

1. This man cited improved efficiency of airframe production and the Horndal iron works in an article outlining his “learning by doing” growth model. This man proved an equilibrium would exist in a perfectly competitive economy. That general equilibrium model is named for him and Gerard Debreu. He argued lack of information and moral hazard made health care especially prone to market failure in “Uncertainty and the Welfare Economics of Medical Care.” Another theorem by this man shows there will always exist a decisive (\*) voter with dictatorial powers under conditions like unanimity and independence of irrelevant alternatives. For 10 points, name this economist who showed the difficulty of a democratic social welfare function in his impossibility theorem.

ANSWER: Kenneth Arrow

<Bailey>

2. This area is identified with the threshing floor bought from Araunah for fifty pieces of silver to relieve a plague. Solomon's Stables can be found to the southeast of this place. A building in this place contains the Well of Souls within its Foundation Stone. By visiting this walled-in trapezoidal area, Ariel (\*) Sharon provoked the Second Intifada. In Jewish tradition, it is identified with Moriah, where Abraham bound Isaac; Muslims venerate it because it contains the al-Aqsa Mosque and the Dome of the Rock. For 10 points, name this elevated site in Jerusalem thought to have once been the site of the Holy of Holies.

ANSWER: the Temple Mount [or the Noble Sanctuary; or Haram al-Sharif]

<Bollinger>

3. One of Karsh of Ottawa's signature techniques was to separately light these objects for his portrait photographs. A 1908 sculpture originally titled *The Ark of the Covenant* and later renamed *Cathedral* depicts two of them. That Rodin sculpture partly inspired a series of pictures that Alfred Stieglitz dubbed "portraits in themselves", which depicted a pair of them belonging to his wife Georgia O'Keeffe. A famous blue-paper drawing by Albrecht (\*) Dürer depicts two of them pressed together. An M.C. Escher lithograph depicts a piece of paper on which two of these things use pens to draw each other into existence. For 10 points, name these objects, two of which nearly touch at the center of Michelangelo's *The Creation of Adam*.

ANSWER: human hands [reverse-prompt on "fingers" or equivalents]

<Carson>

4. One character in this novel authored the treatise *Intellect and Art*, which is favorably compared to Schiller's “On Naïve and Sentimental Poetry.” It opens with the main character being stared at by a red-headed stranger before the narrativor recounts the writing of the novel *Maya* and an epic about Frederick the Great. Halfway through this novel, the protagonist's baggage is mistakenly sent to (\*) Como when he is about to leave the Grand Hotel des Bains. The protagonist of this novel later eats some overripe strawberries and dies while looking at a Polish youth with whom he is enamored, named Tadzio. For 10 points, name this novella about the last days of Gustave von Aschenbach, by Thomas Mann.

ANSWER: Death in Venice [or Der Tod in Venedig]

<Jose>

5. The first large section of Kierkegaard's *Stages on Life's Way* emulates this work. A character in this work is compared to an ugly hollow statue filled with tiny statues of gods and had previously stood still and silent on a porch. This work's events were told to Apollodorus by Aristodemus. Erixy-machus's role in this work led John Adams to quip that its author could only teach us how to cure hiccups. The female tutor (\*) Diotima's teachings are restated in this work at Agathon's house. Another speech in this work claims that people once had four legs, but were split in half by Zeus and now search for their "other half" for fulfillment. For 10 points, name this Platonic dialogue in which Socrates and others discuss the nature of love at a drunken party.

ANSWER: Symposium [or Sympousion]

<Jackson>

6. The *ab initio* IGLO method calculates the outcome of this technique, which is used to generate delta-sub-sigma values for carbocations. At very low temperatures, this procedure is used to detect the ring flips of cyclohexane. Ring currents shift the results of this technique downfield. TMS is a standard in this technique, and deuterated (\*) chloroform is often used as its solvent. The readout of this procedure has chemical shift on the x-axis. In this technique, a proton adjacent to a methyl group produces a quartet due to spin splitting. Two common forms of it measure the absorption of radio waves by carbon-13 and by protons. For 10 points, name this form of spectroscopy that uses a magnetic field to deduce chemical structures, which is used in MRIs.

