



1. This novel's narrator notes that it could only be written "when my harvests are in" and plans to "serve the entire human race" for so long as it "is not reduced to a single head destined for the axe." This novel's title character aspires to "seduce everyone and everything, even history herself," much like his idol Alcibiades, and laments the "mistreatment" of the twelve Caesars by Suetonius. This novel was largely responsible for its author becoming the first woman to join the Academie Francaise. This epistolary novel is addressed to "Mark," and addresses such topics as the title character's love for Antinous, marriage to Sabina, and construction of a defensive wall. For 10 points, identify this novel, purporting to be a letter on statecraft written to Marcus Aurelius by a prior Roman emperor, the most widely read book by Marguerite Yourcenar.

ANSWER: *Memoirs of Hadrian* [or *Mémoires d'Hadrien*]

019-13-64-08101

2. In one speech with this name, a man claims that he would have waited and kept quiet so long as the question was a new one. In that speech with this name, the speaker cautions against believing that one man's power is god-like, since he is in fact hated by those who are devoted to him. According to that speech, one city would be unable to capture even Amphipolis. Another set of speeches with this name discusses a letter sent to Aulus Hirtius along with many references to the siege at Mutina. A set of speeches with this name failed after the Second Triumvirate was formed, which led to their deliverer being executed and placed on display in the Forum. A set of four speeches with this name were delivered against the father of Alexander the Great by Demosthenes. For 10 points, Cicero's speeches against Marc Anthony were given what name?

ANSWER: Philippics [or Philippicae]

149-13-64-08102

3. The state-independent form of this equation can be solved with the assistance of a Hopf-Lax type formula. This equation was extended as a continuous analog of the discrete deterministic dynamic programming equation by Richard Bellman. If a complex wavefunction is written as A times e to the quantity $i S$ over \hbar , substituted into the Schrodinger equation, and \hbar is sent to zero, one finds this equation. This is the equation a generating function has to satisfy in order for it to be a canonical transformation. Two of the characteristic equations associated with it arise in the calculus of variations. It automatically yields all the constants of motion. For 10 points, identify this first-order nonlinear partial differential equation named for an English and German physicist, the former of whom also names a formulation of classical mechanics.

ANSWER: Hamilton-Jacobi equation [or HJE; prompt on eikonal equation]

066-13-64-08103

4. This composer provided the complete mass Propers for the major feasts of the Roman liturgy in his 109-piece *Gradualia*. This composer created a set of eight variations on the tune *The Carman's Whistle*. An elegy on the death of this composer's mentor concludes with the line "[the mentor] is dead, and Music dies", which is entitled *Ye Sacred Muses*. Some of this composer's keyboard music is contained in the collection *My Ladye Nevells Booke*. He was perhaps the most notable composer of consort songs. With his mentor, this composer published *Cantiones sacrae* after they were given a monopoly on the printing and marketing of music by Elizabeth I; that mentor was Thomas Tallis. For 10 points, identify this Renaissance English composer of lots of virginal music.

ANSWER: William **Byrd** [or **Britanniae Musicae Parens**]

066-13-64-08104

5. A radical extremist from this country unironically referred to himself as its "Bin Laden", and claimed that "You can be full of kindness and love, but you cannot sleep next to a mad dog", as he called for violence against the Muslim minority in this country. The Kachin Independence Army has resumed hostilities with the government of this country, after the breaking of a 17-year ceasefire. Cyclone Nargis devastated this country in 2008. A legal firestorm was sparked in 2009 by John Yettaw swimming across a lake and staying with a political prisoner in this country for two days. The government of this country is carrying out ethnic cleansing of the Rohingya minority, forcing refugees to flee to Bangladesh to escape the Tatmadaw. For 10 points, name this country where the ruling military junta released pro-democracy advocate Aung San Suu Kyi from house arrest in 2011.

