

1. This empire was defeated by the Hotaki dynasty at the Battle of Gulnabad. One ruler of this empire was Nader Shah, who went on to establish the Afsharid dynasty. The army of this dynasty was reformed and improved with help from the Englishman Robert Shirley. This empire was founded with help from the red-headress wearing Qizilbash, and its founder was defeated by Selim the Great of the Ottoman Empire at the Battle of Chaldiran. This dynasty had its roots as a religious movement of the Sufi order and they made the Twelver movement the official state religion. For 10 points, name this Muslim dynasty of Iran from 1501 to 1726 that was started by Shah Ismail I.

ANSWER: **Safavid** dynasty

064-11-30-11102

2. In one short story by this author, Schoner is driven crazy by his commander's throat and strangles the Captain. In another of his works, the protagonist follows Lilly's advice and abandons his family for Italy, where he connects with Nan by playing the flute. This author of "The Prussian Officer" wrote a novel in which the protagonist gets romantically involved with Miriam Leivers and Clara Dawes and must deal with the death of his mother, Gertrude Morel. He wrote a novel in which Ivy Bolton is the nurse to a partially paralyzed nobleman, whose wife sleeps with the gamekeeper Oliver Mellors. For 10 points, name this author of *Aaron's Rod*, *Sons and Lovers*, and *Lady Chatterley's Lover*.

ANSWER: D. H. **Lawrence** [or David Herbert Richards **Lawrence**]

094-11-30-11103

3. According to James Henderson, the lack of frigates made this campaign possible. General Kleber surrendered the last remnants of the force used in this event. The phrase that "forty centuries of history contemplates you" prefaced a battle during this campaign where squares destroyed attacking cavalry. A battle that happened during this campaign saw the defensively placed French fleet trapped between enemy lines and the destruction of the ship *Orient*. The Battle of Aboukir Bay occurred during this event, which occupied a country that was previously ruled by the Mamluks. For 10 points, name this invasion that saw Napoleon win the Battle of the Pyramids.

ANSWER: Napoleonic French **conquest of Egypt** [accept anything really involving Napoleon or France conquering Egypt like the Egyptian Campaign; prompt on any of the battles mentioned ie Pyramids, Aboukir Bay, Nile; prompt on militaristic things involving cities in Egypt or Syria]

107-11-30-11104

4. This body of water is separated by a spit from the Curonian lagoon, which is at one end of the Sambia Peninsula. Islands in this body of water include Muhu, Usedom, and Saaremaa, and part of this body is known as the Archipelago Sea because it contains the Aland islands. To the west of this body of water are three straits, known as the Great Belt, the Little Belt, and the Oresund. It drains into the Kattegat, and gulfs of it include the Gulf of Bothnia and the Gulf of Finland. For 10 points, name this sea which borders Sweden and Latvia.

ANSWER: **Baltic** Sea

024-11-30-11105

5. Bent's rule states that atomic orbitals directed towards electronegative groups have this character, and part of the derivation of the Lamb shift relies on the fact that the nonrelativistic wave function for these entities vanishes at the origin. In crystal field theory, a group of them is labeled t_{2g} . These entities generally have $n - 2$ radial nodes, and the magnetic quantum numbers of these entities vary from negative 1 to 1. They overlap perpendicularly to form pi bonds. They are shaped like dumbbells and are mutually perpendicular to each other, intersecting at the origin. They hold 6 electrons. For 10 points, name these electronic orbitals that are larger than s and smaller than d orbitals.

ANSWER: **p** orbitals

048-11-30-11106

6. This thinker wrote a work about the tension between "managerialism" and "socialism" and in another book discusses the idea of "countervailing power," arguing organized labor and the federal government will replace free market competition as the primary check on corporate power. This economist asserted that large companies have made perfect competition impossible because the rules of supply and demand have been undermined by the use of advertising in his book *The New Industrial State*. His best-known work outlines the "dependence effect" and discusses the emergence of the private sector in America after World War II. For 10 points, name this economist who coined the term "conventional wisdom" in *The Affluent Society*.