ANSWER: nuclear magnetic resonance [or NMR; or proton NMR; or other forms of NMR]

<Silverman>

7. These objects are supposedly threatened by the development of a 344-millimeter Lepage glue gun. A character who decides to die of pneumonia moves into a hospital that often treats men who work in these objects, and Chief White Halfoat had earlier threatened to slit the throat of one of the officers in charge of them. A man who continually crashes these (\*) vehicles escapes to Sweden in a rowboat. These vehicles are the principle means by which the Allies conduct the "Great Big Siege of Bologna". McWatt bisects Kid Sampson with the propeller of one of these vehicles before crashing it into a mountain, and Snowden is killed by the flak that hits one of them. For 10 points, name these vehicles flown by the bombardier Yossarian in *Catch-22*.

ANSWER: airplanes [or bombers]

<Mehigan>

8. Feldspar-rich varieties of this rock are called "arkose". Classifications of this rock work from QFL diagrams, which often include an extra dimension for the percent of matrix, which must be at most 75%, to broadly divide them into "arenite" or "wacke". A prominent example of cross-bedding can be found in the walls of this rock at Zion Canyon. "Spiral rock arches" of this rock are famously found in Antelope Canyon. When a type of this rock undergoes metamorphosis, it forms quartzite, and after (\*) shale, it is the most abundant sedimentary rock. The namesake of this rock is a granular material whose grain size is larger than silt but smaller than a pebble. For 10 points, name this rock that is made up of material that one finds at the beach.

ANSWER: sandstone [prompt on sedimentary rock]

<Jose>

9. This man's brother-in-law Demetrius Poliorcetes sent him as a hostage to Ptolemy I of Egypt, during which time he married Ptolemy's stepdaughter Antigone. He was killed after a woman dropped either a pot or a roof tile on his head. This man's best known campaign began as an effort to support the city of Tarentum against incursions into Magna Graecia. This commander spent the winter in Campania after defeating (\*) Publius Valerius Laevinus. At the 280 BCE Battle of Asculum, and a year later at Heraclea, this man's elephant-laden army suffered heavy casualties against his Roman foes despite carrying the day. For 10 points, name this king of Epirus who lends his name to a type of costly victory.

ANSWER: Pyrrhus of Epirus

<Bentley>

10. This man warned against the creation of an episcopate in America in his *Dissertation on the Canon and Feudal Law*. In response to a request for advice from North Carolina, he wrote a pamphlet praising mixed constitutions, called *Thoughts on Government*. He received a letter asking him to "willingly give up the harsh title of Master for the more tender and endearing one of Friend." This Unitarian seconded a motion by (\*) Richard Henry Lee at the Second Continental Congress to force the first vote on declaring independence. This man was urged to "Remember the ladies" in a letter from his wife. For 10 points, name this Massachusetts patriot, whose cousin Samuel led the Sons of Liberty, a president who died within hours of his rival Thomas Jefferson.

ANSWER: John Adams [do not accept "John Quincy Adams"]

<Bailey>

11. An anti-monarchical author from this country is most famous for writing the novel *The Blind Owl*. The narrator of a book set in this country is given swans by her uncle Anoosh, who is executed for being a Russian spy. Another book set in this country is divided into four sections, including "Gatsby", "James", and "Austen", and depicts the founding of a secret club devoted to (\*) Western literature. This country is the setting of a graphic novel consisting of "The Story of a Childhood" and "The Story of a Return", as well as an epic which features the story of Sohrab and Rostam, the *Shahnameh*. For 10 points, name this home of Sadegh Hedayat, the setting of Marjane Satrapi's *Persepolis* and Azar Nafisi's *Reading Lolita in Tehran*.

ANSWER: Iran [or Persia; or the Islamic Republic of Iran; or Jomhuri-ye Eslami-ye Iran]

<Carson>

12. On Mount Parnassus, goddesses called the *thriai* took the form of these animals. In Finnish myth, Otsotar creates one of these animals to help her brew ale. One of these animals sent the Hittite god Telipinu into a rage by waking him up. The Hindu god Kama used a bow whose string was made from these animals. The cultivation of these animals was first taught to the accidental killer of Eurydice, (\*) Aristaeus. These animals, which symbolized the Barberini and the Merovingians, created a product that Aeneas put into a cake to pacify Cerberus. Odysseus used a byproduct of these animals to plug the ears of his sailors. For 10 points, name this insects that produce wax and honey.