ANSWER: Republic of the Union of **Myanmar** [or **Burma**]

002-13-64-08105

6. One linguistic phenomenon named for this country can counteract the loss of distinction introduced by flapping, thus making "writer" and "rider" distinct words again, and is known as this country's namesake "raising." This country is the namesake of a linguistic phenomenon in which the cot-caught merger triggers the vowels in "black," "pen," and "tin," to move backwards; that "shift" named for this country is essentially the opposite of the Northern Cities Vowel Shift. Unique words in this country's English include terms for what Americans call "jelly donut," "moonshine," and "hoodie," which are "jam buster," "porch climber," and "bunny hug." For 10 points, name this country, the homeland of linguists such as Stephen Pinker, which also uses terms such as "ridings" and "First Nations" and has a form of English which shares official language status with French.

ANSWER: **Canada**

019-13-64-08106

7. This is the most well-known virus to contain the protein Vif, which induces APOBEC3G degradation by the ubiquitination-dependent proteasomal pathway. The LTR of this virus contains the TAR element, which is bound to by tat to cancel its effect. A 32-base pair deletion in a gene encoding a coreceptor of this virus confers partial resistance to it. Important antigens of this virus include p24, p51 and gp41. One model for studying this disease is the SCID mouse-human lymphoid cell chimera. This virus requires the coreceptors CXCR4, in some cases, or CCR5 to infect cells. The most effective treatment for this disease is HAART. The glycoprotein gp120 on the envelope of this lentivirus binds to cells with CD4 on their surface. For 10 points, identify this retrovirus that does, in fact, cause AIDS.

ANSWER: **HIV** [or **human immunodeficiency virus**]

066-13-64-08107

8. A pope with this name was not allowed to leave St. Mary Major until he promised to reject a request to enter into communion with Peter of Constantinople. If not for the battle of Phoenix, that Pope with this name might have been captured by Constans II, much like his predecessor Martin I. Another pope with this name agreed to the earliest Papal Oath in order to gain the support of Lothair I against Zinzinnus. That pope agreed to the *Constitutio Romana*. A different Pope with this name dissolved the Council of Basel and called a crusade that ended at the Battle of Vama. The third Pope of this name was the first Cistercian Pope. Outrage in Constantinople killed another pope with this name's plan to reunify the Catholic and Orthodox churches through the Council of Florence-Ferrara. For 10 points, the fourth pope of what name was the successor to Martin V, thus making him the second post-Great Schism pope?

ANSWER: **Eugene**

149-13-64-08108

9. A person born in this book is named for a word meaning "traveler" by a father who observes "I have been a stranger in a strange land." In one incident in this book, a man "looked this way and that way" before intervening to stop a killing and hiding the dead body of the murderer in the sand. In one part of this book, a curtain is woven from goats' hair for an object that is built by Bezaleel and Aholiab. Earlier, several magicians are defeated in a contest, and a "stiffnecked people" are made to drink a mixture of molten metal. A major character in this book married Tzipporah after fleeing to live with Jethro, years after being followed by Miriam when he was set afloat to defy an order killing all male newborns. For 10 points, name this book of the Bible in which the Ten Commandments are given at Mount Sinai to Moses, following the departure of the Israelites from Egypt.

ANSWER: Book of **Exodus** [or **Names**]

019-13-64-08109

10. This author wrote a satirical story in which Harviss encourages Professor Linyard to produce more bestsellers despite the scientist's aversion to pseudoscience; that story's title references Darwin's tome on sexual selection. Robert Elwell killed himself after being locked out of a promotion in the Blue Star Mine, and his vengeful spirit haunts the house at Lyng in this author's story "Aftermath," part of her *Tales of Men and Ghosts*. In her best-known short story, a woman reveals that she "had Barbara" from a one-night stand with Delphin, the husband of Alida Slade, having read a note instructing the two to meet at the Coliseum. A disastrous party on the yacht *Sabrina* and a looming debt owed to Gus Trenor force the love interest of Lawrence Selden to kill herself in a novel by this author. For 10 points, name this author who drew on themes from her stories "The Descent of Man" and "Roman Fever" to write novels like *The House of Mirth*.