ANSWER: John Kenneth **Galbraith**

109-11-30-11107

7. The causative agent of Dutch elm disease belongs in this phylum, as do the causative agents of sporotrichosis, blastomycosis, and histoplasmosis. One organism in this phylum infects ants' brains and grows out of their heads; that species is named *Chordyceps*. *Candida albicans*, a member of this phylum, causes yeast infections, and these organisms reproduce by plasmogamy followed by delayed fusion of the paired nuclei, though some reproduce asexually. This phylum gets its name from the fruiting bodies containing its spores. Like others in their kingdom, their bodies contain hyphae which form a mycelium, and familiar members include brewer's yeast and baker's yeast. For 10 points, name this phylum of fungi, sometimes called sac fungi.

ANSWER: **Ascomycota** [or **Sac Fungi** before mentioned]

048-11-30-11108

8. One of this author's works argues that "political emancipation" is compatible with religion, but blocks the fulfillment of "human emancipation." In another of his works, he developed his theory of "base and superstructure." This opponent of Bruno Bauer wrote that "Philosophers have only interpreted the world; the point is to change it" in his *Theses on Feuerbach*, as well as writing *On the Jewish Question*. Another of his works argues that a commodity attains value through the amount of labour put into it. For 10 points, name this German philosopher who, along with Engels, wrote *Das Kapital*.

ANSWER: Karl **Marx**

080-11-30-11109

9. A pizzicato variation in this piece represents the central character's triumph. Composed at Villa Senar two years before its composer's third symphony, it begins with a variation unusually played before the strings play its main theme. Sometimes considered its composer's fifth piano concerto, it introduces the Dies Irae in its seventh and eleventh variations, and inverts the main theme from A minor to D flat major in its andante cantabile 18th variation. Composed in 1934, it is based on another composer's twenty-fourth violin caprice. For 10 points, name this orchestral work by Sergei Rachmaninoff titled for a legendary Italian violinist.

ANSWER: ***Rhapsody on a Theme of Paganini***

004-11-30-11110

10. The title character of Kathy Acker's rewriting of this work is a woman who wanders New York with a talking dog named St. Simeon. Charlotte Lennox is best known for a novel that recasts the protagonist of his work as a woman. The plot of Shakespeare's lost play *Cardenio* is believed to have been inspired by Thomas Shelton's translation of this work. One version of this work is deemed to be much more significant than the original because it was written and read with the events of the 18th and 19th centuries in mind. That version is recreated line for line by Pierre Menard in a Borges story. For 10 points, name this foundational Spanish novel about a mad knight and his squire Sancho Panza.

ANSWER: **Don Quixote**

015-11-30-11111

11. Thirty-four of these works lack titles, and are traditionally known as "orphans." A number of these works are "acrostics," in which successive lines begin with successive letters of the alphabet. One of these works requests, "If I forget thee...may my right hand forget its skill," and begins "By the rivers of Babylon we sat and wept." The most famous of these works describes walking through "the valley of the shadow of death" and begins, "The Lord is my shepherd, I shall not want." For 10 points, name these 150 poems in the Old Testament, traditionally attributed to David.

ANSWER: the **Psalms** [or **tehillim**]

080-11-30-11112

12. The Producer-Consumer problem arises when multiple threads try to access one of these of bounded or unbounded size. Two or three pointers are usually used when using an array to create a ring or circular one of these. Depth information for a 3D scene can be stored in a z one. In many computer graphics paradigms like OpenGL, the final store of the generated image is known as the frame one. TCP has the receiver communicate its window size based on the current capacity of one of these. Many security flaws in programs result from overflows in data structures used as these. For 10 points, name this temporary store of moving data, used in online videos streaming to mitigate temporary slowdowns in download speed.

ANSWER: **buffers** [or **buffering**]

001-11-30-11113

13. This politician gained the leadership of his party in a three way election over his predecessor and Michael Heseltine. The term "Shy Tory Factor" was coined during an election in which this man surprised pollsters by defeating Neil Kinnock. He replaced his predecessor's wildly unpopular Community Charge to fund local governments. This PM's other actions included withdrawing the Pound from the ERM, signing the Maastricht Treaty, and overseeing British involvement in the Gulf War. He was replaced by the "New Labour" Party under Tony Blair. For 10 points, name this Conservative politician who led the UK through most of the 90s.