ANSWER: honeybees

<Jose>

13. **This novel's characters channel their inner William James by repeatedly referring to Success as the Bitch Goddess. The heroine of this work has a brief affair with the Irish playwright Michaelis, and agrees to serve as a model for Duncan Forbes in return for his help securing her divorce. One man is accused of making love in the "Italian way" by his wife (\*) Bertha Coutts. The title character of this novel almost died of pneumonia in the army in India, which impacts his ability to push his employer's wheelchair. The protagonist's husband, Clifford, was paralyzed in World War I. For 10 points, name this novel in which Constance has an affair with the gamekeeper Oliver Mellors, a controversial work of D. H. Lawrence.**

ANSWER: *Lady Chatterley's Lover*

<Bentley>

14. **The first verification of this principle came from the first human-controlled nuclear disintegration experiment, in which a lithium atom was split into two alpha particles, which was performed by Cockcroft and Walton. When converting between "rest" and "total" forms of the quantities in this principle, an additional factor of momentum times speed of light, all squared, appears. Due to this principle, particle physicists often use natural units to express particle (\*) mass in terms of giga-electronvolts. This principle was first stated in the 1905 *Annus Mirabilis* paper that proposed special relativity. For 10 points, identify this principle proposed by Einstein and demonstrated by the famous equation E equals m c squared.**

ANSWER: mass-energy equivalence [or obvious equivalents, such as that mass and energy are equivalent; or E equals m c squared until it is read]

<Voight>

15. **Many decisions in this country were made at a rocky cliff called the Logberg. This country gave up sovereignty in the Old Covenant. A politician and scholar from this country argued that Norse myths were originally about exiles from the sack of Troy. An official called the Lawspeaker presided in this country, which was dominated in the Middle Ages by the Sturlungs. A 1783 volcanic eruption wrecked this country, which was home to sporadic (\*) Celtic monks before being settled. A parliament in this country which has met since the year 930 is called the Althing. For 10 points, name this place from which Erik the Red sailed to Greenland, an island nation whose namesake language is closely related to Old Norse.**

ANSWER: Iceland [or Ísland]

<Jackson>

16. **This resource is produced by the Cameco corporation on the McArthur river and at a namesake "city" on Lake Athabasca, both in northern Saskatchewan. This resource, called *leetso* in the Diné language, was found at Church Rock on Navajo land. This resource caused an evacuation in Dauphin County, (\*) Pennsylvania. The sale of this material from Niger (nih-JAIR) in the form of an oxygen-containing powder was investigated by Joseph Wilson, the husband of CIA agent Valerie Plame. For 10 points, name this metal which is refined into yellowcake, and which melted down at Three Mile Island while serving its common role as nuclear reactor fuel.**

ANSWER: uranium ore [or refined uranium; or enriched uranium; prompt on yellowcake until it is read]

<Jackson>

17. **This ruler ended a taboo on eating four-legged animals. A man who repeatedly attempted suicide to appease this ruler, Count Nogi, did so after this ruler's funeral. Troops loyal to this ruler set up the puppet emperor Sunjong after forcing Emperor Gojong to abdicate. This ruler issued a document whose second of five points supported "All classes, high and low" participating in government. The predecessor of this ruler was revered by the slogan "sonno joi." Several members of the (\*) Ishin-Shishi, such as Ito Hirobumi, advised this ruler after the Bakumatsu. He put down unrest in Satsuma and promulgated the five-point Charter Oath. For 10 points, name this man who ended the samurai class, the modernizing emperor of Japan.**

ANSWER: Emperor Meiji [or Meiji-tenno; or Mutsuhito]

<Jackson>

18. **This composer's third piano concerto opens with a lyrical solo clarinet melody and is one of the few whose second movement is in explicit theme-and-variation form. This composer's first symphony unusually contains a Gavotte as its third movement, even though that symphony was ostensibly written in the style of Haydn. This composer wrote the score for a film whose title character is (\*) "created" by a copy mistake, as well as a suite adapted from that film which depicts a sleigh ride in the "Troika". This composer of the *Classical Symphony* and the *Lieutenant Kije Suite* used the timpani to represent hunters and the oboe to represent a duck in another piece. For 10 points, name this Russian composer of *Peter and the Wolf*.**

ANSWER: Sergei Sergeyevich Prokofiev

<Rosenberg>

19. **Tarui's disease is caused by a deficiency of an enzyme required for this process. Fluoride and iodoacetate inhibit it. The TIM barrel protein motif was named for an enzyme in this pathway. Warburg discovered that cancer cells exclusively make use of this pathway. This process' rate-limiting step is activated by AMP, is inhibited by ATP, and is catalyzed by (\*) phosphofructokinase. Gluconeogenesis is roughly the reverse of this process. It is divided into an energy investment and an energy payoff period. In this pathway's first reaction, hexokinase phosphorylates glucose. For 10 points, name this process which occurs in the cytoplasm and forms pyruvate as the first step in cellular respiration.**