ANSWER: Edith **Wharton** [or Edith Newbold **Jones**]

020-13-64-08110

11. A participant in this insurrection had earlier shot William Paterson in a duel, which incurred the wrath of Joseph Banks, who nominated another participant in this event for governor. In a cartoon depiction of this event, two red clad soldiers watch on as Thomas Laycock drags a man in blue uniform out from under his bed. This event began after Richard Atkins refused to oversee a trial, and its name was coined by William Howitt. Military rule after this insurrection ended after Lachlan Macquarie was appointed governor. Forces in this revolt were led by George Johnston and John Macarthur. For 10 points, name this insurrection that deposed William Bligh as governor of New South Wales named, named for an alcoholic drink.

ANSWER: **Rum Rebellion**

149-13-64-08111

12. Fred Barnard's illustrations for this novel included two captioned with the lines "I say there's fowls tomorrow, not skinny ones, oh no" and "You're a pair of Whittingtons, gents, without the cat". In this novel, the Anglo-Bengalee Disinterested Loan and Life Insurance Company is led by a business associate of Chevy Slyme, who ends up murdered in the woods in a crime exposed by the detective Nadgett. Several lodgers at the Blue Dragon Inn are affected by the death of Montague Tigg in this novel, whose antagonists include a moralizing self-proclaimed architect who has never constructed a building and Jonas, who tries to poison his father. Before the title character marries Mary Graham, a year of this novel's plot is consumed by the disastrous emigration to "Eden," a worthless plot of land in the U.S. For 10 points, name this novel in which Seth Pecksniff is exposed, written by Charles Dickens.

ANSWER: Martin Chuzzlewit

019-13-64-08112

13. Although not THEMIS, a group of four satellites known by this name was designed to complement SOHO and is investigating the magnetosphere and its interaction with the solar wind in three dimensions. All of the entries in Abell's catalogues are one type of these things. Stars that remain on the main sequence after the turnoff point, or blue stragglers, are commonly found in two types of these things. Fritz Zwicky's discovery of dark matter was due to his observations of the Coma one of these things. Another type of these things is where Population II stars, which have low metallicity, are commonly found, as well as RR Lyrae variables. For 10 points, identify these gravitationally bound collections of objects, such as stars or galaxies, that include the Pleiades and Hyades.

ANSWER: clusters

066-13-64-08113

14. In one scene from this actor's only directorial effort, which was an important precursor to the spaghetti western genre, he tells Bob Emory to "Get up, you scum-sucking pig" before flipping over a table. In a scene from a different film, this actor responds "What've you got?" to the query "What are you rebelling against?"; in that film, he wears a leather jacket embroidered with the name Johnny. That directorial effort was *One-Eyed Jacks*. In another film, in which he introduced Stanislavsky's method to Hollywood, this actor, soaking wet and wearing a torn T-shirt, repeatedly screams "Hey Stella!" at his upstairs neighbor's apartment. In yet another film, this actor berates his on-screen brother Charley, remarking "You don't understand! I coulda had class. I coulda been a contender." For 10 points, identify this actor who starred in *The Wild One*, *On the Waterfront*, and *A Streetcar Named Desire* and played Vito Corleone in *The Godfather*.

ANSWER: Marlon Brando

066-13-64-08114

15. A late book by this philosopher extended his ideas to international relations and called for a federative world government; that was his *Principle of Federation*. A book by this philosopher seeks to negate all "immutable and permanent" things in praise of "the affirmation of universal movement." This author of *The Philosophy of Progress* explained his ideal state in *General View of the Revolution in the Nineteenth Century*. An earlier book by this man made a distinction between "jus in re" rights to products and "jus ad rem" rights to means of production in calling for limiting ownership to the amount of land and tools actually used in craftsmanship. That book was praised as "the first decisive examination" of the title institution by Marx and led Bakunin to dub this man "the father of us all." For 10 points, name this French anarchist who claimed that "theft" answered the title question of his *What is Property?*

ANSWER: Pierre Joseph Proudhon

019-13-64-08115

16. The blind seer Theresa led one monarch of this nation down the “Road to Rule,” and that leader was the child of the legendary “Hero King.” The desert city of Aurora became a part of this region after it was devastated by the Crawler. One monarch of this region was deposed after the public execution of Major Swift for treason. The village of Mourningwood in this region was filled with sewage as part of a public works project carried out by Reaver Industries. That sewer system carried waste from the factories in Bowerstone. For 10 points, name this kingdom that serves as the setting for the Fable series of games.