ANSWER: John **Major**

015-11-30-11114

14. This woman's father was himself the son of Procas. She was punished by her uncle by being buried alive but her children were saved by the river god. This woman was the daughter of King Numitor of Alba; Numitor was later overthrown by his brother Amulius who forced this woman to become a vestal virgin. Despite that, she was impregnated by Mars and subsequently had her children raised by Acca Larentia and the shepherd god Faustulus. This occurred after her children were given away by her husband Tiberinus to be suckled by Lupa, a she-wolf. For 10 points, name this mythical mother of Romulus and Remus.

ANSWER: **Rhea Silvia**

064-11-30-11115

15. This politician displayed a picture of a Mexican man living in a box on a Larry King interview in which he repeatedly asked his opponent to "let me finish." He was criticized for repeatedly using the phrase "you people" during a speech to the NAACP. In one campaign, his vice-presidential nominee James Stockdale asked "Who am I? Why am I here?" during a debate. This creator of the Reform Party discussed the "giant sucking sound" that NAFTA would create. He was largely funded by the personal fortune he acquired from founding the Texas technology company Electronic Data Systems. For 10 points, name this politician who had some success as a third party candidate in 1992 and 1996.

ANSWER: Henry Ross **Perot**

015-11-30-11116

16. The ratio of two types of this property equals the product of the Lorenz number and temperature by the Wiedemann-Franz Law. The first of those types is, for phonons, equal to one-third times the specific heat per unit volume times the velocity times the average mean free path; it is also the coefficient of proportionality in Fourier's Law. At a fixed temperature, the second of those types is equal to the length divided by the product of the cross-sectional area and resistance, or alternatively, one over the resistivity. For 10 points, thermal and electrical are two types of what property of a material, the degree to which it allows heat or current to pass through it?

ANSWER: **conductivity** [accept **thermal conductivity** or **electrical conductivity**; prompt on **kappa**; prompt on **k**; prompt on **sigma**]

003-11-30-11117

17. This film was based on a novel written specifically for its director by Pierre Boileau and Thomas Narcejac. One character in this film discusses a bra that works on the same principles as a cantilevered bridge. The European version of this film includes a tacked-on ending where a radio broadcast reveals the arrest of Gavin Elster. This film's main character retires as a policeman after watching another officer fall to his death; that character's obsession with Carlotta Valdes leads to him forcing Kim Novak's character Judy Barton to change her appearance to match that of Madeleine Elster. For 10 points, name this Alfred Hitchcock film in which James Stewart's character is afraid of heights.

ANSWER: **Vertigo**

088-11-30-11118

18. This author wrote "I don't feel good don't bother me" in a poem that claims, "I've given you all and now I'm nothing." He wrote the lines, "It's not a God that bore us that forbid our Being" in another poem, and claimed "we're not our skin of grime" in a poem that begins, "I walked on the banks of the tincan banana dock." He also wrote a poem that contains the lines, "No flower like that flower, which knew itself in the garden, and fought the knife". This author of "Wichita Vortex Sutra" and "Sunflower Sutra" wrote the lines, "Strange now to think of you, gone without corsets and eyes" in his "Kaddish." For 10 points, name this poet who wrote, "I saw the best minds of my generation destroyed by madness" in his poem "Howl."

ANSWER: Allen **Ginsberg**

095-11-30-11119

19. This artist included scenes like *The Death of Ananias* and *The Miraculous Draught of Fishes* in a series of cartoons meant to be the designs of tapestries for the Sistine Chapel. He depicted John the Baptist holding a cross to Jesus in his *Alba Madonna*, and painted a nymph riding a shell pulled by dolphins in *Triumph of Galatea*. Giulio Romano completed this artist's final work, a depiction of the transfiguration in which Christ floats against eerie blue light. The Sala di Costantino and the Stanza della Segnatura are among this artist's namesake rooms in the Palace of the Vatican, which include his depictions Zeno of Citium, Plato, and Socrates. For 10 points, name this artist who created *The School of Athens*.