ANSWER: glycolysis [or the Entner-Doudoroff-Parnas pathway]

<Silverman>

20. **Gabriele Vendramin commissioned a painting by this artist in which a small stork sits on the roof of a building at one end of a bridge. X-rays of one of his paintings revealed that a female nude once stood where a red-jacketed man holding a staff or pike now stands. A mother suckles a child on a riverbank in the foreground of a painting by this man which shows a (\*) lightning bolt bursting in a cloudy sky. Another of his paintings features silver sheets lying below a woman whose left hand rests suggestively on her groin. That painting was finished by this artist's contemporary Titian, who used its central figure as inspiration for the *Venus of Urbino*. For 10 points, name this Venetian painter of *The Tempest* and *The Sleeping Venus*.**

ANSWER: Giorgione [or Giorgio Barbarelli da Castelfranco]

<Carson>

21. In one poem, this material bears "the owner's name someway in the corners" and shows the equality between Kanuck and Tuckahoe. The color of this material is contrasted with "the colorless beards of old men" and "the faint red roofs of mouths." In a section that ends "to die is different than anyone supposed, and luckier," this material shows "there is really no death." In another poem, this material asks the reader to (\*) "Pile the bodies high at Austerlitz and Waterloo" and "Let me work." A child asks what this plant is, fetching it "with full hands" to a poet who calls it "the beautiful uncut hair of graves." For 10 points, name this plant whose "leaves" title a poetry collection by Walt Whitman.

ANSWER: grass

<Mehigan>

22. This phenomenon is used by an h-over-e apparatus, such as the PASCO AP-9368, which can be used to experimentally determine Planck's constant. The probability of this effect is often given as atomic number raised to the n over h nu to the third, where n is between three and five. By exactly offsetting the maximum kinetic energy of this process, one can calculate the stopping potential. The kinetic energy of particles emitted by this process is equal to Planck's constant times frequency minus the difference in (\*) energy level between the vacuum and their Fermi energy, which is the work function. A 1905 *Annus Mirabilis* paper explaining this effect won Einstein his Physics Nobel. For 10 points, name this effect in which incident light frees electrons from a metal.

ANSWER: photoelectric effect [or photoemission]

<Voight>

23. A whistleblower named Frank Serpico, who worked in this profession, prompted the formation of the anti-corruption Knapp Commission. A scathing report about this profession was written in 1991 by future Secretary of State Warren Christopher. A year later, a state trial in Simi Valley acquitted a member of this profession named Stacey Koon. Groups of these people led by Bill Bratton and Bernard (\*) Kerik implemented policies based on "broken windows" theory. While serving as Governor of Massachusetts, Calvin Coolidge put down a strike by people in this profession. For 10 points, name these municipal officials who attacked Yippies at the Chicago Democratic Convention of 1968, and beat Rodney King in Los Angeles after arresting him.

ANSWER: policemen [or police officers; or law enforcement officers; or cops; or transit police]

<Bentley>

24. This religion's doctrine of "not-one-pointedness" holds that factual propositions should be turned into one of seven kinds of conditionals prefaced by the adverb *syad*. This religion's major symbol consists of a swastika above an open palm containing a chakra wheel. Monks in this religion take the "five great vows" in order to attain right knowledge, right faith, and right conduct, its non-Buddhist (\*) Three Jewels. Disagreements over the authority of the *agama*, and whether women could ever attain *moksha*, led to the split between its Digambara and Svetambara sects. For 10 points, name this Indian religion founded by Mahavira on the non-violent principle of *ahimsa*.

ANSWER: Jainism

<Bollinger>

1. Many of this man's alleged speeches were made up wholesale by his biographer William Wirt. For 10 points each:

[10] Name this patriot who succeeded loyalist Lord Dunmore as governor of Virginia. This Anti-Federalist ally of George Mason later refused to attend the Constitutional Convention because he "smelt a rat".

ANSWER: Patrick **Henry**

[10] According to Wirt's biography, Henry used this seven-word imperative phrase to end a fiery speech in St. John's Church, asking the Virginia House of Burgesses to support the Revolution.

ANSWER: "**Give me liberty or give me death!**"

[10] Henry made his fame by helping these people sue for back pay after their salaries were effectively slashed by the Two-Penny Act. Their previous salaries in tobacco were worth three times more.