ANSWER: **Albion**

002-13-64-08116

17. A man in blue robes holding a blue bound book is the only work which can be definitively proven as being painted by this artist's hand. That depiction of St John in Pisa is part of a larger work completed twenty years after this man's death. A flood-damaged work by this man featured a lifelike Christ hanging on the namesake *Crucifix*. This man's role in the rise of Renaissance art is mostly extrapolated from a verse in Dante's *Purgatorio*. A gold-tinted work by this painter features Abraham, David, Jeremiah and Isaiah under a series of arches as the Madonna points at the infant Jesus. For 10 points, name this teacher of Giotto whose *Santa Trinita Maesta* can be found in the Uffizi Gallery.

ANSWER: **Cimabue** [or **Bencivieni** di Pepo]

002-13-64-08117

18. This character sinks into utter despair after dropping his friend's prized glass bowl, but it remains intact. This regular of *The Egg and We* is mocked in a three hour impersonation held by Glenn Cockerell and attended by the narrator of the novel, who happens to be a romantic rival of this character. In his first appearance, this character's possession of an outdated timetable greatly complicates his journey to Cremona. This character, who first appeared in several serialized *New Yorker* stories, had a youthful romance with the Holocaust victim Mira Belochkin before meeting his wife, who cheated on him with the doctor Eric Wind. This character befriends his ex-wife's son Victor in the waning days of his tenure at Waindell College. For 10 points, name this lovable, clumsy Russian professor, the title character of a Nabokov novel.

ANSWER: Timofey **Pnin** [or **Timofey** Pnin]

020-13-64-08118

19. In the Nicolaou total synthesis, one of these compounds is used to hold the diene and dienophile in such a way that the normal regiocontrol of the Diels-Alder reaction is inverted. When in an aqueous solution with diols, these compounds reversibly form namesake esters. In a Mannich-like reaction usually named for Petasis, these compounds are added to an iminium ion. These compounds are the basis for a proteasome inhibitor used to treat multiple myeloma called bortezomib, or Velcade. These compounds cross-couple with carbon halides in a reaction mediated by a palladium catalyst; that reaction was discovered by Suzuki and Miyaura. For 10 points, identify these compounds that contain two hydroxyl groups and an alkyl substituent bonded to a central boron atom.

ANSWER: organo**boronic acids** [prompt on **organoboranes**; prompt on **Lewis acids**; do not accept "boric acid"]

066-13-64-08119

20. This president's Chief of Staff resigned after Jack Anderson revealed that he had accepted a vicuna coat from Bernard Goldfine. That man was featured in the Time Magazine article "O.K., S.A." and was Sherwood Adams. In one speech, this president claimed that the cost of "one modern heavy bomber" equaled that of over thirty "brick schools," while a "single fighter" cost as much as "a half million bushels of wheat." The NSC 162/2 document outlined this president's New Look security policy. Both Operation PBSUCCESS, which kicked Jacobo Arbenz out of office, and Operation Ajax were overseen by this president's administration. This president's namesake doctrine promised American aid to any country that was being threatened militarily by another state. The Autobahn supposedly inspired this president to push for the creation of the Interstate Highway System. For 10 points, name this World War II general who also served as President.

ANSWER: Dwight D. **Eisenhower** [or **Ike**]

149-13-64-08120

21. This figure once defused an argument by stepping in for his home's usual cupbearer. This figure was brought in to fix a cursed chair by Dionysus, who intoxicated him and placed him on a donkey. This figure and his wife Aglaia are said to have golden automatons as servants. At Troy, this god rescued Achilles from the river Scamander. Eurynome and Thetis raised this father of Erichthonius after rescuing him at his major cult site, Lemnos. Because of his enmity toward Ares, this god cursed the necklace of Harmonia and created a fine but unbreakable net to shame Aphrodite. More charitable feelings led this god to create the armor of Achilles. This god is sometimes considered to be the offspring of only Hera, and his fall from Olympus was either caused by or caused his lameness. For 10 points, name this god of fire and blacksmiths.