ANSWER: **Raphael**

088-11-30-11120

20. This author wrote about Mendel trying to gather enough money to buy a train ticket for his retarded 39-year old son Isaac before midnight in his story "Idiots First". The protagonist of another novel prevents Ward Minogue from raping Helen Bober in a park only to rape her himself. This author wrote a novel in which Frank Alpine starts to work Morris Bober's grocery store after robbing it, while another book centers on a man falsely accused of the ritualistic murder of a Christian child during Passover. This author's first book centers on the rival of Bump Bailey who shatters his lucky bat called "Wonderboy." For 10 points, this Jewish author of *The Fixer* who wrote about Roy Hobbs in *The Natural*.

ANSWER: Bernard **Malamud**

088-11-30-11121

21. State functions like pressure, volume, and temperature are often normalized to a "reduced" form based on their values at this point, which can be calculated using the Joback and Lydersen methods. Below this point, the Van der Waals equation gives a region where pressure increases as volume increases; that problem is fixed with the Maxwell isotherm. According to the Guldberg rule, a liquid's boiling point is about two thirds its temperature at this point. Above this point, carbon dioxide is often used as a green alternative method to remove caffeine from coffee. This point is also characterized by a nearly vertical line on a phase diagram. For 10 points, name this point seen on a phase diagram at which a liquid and gas cease to be separate phases.

ANSWER: **critical** point [or **critical** temperature]

064-11-30-11122

22. This organization was a party to the treaty of Tongsberg, where it resolved a conflict with Eric the Priest-Hater. It originally encouraged the privateering activities of the Victual Brothers. At the city of Novgorod, this group established a *kontor*, while a similar post was at the Steelyard in London. As this group's power waned, its sphere of influence was limited to its capital, Lubeck. For 10 points, name this Northern European trading league established during the late Middle Ages.

ANSWER: **Hanseatic** League or **Hansa**

081-11-30-11123

23. A Muslim man from Dongbei named Ma Shang arrives in a Beijing hair salon in a recent Chinese adaptation of this play. In the first act, it's revealed that Philly Cullen is attending the wake of Kate Cassidy. Later, the title character wins a mule race. The title of this play derives from the name given to the protagonist by a former lover of Shawn Keogh. The protagonist's line about "a drift of Mayo girls" excited a vitriolic audience reaction at its premiere. At the conclusion of this play, the title character is untied from his noose after his father, whom he twice seemingly killed, is found to be alive. Centering on the stories told by the young Irishman Christy Mahon, for 10 points, what is this J. M. Synge play?

ANSWER: *The **Playboy of the Western World***

094-11-30-11124

1. One possible candidate from this state for the 2012 presidential election is former Democrat Ole Savior. For 10 points each:

[10] Name this state that will also be represented in the Republican primaries by former governor Tim Pawlenty and possibly by Representative Michelle Bachmann.

ANSWER: **Minnesota**

[10] This New York candidate received a lot of attention in 2010 when this man ran for Governor of New York on the Rent Is Too Damn High ticket.

ANSWER: Jimmy **McMillan** [or James **McMillan III**]

[10] This former New Mexico governor, drug legalization advocate, and 2012 hopeful received the nickname "Governor Veto" after he vetoed almost fifty percent of bills passed during his first six months in office.

ANSWER: Gary Earl **Johnson**

023-11-30-11201

2. Members of this party included Alexander Hamilton and John Adams. For 10 points each:

[10] Name this early political party that often feuded with Thomas Jefferson's Democratic-Republicans.

ANSWER: **Federalist** Party

[10] This series of Federalist meetings during the War of 1812, named for a certain New England city, saw discussion of New England states' secession from the union. This event ultimately disgraced the Federalists and led them to disband.

ANSWER: **Hartford Convention**

[10] This Federalist received a substantial share of the votes in the 1812 presidential election, though he lost to Madison. He was also governor of New York and he pushed for the construction of the Erie Canal.