ANSWER: Anglican **parsons** [or **ministers**; or **clergymen** of the Church of England]

<Bailey>

2. The 2004 sequel to this novel centers on an epidemic of political indifference, as first exemplified by 83% of the populace casting blank ballots in an election. For 10 points each:

[10] Name this 1995 novel about a different epidemic, whose sufferers are detained in an asylum in which the King of Ward 3 is murdered by the doctor's wife, who remains unaffected by the title condition.

ANSWER: **Blindness** [or **Ensaio sobre a cegueira**; or **Essay on Blindness**]

[10] *Blindness* was written by this Lusophone author, who exiled himself to Lanzarote after the Portuguese government's attempts to censor his novel *The Gospel According to Jesus Christ*.

ANSWER: Jose de Sousa **Saramago**

[10] In 1995, Saramago won a prize named for this author of the play *El-Rei Seleuco*, whose most famous work is a long poem that includes a council of the Olympian gods and introduces the evil demigod Adamastor.

ANSWER: Luis Vaz de **Camoës** [or Luis de **Camoens**]

<Carson>

3. Pablo Picasso bought the Château de Vauvenargues near the base of this mountain. For 10 points each:

[10] Name this mountain which was depicted "with Large Pine", "seen from Bellevue", and "with the Viaduct of the Arc River Valley" in a series of paintings by a Post-Impressionist.

ANSWER: Mont **Sainte-Victoire** [or Montagne **Sainte-Victoire**; or Santo-**Venturi**]

[10] This French artist created those depictions of Mont Saint-Victoire. He also painted *The Card Players* and *The Large Bathers*, as well as *Rideau, Cruchon et Compotier*, the most expensive still life ever sold.

ANSWER: Paul **Cézanne**

[10] A bright red table topped by a silver vase and a seated man holding a riding crop appear in the foreground of this Cézanne painting, which depicts a nude woman posing on a bed and was painted in response to a contemporaneous French artist.

ANSWER: A **Modern Olympia** [or *Un Olympia Moderne*]

<Karas>

4. The narrator of this piece finds himself standing in front of a "sea of yellow faces", whereupon he feels "two thousand wills pressing me forward" and concludes that "when the white man turns tyrant it is his own freedom that he destroys." For 10 points each:

[10] Name this essay which recounts an incident in which the author, a colonial police officer in Burma, is forced against his will to take the title action "solely to avoid looking a fool."

ANSWER: "**Shooting an Elephant**"

[10] "Shooting an Elephant" is an early essay by this British author, who attacked Stalinism and totalitarianism in the novels *Animal Farm* and *1984*.

ANSWER: George **Orwell** [or Eric Arthur **Blair**]

[10] "Shooting an Elephant" is set in this Burmese port city, the first capital of British Burma. Rudyard Kipling's poem "Mandalay" opens by describing a girl "lookin' lazy at the sea" by an old pagoda in this city.

ANSWER: **Moulmein** [or **Mawlamyine**]

<Carson>

5. The victorious forces in this battle departed from Wejh and secured four thousand additional Jordanian troops on their circuitous march to it. For 10 points each:

[10] Identify this July 6, 1917 battle which saw little actual fighting, as the garrison of 300 Ottoman troops in a Red Sea port town surrendered to a much larger force.

ANSWER: Battle of **Aqaba**

[10] This British soldier recounted his campaign against Aqaba in *The Seven Pillars of Wisdom*. He teamed up with Prince Feisal to aid the Arab Revolt.

ANSWER: Thomas Edward **Lawrence** [or "**Lawrence** of Arabia"]

[10] Lawrence paid Auda abu Tayi, a leader of these nomadic groups, ten thousand pounds to secure their help in the campaign against Aqaba. These nomads were encouraged to settle by ibn Saud.

ANSWER: **Bedouins** [or **Beduin** or **Badawai** or **Badw**]

<Bentley>

6. Studying sea urchin eggs, Tim Hunt discovered that these proteins oscillated in level throughout the cell cycle. For 10 points each:

[10] Name these proteins, labelled A, B, D, and E. The B one associates with CDK1 to form maturation promoting factor during the entry to mitosis.

ANSWER: **cyclins**

[10] Cyclins D, E, and A, on the other hand, accumulate during this "resting" phase of the cell cycle, composed of G1, S, and G2.

ANSWER: **interphase**

[10] One target of MPF is this class of intermediate filaments found on the inner face of the nuclear envelope. Rb, a regulator of mitotic activity, is a transcription factor localized to these fibrous proteins.

ANSWER: **lamins** [prompt on nuclear **lamina**; do not accept "laminins"]

<Silverman>



7. This organization used trade houses called *kontor* in member cities. For 10 points each:

[10] Name this alliance of guilds and towns which dominated trade in north Germany and the Baltic during the late middle ages, and declined thereafter.