ANSWER: **Hephaestus** [or **Vulcan**]

105-13-64-08121



1. Name these Swedish writers, for 10 points each.

[10] This author created a defrocked priest, who is supported by Margareta Samzelius, in *Gösta Berlings Saga* and also wrote *The Outcast*, *The General's Ring*, and *The Wonderful Adventures of Nils*.

ANSWER: Selma Ottiliana Lovisa **Lagerlöf**

[10] Johannes Carlsson schemes against the Widow Flod in this man's novel *The People of Hemso*; he also wrote *The Ghost Sonata* and *Miss Julie*.

ANSWER: August **Strindberg**

[10] This author of a two-volume *History of the Swedish People* is most known for his four-volume series on Swedes leaving for America, comprised of *The Emigrants*, *Unto a Good Land*, *The Settlers*, and *The Last Letter Home*.

ANSWER: Vilhelm **Moberg**

019-13-64-08201

2. Maximilian I adopted this man's grandson. For 10 points each:

[10] Name this Emperor of Mexico who led the Army of the Three Guarantees.

ANSWER: Agustin de **Iturbide** [or **Agustin I**]

[10] Iturbide issued this plan, which promised Mexican independence from Madrid. It also promised that Roman Catholicism would be the official religion of Mexico.

ANSWER: Plan of **Iguala**

[10] Iturbide negotiated this treaty with Juan O'Donoju, the last Spanish viceroy of Mexico. This treaty granted Mexico its independence.

ANSWER: Treaty of **Cordoba** [or Treaty of **Cordova**]

149-13-64-08202

3. For non-relativistic charged particles, this process mainly occurs by them ionizing the molecules they encounter, and the leveling off of it with respect to particle energy is the Fermi plateau. For 10 points each:

[10] Identify this process whose function as a unit of distance can be computed with the Bethe formula.

ANSWER: kinetic **energy loss** per unit distance [or **stopping power**; prompt on **attenuation**; prompt on **deceleration**]

[10] This physicist modified the Bethe formula to include a z^4 correction. This physicist and Edward Purcell won a Nobel for their advancements in NMR.

ANSWER: Felix **Bloch**

[10] The negative of energy loss per unit distance is directly proportional to the square of this quantity over relative velocity. Its square divides relative velocity in the Lorentz factor.

ANSWER: **speed of light** [or **c**; do not accept approximate numerical values]

066-13-64-08203

4. All of Witold Lutoslawski's early compositions perished in the Warsaw Rising except for his transcription of this work for two pianos, intended to be played by himself and Andrzej Panufnik and usually misnamed the Paganini Variations. For 10 points each:

[10] Identify this composition at the center of a countably infinite number of other works, such as Brahms's *Variation on a Theme of Paganini* and Rachmaninoff's *Rhapsody on a Theme of Paganini*.

ANSWER: **Caprice no. 24** in A minor [or **Caprice** no. 24 in **A minor**; or obvious equivalents]

[10] Niccolò Paganini was a notable virtuoso of this instrument, which has four strings typically tuned in perfect fifths.

ANSWER: **violin**

[10] This later 19th century traveling violin virtuoso was often compared to Paganini. He left behind such compositions as the *Etudes-caprices*, *Légende*, and the *Violin Concerto no. 2 in D minor*, which was dedicated to Sarasate.

ANSWER: Henryk **Wieniawski**

066-13-64-08204

5. The Wagenya people have developed a supremely interesting fishing method, involving tripods and large-weave baskets, for fishing in the Boyoma Falls, which separate this river from its headstream, the Lualaba River. For 10 points each:

[10] Identify this river that sports cities like Brazzaville on its shores.

ANSWER: **Congo** River [or **Zaire** River]

[10] This capital city lies directly across the Congo from Brazzaville.

ANSWER: **Kinshasa**

[10] Brazzaville and Kinshasa actually lie on this lacustrine widening of the Congo that contains the island of Bamu.

ANSWER: **Malebo** Pool [or **Stanley** Pool; or Lake **Nkunda**]

066-13-64-08205

6. James Duesenberry introduced a more realistic counterpart to this theory, which was revised under the "drift theory" of Arthur Smithies and James Tobin. For 10 points each:

[10] Identify this hypothesis of Keynes, which states that, as disposable income rises, the savings rate will also rise.