ANSWER: DeWitt **Clinton** [prompt on **Clinton**]

081-11-30-11202

3. He painted a boy with his head on his hand in *Boy in the Red Vest*. For 10 points each:

[10] Name this Post-Impressionist painter of *The Bathers* and various still lifes of fruit.

ANSWER: Paul **Cezanne**

[10] Cezanne painted this Provençal mountain from many angles and lights.

ANSWER: Mont **Sainte-Victoire**

[10] Cezanne painted a bald man with a riding crop observing the title figure in a "modern" update of this painting by another artist.

ANSWER: **Olympia**

015-11-30-11203

4. Devices used in versions of this technique include Paschen-Runge mounting, collimators, and monochromators. For 10 points each:

[10] Name this broad class of analytical techniques, whose molecular subclass makes use of different electronic and vibrational transitions in molecules.

ANSWER: **spectroscopy**

[10] The atomizers used in atomic absorption spectroscopy are mostly electrothermal atomizers or atomizers that use these. Tests using these distinguish metals based on the colors given off. For example, strontium is red.

ANSWER: **flame** [or **fire**]

[10] AAS spectra are subject to this class of effects, including the pressure type from atomic collisions and the Doppler type from random motions between the atoms and the detector.

ANSWER: **broadening**

001-11-30-11204

5. This white region of the sun can be seen during a solar eclipse. For 10 points each:

[10] Identify this region of the sun that is often said to be its "atmosphere." It is hotter than the photosphere, and lies between said photosphere and the chromosphere.

ANSWER: **corona**

[10] This physicist also names some of the spectral lines in the sun's spectrum, though he is better known for naming the far field diffraction limit governed by an aperture's size squared over the distance and wavelength.

ANSWER: Joseph von **Fraunhofer**

[10] These are aggregates of cool gas and plasma held up above the sun by magnetic fields.

ANSWER: solar **filament** [or solar **prominence**]

033-11-30-11205

6. In this novel, Blue, a radical Muslim, is killed by police, possibly after Ka tells them where he is hiding. For 10 points each:

[10] Name this novel, in which Kadife removes her head-scarf while acting in a televised adaptation of Thomas Kyd's *The Spanish Tragedy*.

ANSWER: **Snow** [or **Kar**]

[10] *Snow* was written by this Turkish author, who also wrote *The Black Book* and *My Name Is Red*.

ANSWER: Ferit Orhan **Pamuk**

[10] In 2005, Pamuk was charged for violating this law which bans discussing the genocide of Armenians that occurred in Turkey; the charges were later dropped.

ANSWER: **Article 301**

088-11-30-11206

7. HJ Blumenthal wrote about this thinker's work in his study *Soul and Intellect*. For 10 points each:

[10] Identify this student of Ammonius Saccas whose major work synthesized the thought of Aristotle with his concept of the emanation and irradiation of "Divine Names."

ANSWER: **Plotinus**

[10] Plotinus, along with Porphyry and Iamblichus were members of this philosophical movement that mixed elements of mysticism and pagan thought into the ideas of the author of *The Republic*.

ANSWER: **Neoplatonism**

[10] Pico della Mirandola attempted to syncretize Christianity, Kabbalah, Neoplatonism and Gnosticism in this work, which posits that "man ... can become a rock ... or an angel."

ANSWER: "Oration **on the Dignity of Man**" [or **De hominis dignitate**]

033-11-30-11207

8. A follow-up to this study looking at the “other side” of the title place explored the community activities of African Americans. For 10 points each:

[10] Identify this “Study in Modern American Culture” which looked at residents of a town thinly disguised as the title average American place.

ANSWER: **Middletown** Studies

[10] The Middletown study was conducted by a husband and wife team of sociologists with this surname.

ANSWER: **Lynd**

[10] The Middletown studies were based on the real town of Muncie, found in this state.

ANSWER: **Indiana**

094-11-30-11208

9. This country had its capital at Bonn and had an “economic miracle” after World War II. For 10 points each:

[10] Name this country which unified with its neighbor shortly after the collapse of the Berlin Wall.

ANSWER: **West Germany**

[10] This Chancellor of West Germany won a Nobel Prize for his policy of reconciliation called Ostpolitik, but was forced to resign in 1974.