ANSWER: **Hanseatic League** [or **Hansa**]

[10] This German port city on the Baltic, northeast of Hamburg, was the central city of the Hanseatic League.

ANSWER: **Lübeck**

[10] This monarch expelled the Hanseatic League from their London base, the Steelyard, and sent raiders to burn the maritime trade city of Cádiz.

ANSWER: **Elizabeth I** of England

<Jackson>

8. This planet was first observed by Galileo, who described it as "having ears" and "three bodies". For 10 points each:

[10] Name this second largest gas giant, whose density is less than that of water.

ANSWER: **Saturn**

[10] A probe named after this scientist and Huygens was sent to study Saturn. He also names a gap between the rings of Saturn.

ANSWER: Giovanni **Cassini**

[10] The Cassini Regio is a dark spot on this moon of Saturn. This third largest moon of Saturn contains an equatorial ridge sporting some of the largest mountains in the Solar System.

ANSWER: **Iapetus**

<Jose>

9. One source relates that two of this woman's surviving children were Meliboia and Amyklas. For 10 points each:

[10] Name this daughter of Tantalus who lost her many children to Apollo and Artemis.

ANSWER: **Niobe**

[10] Niobe's husband, Amphion, used a lyre to build the walls of this city. This city was founded by Cadmus.

ANSWER: **Thebes**

[10] Niobe lost all her children after she boasted that no one in her city should worship this goddess, since Niobe had ten more children than she did.

ANSWER: **Leto** [or **Latona**]

<Jose>

10. The Soviet government attempted to retitle this opera *Hammer and Sickle*, and it was originally known by the name of its protagonist, Ivan Susanin. For 10 points each:

[10] Name this earliest Russian-language opera in the repertoire, whose plot involves Susanin saving Mikhail Romanov by leading an opposing army astray.

ANSWER: A **Life for the Tsar** [or **Zhizn' za tsarya**]

[10] A *Life for the Tsar* was composed by this man, who also wrote the opera *Ruslan and Lyudmila*.

ANSWER: Mikhail Ivanovich **Glinka**

[10] The army seeking out Mikhail in *A Life for the Tsar* represents this country, whose native-born composers include Henryk Gorecki (gore-ET-ski) and Krzysztof Penderecki (pen-der-ET-ski).

ANSWER: **Poland** [or **Polska**]

<Weiner>

11. This monarch had Judge Jeffreys preside over the Bloody Assizes to wipe out opponents who rallied behind his nephew, the Duke of Monmouth. For 10 points each:

[10] Name this king whose attempts to expand Catholic religious rights in England alarmed Parliament. This grandfather of Bonnie Prince Charlie lost the Battle of the Boyne.

ANSWER: **James II** of England [or **James II** Stuart; or **James II** of England and VII of Scotland]

[10] The Duke of Monmouth was pardoned for aiding this attempt to kill both Charles II and James II. Arthur Capel, the Earl of Essex, also aided this plot, which tried to take out the king after a Newmarket horse meet.

ANSWER: **Rye House Plot**

[10] This relatively-bloodless transfer of power, by which Parliament invited the Protestant monarchs William and Mary from the Netherlands, unseated James II.

ANSWER: **Glorious Revolution** of 1689

<Bentley>

12. This language has lost its dative case, though its constructed, literary *katharévousa* form tried to add it back in and purge Serbian and Turkish loanwords. For 10 points each:

[10] Name this language which can write out the "ee" sound in six ways, including the standalone letters eta (EE-tah), iota (YO-tah), and epsilon (EEP-see-lohn). The second letter of its alphabet is now pronounced "vee-tah."

ANSWER: Modern **Greek** [or néa **elliniká**]

[10] A Greek vernacular of this name, the type spoken by most people, has been Greece's official language since it replaced *katharévousa* in 1976. This word also names the stage of the Egyptian language in the middle of the Rosetta Stone.

ANSWER: **Demotic** Greek [or **dimotiki**]

[10] The Atticism movement attempted to purify this Greek dialect spoken in the Eastern Roman and early Byzantine Empire; it failed, leading to this Greek style used in the New Testament becoming the ancestor of Modern Greek.

ANSWER: **Koine** Greek

<Jackson>

13. An ideal fluid is incompressible, which means that this value for the fluid is constant over the entire flow. For 10 points each:

[10] Name this quantity, which is commonly expressed by a substance's specific gravity or as mass over volume.

