of this leap, a dancer performs a split in mid-air.

ANSWER: **jeté**

<Magin>

12. Several of this goddess's children, the Empusae, were notorious for being succubi. For 10 points each:
[10] Name this goddess whose three aspects represent the earth, the moon, and the sea. She is best known for her associations with witchcraft and the crossroads.

ANSWER: **Hecate** [or **Hekate**; or **Trivia**]

[10] In some stories, Hecate is instructed by this agriculture goddess to watch over her daughter Persephone.

ANSWER: **Demeter** [or **Ceres**]

[10] Cult magicians often sacrificed this many oxen to Hecate. This is the number of hands possessed by Briareus.

ANSWER: **100**

<Gupta>

13. The book *Red Design for the Americas* claimed that this man's government was filled with Communists. For 10 points each:

[10] Name this leader, whose "Decree 900" attacked "semi-feudal" practices and called for the confiscation of uncultivated plantation land.

ANSWER: Jacobo **Arbenz** Guzman [prompt on "Guzman"]

[10] Arbenz was overthrown by an American-backed coup in this nation, also the home of Rigoberta Menchu.

ANSWER: Republic of **Guatemala**

[10] Arbenz had planned to expropriate lands belonging to this banana-trading company, known as "the octopus" for its long reach into Central American affairs in the early twentieth century.

ANSWER: **United Fruit** Company [prompt on "Chiquita", which is a successor company but not identical]

<Weiner>

14. Silenus attempts to scam Polyphemus out of some wine in this man's *Cyclops*, the only fully extant satyr play. For 10 points each:

[10] Identify this ancient Greek tragedian who depicted the bloody death of Pentheus in his play *Bacchae*. His other works include the early tragicomedy *Alcestis* and *The Trojan Women*.

ANSWER: **Euripides**

[10] This title character of two Euripides plays is spirited away from a sacrificial altar by Artemis, after which she unhappily sacrifices foreigners for King Thoas. Eventually, she is rescued by her brother Orestes.

ANSWER: **Iphigenia** [accept **Iphigenia** in Aulis or **Iphigenia** in Tauris or **Iphigenia** Among the Taurians; do NOT accept "Electra"]

[10] Athena appears at the end of this Euripides play to convince Xuthus that the title character, who was actually fathered on Creusa by Apollo and raised in Delphi, is his real son.

ANSWER: **Ion**

<Carson>

15. This mathematician's Laws of Thought essentially founded the relationship between logic and probability used in computers. For 10 points each:

[10] Identify this nineteenth-century mathematician who described a system of truth functions like conjunction, disjunction and negation that are now named for him. His namesake algebra uses commands like NOT and AND.

ANSWER: George **Boole**

[10] This Boolean function returns true in each of the following cases: A and B are true; A is true, B is false; A is false, B is true.

ANSWER: **OR** [do NOT accept "XOR" or "exclusive OR"]

[10] This modern system of logic differs from Boole's in that truth values can have any probability between zero and one, making it a form of "many-valued" logic.

ANSWER: **fuzzy** logic

<Orth>

16. Answer these questions about some figuratively ferrous economic theories, for 10 points each:

[10] The concept of the "Iron Law of Wages" is usually attributed either to Ferdinand Lassalle or to this early English economist, who wrote about the labor theory of value and comparative advantage in *Principles of Political Economy*.

ANSWER: David **Ricardo**

[10] Robert Michels' 1911 tract *Political Parties* posits an "Iron Law" on the inevitable rise of this kind of shared-power system. Plato's *Republic* places this power system above democracy and tyranny, and describes a version of it in which power is based on wealth as "plutarchy."

ANSWER: **oligarchy**

[10] Talcott Parsons is responsible for the translation of this term, a central concept in Weber's *Protestant Ethic*, which describes this concept as a product of bureaucracy that freezes those in capitalist systems within the constraints of rationality.

ANSWER: an **iron cage** of rationality [or *stahlhartes Gehäuse*; accept **steel cage** or **steel shell** or **steel-hard shell** or **shell as hard as steel** or other equivalents involving a shell or cage and steel or iron]

<Ray>

17. Saint James blesses a man on his way to his martyrdom in a work by this artist shown from a worm's eye perspective that was destroyed during World War II. For 10 points each:

[10] Identify this Renaissance artist whose ceiling oculus in the Palazzo Ducale in Mantua depicts several cherubs sitting on the roof beneath a blue sky.

ANSWER: Andrea **Mantegna**

[10] Andrea Mantegna produced a heavily foreshortened painting of the dead body of this Biblical figure that illustrated his Holy Wounds. He can be seen resting in Mantegna's *Madonna with Sleeping Child*.