ANSWER: Willy **Brandt**

[10] Brandt resigned when it was discovered that this aide of his was a spy for the Stasi, the East German secret police.

ANSWER: Gunter **Guillaume**

015-11-30-11209

10. The kinematic type of this property is equal to the dynamic type over the density. For 10 points each:

[10] Name this measure of a fluid's resistance to flow.

ANSWER: **viscosity**

[10] This adjective describes fluids for which the viscosity is constant with respect to time and shear rate.

ANSWER: **Newtonian** fluids

[10] In this type of non-Newtonian fluid, the viscosity decreases over time as a constant shear rate is applied.

ANSWER: **thixotropic** fluids [or **thixotropy**]

003-11-30-11210

11. Its center contains an Andrea Orcagna tabernacle. For 10 points each:

[10] Identify this structure in Florence that used to be a granary. The works of Nanni di Banco can be found here because every major Florentine guild was commissioned to place an artwork here.

ANSWER: **Orsanmichele**

[10] This man sculpted a statue of St. Thomas for the Orsanmichele, though he is better known for his equestrian statue of Bartolomeo Colleoni. He was the teacher of Leonardo da Vinci.

ANSWER: Andrea del **Verocchio**

[10] Another sculpture in the Orsanmichele was done by this Italian artist who won the contest to design the Florentine *Gates of Paradise*.

ANSWER: Lorenzo **Ghiberti**

033-11-30-11211

12. The beginning of this text describes God as "Maker of all things visible and invisible." For 10 points each:

[10] Name this profession of faith, named for the 325 CE ecumenical council at which it was originally adopted.

ANSWER: **Nicene** Creed

[10] This Latin word, meaning "and from the Son," was added to the Nicene Creed at the First Council of Toledo, and its inclusion is a continuing source of controversy.

ANSWER: **filioque**

[10] The filioque cause was a contributing factor in the East-West Schism, as was the authority of this see, which was nicknamed New Rome.

ANSWER: **Constantinople**

024-11-30-11212

13. One of these works claims that "Man, who is the noblest part of the Earth, melts so away, as if he were a statue." For 10 points each:

[10] Identify this twenty-three part work divided into meditations such as the 17th, which proclaims that "no man is an island" and warns you to "never send to know for whom the bell tolls; it tolls for thee."

ANSWER: **Devotions upon Emergent Occasions**

[10] *Devotions upon Emergent Occasions* was written by this author of a defense of suicide, *Biathanatos*, and the conceit-laden "A Valediction: Forbidding Mourning."

ANSWER: John **Donne**

[10] Donne's poem that asks "If poisonous minerals, and if that tree... cannot be damn'd, alas, why should I be?" is part of this collection, whose tenth entry opens "Death, be not proud."

ANSWER: **Holy Sonnets**

020-11-30-11213

14. This hero had to capture Proteus to find out how to return home. For 10 points each:

[10] Name this king of Sparta and husband of Helen, the brother of Agamemnon in the *Iliad*.

ANSWER: **Menelaus**

[10] Menelaus and Agamemnon were the sons of this king, who took his throne back from Thyestes when Zeus made the sun run backwards.

ANSWER: **Atreus**

[10] In one version of the story, Menelaus finds that Helen never actually went to Troy, but spent the entire time of the war in this land. Menelaus is stranded in this land when he goes to the island of Pharos to find Proteus.

ANSWER: **Egypt** [or **Aigyptos**]

080-11-30-11214

15. The captured slave Tecmessa begs the title character not to abandon her. For 10 points each:

[10] Name this play whose title warrior commits suicide after Athena places a spell on him that compels him to slaughter all the Greek livestock.

ANSWER: **Ajax**

[10] *Ajax* is a play by this ancient Greek dramatist who wrote about a man who is abandoned on Lemnos in *Philoctetes*, but is best known for a trilogy of plays about Oedipus.

ANSWER: **Sophocles**

[10] In Sophocles' *Antigone*, Creon orders that this nephew of his go unburied under penalty of death.