ANSWER: **density**

[10] An incompressible fluid returns a value of zero when the divergence is performed on the velocity vector field; the divergence is usually written as this operator dotted with the field. It is also used to symbolize the gradient.

ANSWER: **del** [or **nabla**; or **upside-down triangle**; or obvious equivalents]

[10] Because mass must be conserved in a fluid flow, one can derive one of these relations for mass, which states that the product of area times density times velocity must be equal at any point during an ideal fluid's flow.

ANSWER: **continuity** equation

<Jose>

14. This thinker divided nature into "substances," "attributes," and "modes" in a work whose style resembles geometric proofs. For 10 points each:

[10] Name this 17th-century philosopher whose *Ethics* equated God with all of nature.

ANSWER: Baruch **Spinoza** [or Benedict **Spinoza**; or Benedictus de **Spinoza**]

[10] Spinoza was kicked out of this religion in Amsterdam for his pantheist views. Later thinkers of this faith include Gershom Scholem and Leo Strauss.

ANSWER: **Judaism** [or **Jews**]

[10] This later Jewish thinker, a Lithuanian émigré to France, described a "face-to-face encounter" with the Other as the starting point of ethics in *Totality and Infinity* and *Time and the Other*.

ANSWER: Emmanuel **Levinas**

<Jackson>

15. Name these works by Frederic Chopin, for 10 points each:

[10] Chopin wrote many of these 3/4 time dances which, appropriately, are named after his native country. His most famous pieces of this type are nicknamed "Military" and "Heroic".

ANSWER: **polonaises**

[10] The third movement of Chopin's second piano sonata is a famous piece of this type in B-flat minor, which gives the sonata its common nickname. Charles Gounod composed one of these pieces "for a Marionette".

ANSWER: **funeral marches** [or **marche funèbre**, prompt on "march"]

[10] Chopin's opus 60 in F-sharp is one of these pieces, which imitates the songs of Venetian gondoliers.

ANSWER: **barcarolles**

<Rosenberg>

16. This man developed the idea of schismogenesis in his book *Naven*, which examined the relationship between the *wau*, or mother's brother, and *laua*, or sister's child. For 10 points each:

[10] Name this anthropologist, the third husband of Margaret Mead, who wrote *Steps to an Ecology of Mind* and *Mind and Nature*.

ANSWER: Gregory **Bateson**

[10] Bateson and Mead pioneered the use of ethnographic film and photography in their studies of this island's "character." Clifford Geertz's "Deep Play" applies thick description to this island's cockfight.

ANSWER: **Bali**

[10] Bateson's *Naven* shows the influence of this anthropologist who compared the Zuni, Dobu, and Kwakiutl in *Patterns of Culture* and distinguished between "guilt" and "shame" cultures in another work.

ANSWER: Ruth **Benedict**

<Kothari>

17. The 1867 unearthing of the Garden Tomb weakened the long-held belief that this Church was where Jesus was buried and resurrected. For 10 points each:

[10] Name this shared church in the Old City of Jerusalem, whose namesake tomb is located inside the Edicule.

ANSWER: Church of the **Holy Sepulchre** [or Basilica of the **Holy Sepulchre**]

[10] The Church was supposedly constructed on the site where a sick woman healed herself by touching a cross, which this mother of Constantine then declared the True Cross.

ANSWER: Saint **Helena**

[10] Helena was performing this action when she found the True Cross. The Church of the Holy Sepulchre and the Via Dolorosa are popular destinations for Christians performing this action.

ANSWER: **pilgrimage**

<Gupta>

18. This author included stories like "The Moaning Pillar" and "The Grammarian and the Boatman" in his six-book poem *Masnavi*. For 10 points each:

[10] Name this Persian-speaking Sufi poet whose other works include a 40,000-line collection dedicated to his teacher, the *Divan-e Shams-e Tabrizi*, and his most famous work, the *Spiritual Couplets*.

ANSWER: **Rumi** [or Jalal ad-Din Muhammad **Rumi**; or Jalal ad-Din Muhammad **Balkhi**]

[10] Rumi served as a major inspiration for Mohammed Iqbal, the national poet of this country, whose other native writers include *Ice Candy Man* novelist Bapsi Sidhwa and the author of *The Reluctant Fundamentalist* and *How to Get Filthy Rich in Rising Asia*, Mohsin Hamid.

ANSWER: Islamic Republic of **Pakistan** [or Islami Jumhuriyah-yi **Pakistan**]

[10] Another poet who wrote in Persian was this polymath author of a *Treatise on Demonstration of Problems of Algebra*, who wrote a thousand or so quatrains, or *rubaiyat*, that were loosely translated by Edward FitzGerald.