ANSWER: **Jesus Christ** [or **Jesus** of Nazareth; accept any underlined answer]

[10] Mantegna created multiple scenes of this figure, often shown being martyred while tied up near a column. El Greco painted this saint tied up to a tree with an arrow piercing his ribs.

ANSWER: Saint **Sebastian**

<Bentley>

18. This element's allotropes include the sheet-like graphite and the face-centered cubic diamond. For 10 points each:

[10] Identify this element, which forms the backbone of all organic compounds. Its third allotrope is fullerene.

ANSWER: **carbon**

[10] This type of fullerene comes in armchair, zigzag, and chiral configurations. These cylindrical molecules form long ropes spontaneously with incredible tensile strength.

ANSWER: carbon **nanotubes**

[10] Cutting open a carbon nanotube lengthwise would result in this structure, which is a single-atom thick sheet of carbon atoms arranged in a hexagonal lattice.

ANSWER: **graphene**

<Mukherjee>

19. One side of this battle left from Fort Cumberland but decided to advance through Virginia rather than take a direct route through Pennsylvania. For 10 points each:

[10] Name this battle, which saw an expedition from Fort Duquesne end disastrously for the British with the death of Edward Braddock.

ANSWER: Battle of the **Monongahela**

[10] This aide to Braddock brought back the survivors to Colonel Dunbar. He earlier attacked Jumonville and surrendered at Fort Necessity.

ANSWER: George **Washington**

[10] The Jumonville Affair and battles at Fort Necessity and Fort Duquesne are all events of what war, in which the British demonstrated supremacy in North America while fighting the Seven Years' War in Europe?

ANSWER: **French and Indian** War

<Ueda>

20. The protagonist goes to the mountains to befriend the clan of Highlanders led by Chieftain Fergus. For 10 points each:

[10] Name this novel whose title character fights for the Jacobite forces at the Battle of Prestonpans and struggles to choose between marrying Rose Bradwardine or Flora Mac-Ivor.

ANSWER: **Waverley**

[10] This Scottish author of *Waverley* wrote many historical novels, including *Rob Roy* and *Ivanhoe*.

ANSWER: Sir Walter **Scott**

[10] Ivanhoe saves this daughter of Isaac of York from being burned as a witch by a Templar named Brian de Bois-Guilbert.

ANSWER: **Rebecca**

<Gioia>

21. Answer some questions about the Diophantine equation $ax + by = c$, for 10 points each:

[10] Since the equation is Diophantine, it only accepts these values as inputs. This set of numbers, symbolized with a blackboard Z, includes both positive and negative whole numbers.

ANSWER: **integers**

[10] The value of c in that equation must divide this function of a and b. This value, which can be computed from the Euclidean algorithm, is the largest integer that divides both a and b.

ANSWER: **greatest common divisor** [or **greatest common factor**; or **GCD**; or **GCF**]

[10] This other Diophantine equation is named for a British mathematician and is written $x^2 - ny^2 = 1$. It is often solved using continued fractions.

ANSWER: **Pell's equation**

<Mukherjee>

22. In one story, this author of "Master and Man" wrote about Pahom, who tries to walk in a circle to claim a section of Bashkir territory, only to die of exhaustion. For 10 points each:

[10] Name this author whose short stories include "How Much Land Does a Man Need?" A second-person tour through besieged ground makes up the first of his three *Sevastopol Sketches*.

ANSWER: Leo **Tolstoy** [or Lev Nikolayevich **Tolstoy**]

[10] This other Russian wrote about the poor clerk Akaky Akakievich, whose new cloak is stolen, in "The Overcoat," and about a detached body part which joins the civil service in "The Nose."

ANSWER: Nikolai Vasilievich **Gogol**

[10] In this short story by Anton Chekhov, Gurov accosts a married couple at a performance of *The Geisha* some time after beginning an affair in Yalta with the title woman, Anna Sergeyevna.

ANSWER: "The **Lady with the Little Dog**" [or "The **Lady with a Lapdog**"; or **Dama s sobachkoy**]

<Jackson>

23. This body's officials served a term of two months before being replaced by officials from other families. For 10 points each:

[10] Identify this legislative body, which included such positions as the Gonfaloniere of Justice, and expanded in size after the fall of the Albizzi.

ANSWER: **Signoria**

[10] The Signoria was the legislative body of this city-state, the site of the Ciompi Revolt and the Pazzi Conspiracy.

ANSWER: **Florence** [or **Firenze**]

[10] The leader targeted in the Pazzi Conspiracy was this member of the Medici family who created the Council of Twelve Good Men and was eclipsed as Florentine leader by Savonarola upon his death.

ANSWER: **Lorenzo** di Medici [or **Lorenzo** the Magnificent; or **Lorenzo Il Magnifico**]

<Foster>