ANSWER: **Polynices**

088-11-30-11215

16. Senator Simpson and Edward Strobik work to get him imprisoned as the scapegoat for a political embezzlement scheme. For 10 points each:

[10] Name this character who becomes a millionaire as the leader of the Chicago transportation system and leaves his wife Aileen Butler for the younger Berenice Fleming. He is the protagonist of the *Trilogy of Desire*.

ANSWER: Frank **Cowperwood** [or **Frank** Cowperwood]

[10] Name this author, who wrote about Frank Cowperwood in *The Financier* and *The Titan*, and who also described Clyde Griffiths in *An American Tragedy*.

ANSWER: Theodore **Dreiser**

[10] In *Sister Carrie*, the title character marries this man when he embezzles thousands of dollars from the bar Fitzgerald and Moy's. He ultimately commits suicide after he becomes homeless when Carrie abandons him.

ANSWER: **George** Hurstwood [or **Hurstwood**]

015-11-30-11216

17. One king of this line was so insane that he spend the Second Battle of St. Albans laughing wildly under a tree. For 10 points each:

[10] Name this dynasty of Henry VI, which fought the Yorkists in the Wars of the Roses.

ANSWER: **Lancaster** [or **Lancastrians**]

[10] The House of Lancaster was founded by this third son of Edward III and Philippa of Hainault. He held a lot of power during the reign of Richard II and got his nickname from being born in Ghent.

ANSWER: **John of Gaunt** [prompt on partial answer]

[10] John of Gaunt married Constance, the daughter of a monarch of this name known as "the Cruel." A 14th century war between Aragon and Castile was named for the fact that all its combatants bore this name.

ANSWER: **Pedro** [or **Peter**]

015-11-30-11217

18. Name some things from the history of Pakistan, for 10 points each.

[10] This leader of the Muslim League became the first head of Pakistan after partition.

ANSWER: Muhammad Ali **Jinnah**

[10] This president came to power through a 1999 coup against Nawaz Sharif and led Pakistan until 2008.

ANSWER: Pervez **Musharraf**

[10] Musharraf may have been to blame for the Pakistani infiltration of Kashmir that served as the cause of this 1999 conflict, known to some as Operation Vijay.

ANSWER: **Kargil** War

015-11-30-11218

19. This composer's E-flat 39th symphony, his "Great G minor symphony," and his last symphony are sometimes performed as a trilogy. For 10 points each:

[10] Name this Austrian whose chamber music includes *Eine kleine Nachtmusik* and whose operas include *The Magic Flute*.

ANSWER: Wolfgang Amadeus **Mozart**

[10] This forty-first and last symphony of Mozart includes an influential five voice fugato in its Molto allegro fourth movement. Its nickname was coined by Johann Peter Saloman.

ANSWER: **Jupiter** symphony

[10] Mozart replaced the original 6/8 Andantino second movement of this symphony with a more standard 3/4 andante. It was written while he was looking for a job in a European capital.

ANSWER: Symphony No. **31** [or **Paris Symphony**]

015-11-30-11219

20. A common mutation of this protein replaces the serine at position 65 with a threonine. For 10 points each:

[10] Name this protein isolated from jellyfish in the 1960's, which as its name suggests emits light at about 509 nm.

ANSWER: **green fluorescent protein** [or **GFP**]

[10] The fluorophore of wild type GFP consists of a serine, tyrosine, and this lightest amino acid that consists only of a hydrogen side chain.

ANSWER: **glycine** [or **Gly**]

[10] The luminescent properties of a firefly are derived from this class of enzyme which catalyzes an oxidation reaction that produces light. Renilla also produces it.

ANSWER: **luciferase**

064-11-30-11220

21. Examples of these formations in the U.S. include Enchanted Rock and Stone Mountain. For 10 points each:

[10] Name these formations of igneous intrusive rock that are a type of pluton.

ANSWER: **batholiths**

[10] Within plutons can be found much of this type of igneous rock, the most common in the continental crust, whose extrusive equivalent is rhyolite.

ANSWER: **granite**

[10] The percent of the rock that is alkali feldspar and this mineral serve to define granite.

ANSWER: **quartz** [or **silica**; or **SiO₂**]

081-11-30-11221