ANSWER: Omar **Khayyam** [or Ghiyath ad-Din Abu'l-Fath Umar ibn Ibrahim al-**Khayyam**]

<Carson>

19. G.H. Hardy described some of this man's results by saying that they "must be true, because, if they were not true, no one would have the imagination to invent them". For 10 points each,

[10] Name this legendary Indian mathematician who earned his Ph.D. at Cambridge despite little formal training in mathematics.

ANSWER: Srinivasa **Ramanujan**

[10] Ramanujan independently came across an identity named for this Swiss mathematician, which states that  $e$  raised to the power of  $i$  times  $\pi$  equals minus one.

ANSWER: Leonard **Euler**

[10] While riding in a taxicab with Hardy, Ramanujan noted that the number 1729 is the smallest number that can be written as the sum of two of this type of number in two different ways. The smallest case of Fermat's last theorem occurs when the sum of two different examples of this type of number does not equal a third.

ANSWER: **cube** integers [or **cubic** integers]

<Karas>

20. A novel by this author centers on a character who writes short stories like "The Pension Grillparzer" and is assassinated by an Ellen Jamesian. For 10 points each:

[10] Name this American novelist of *The World According to Garp* and *The Hotel New Hampshire*.

ANSWER: John Winslow **Irving**

[10] The title character of Irving's *A Prayer for Owen Meany* dies helping orphans from this country by falling on a grenade at an airport bathroom in Arizona. This country is the setting of Tim O'Brien's books *Going After Cacciato* and *The Things They Carried*.

ANSWER: South **Vietnam** [or the Socialist Republic of **Vietnam**; or Cong hoa Xa hoi chu nghia **Viet Nam**]

[10] This character from *The Things They Carried* is a medic who tortures a water buffalo after the death of Curt Lemon and shoots himself in the foot after cracking under pressure.

ANSWER: **Bob "Rat" Kiley** [accept any underlined portion]

<Bentley>

21. A feeder layer of these cells is used to culture the inner cell mass when growing stem cells. For 10 points each:

[10] Name these cells which usually make up majority of cells in a primary culture. They also make up the majority of cells in human connective tissue.

ANSWER: **fibroblasts**

[10] Fibroblasts secrete the proteins that compose this structure, which cells attach to with the help of integrins and other CAMs. Proteoglycans are found in this structure, which provides support and organization for tissues.

ANSWER: **extracellular matrix** [or **ECM**]

[10] One important component of the connective tissue extracellular matrix is this protein, the most abundant in humans. It has a triple helical structure and is so large that its fibrils must be formed outside the cell.

ANSWER: **collagen** [or **collagen I**; or **collagen IV**; or other forms of collagen]

<Silverman>

22. This book gave its name to a series of novels including *Rob Roy*, *Kenilworth*, and *Quentin Durward*, so named because they were initially anonymously credited to "the author of" this book. For 10 points each:

[10] Identify this historical novel whose title character saves Colonel Talbot during the battle of Prestonpans, which he takes part in after falling in love with Flora Mac-Ivor.

ANSWER: **Waverley**; or, *'Tis Sixty Years Since* [or the **Waverley** novels]

[10] *Waverley*, like *Rob Roy* and *Ivanhoe*, was written by this prolific Scottish novelist.

ANSWER: Sir Walter **Scott**

[10] A burning cross is used to summon Clan Alpine in this Scott narrative poem with an Arthurian title, in which Malcolm Graeme, Roderick Dhu, and James Fitz-James vie for the love of Ellen Douglas.

ANSWER: *The **Lady of the Lake***

<Carson>

23. These peoples destroyed the Pagan kingdom of modern-day Burma and used a law code called the Yassa, written out in an Uyghur-based script. For 10 points each:

[10] Name this ethnic group which established a capital at Karakorum before sweeping across Eurasia under Genghis Khan.

ANSWER: **Mongols**

[10] Batu Khan founded this Mongol spinoff, which abutted Eastern Europe until neighboring Russians crushed it at Kulikovo. Leaders of this tent-dwelling group included Tokhtamysh.

ANSWER: **Golden Horde**

[10] This Khanate of Central Asia, named for Genghis's second son, was located between the Yuan dynasty and the ex-Abbasid Ilkhanate. It lost a lot of land, including Samarkand, to Tamerlane.

ANSWER: **Chagatai** Khanate [or **Chagatis**]

<Jackson>