ANSWER: the **absolute income** hypothesis

[10] This economist said instead that people will choose to save at a rate based on their expected total lifetime income in the permanent income hypothesis, which he introduced in his *A Theory of the Consumption Function*.

ANSWER: Milton **Friedman**

[10] Many theories of consumption are designed to resolve this paradox, which notes that in the long run, the marginal propensity to save is constant across the economy, but individual households roughly obey the absolute income hypothesis.

ANSWER: **Kuznets** paradox

019-13-64-08206

7. Arcesilaus made this the doctrine of the Academy, and it was advocated in the "ten tropes" of Anesidemus. For 10 points each:

[10] Identify this ancient philosophy of doubt, which was also advocated by Pyrrho of Elis.

ANSWER: **skepticism**

[10] This concept in skepticism is the state of having two arguments for opposite sides of a question which are equally persuasive.

ANSWER: **isothenia**

[10] Arcesilaus coined this term for the "suspension of judgment" at the heart of skepticism.

ANSWER: **epoche**

019-13-64-08207

8. The wacky family of this novel's protagonist includes a child prodigy whose name is always presented in an affected German style, "the Bernhard." For 10 points each:

[10] Name this novel in which Friedrich falls in love with a slow-witted twelve year old named Sophie von Kühn.

ANSWER: *The* **Blue Flower**

[10] This author of *Innocence*, *The Bookshop*, and *Offshore* wrote *The Blue Flower*.

ANSWER: Penelope **Fitzgerald**

[10] This man arrives in the "July 7" entry of *The Blue Flower*, ostentatiously cuts a cake, and sends a glass of wine to a servant. This author of *Essays on the Metamorphosis of Plants* told of the robbery of the Nut-Brown Maid in *Wilhelm Meister's Travels*.

ANSWER: Johann Wolfgang von **Goethe**

019-13-64-08208

9. This operon was central to a study of how bacteria regulate expression of their genes by Francois Jacob and Jacques Monod. For 10 points each:

[10] Identify this three-locus operon involved in the uptake and breakdown of lactose.

ANSWER: **lac** operon

[10] Binding of RNA polymerase to the *lac* operon is stimulated when it is bound to by a complex of Catabolite Activator Protein and this molecule. In *Dictyostelium*, this molecule acts as a chemoattractant that signals starving cells to come together and begin the developmental phase of the life cycle.

ANSWER: **cAMP** [or **cyclic AMP**; or **cyclic adenosine monophosphate**]

[10] Gilbert and Muller-Hill radiolabeled this compound to isolate the *lac* repressor. This compound mimics lactose and thus stimulates transcription of the *lac* operon, but it is not hydrolyzed by beta-galactosidase.

ANSWER: **IPTG** [or **isopropyl beta-D-1-thiogalactopyranoside**; or **isopropylthio-beta-galactoside**]

066-13-64-08209

10. This woman helped found the IWW. For 10 points each:

[10] Name this prominent labor organizer. Reese Blizzard claimed that she was “the most dangerous woman in America.”

ANSWER: Mother **Jones** [or Mary Harris **Jones**]

[10] Mother Jones was arrested for helping Louis Tikas organize the Colorado miners’ strike that led to this massacre. Following this massacre, Mother Jones met with the mine owner, John D. Rockefeller Jr., to discuss mining reform.

ANSWER: **Ludlow** massacre

[10] After the Ludlow Massacre, Rockefeller Jr. asked this future Canadian Prime Minister to devise ways to improve mining conditions. Governor General Byng once refused this man’s request to dissolve parliament.

ANSWER: William Lyon Mackenzie **King**

149-13-64-08210

11. This author is usually credited with a 352-line alliterative poem about the late-seventh-century bishop of London, *St. Erkenwald*. For 10 points each:

[10] Name this author of poems in the Cotton Nero A x manuscript, such as one in which a man is told that his daughter is part of a procession of virgins in heaven, and *Sir Gawain and the Green Knight*.

ANSWER: the **Pearl Poet**

[10] This poem from the manuscript mocks Jonah for not possessing the title quality, leading to his being swallowed by a whale.

ANSWER: **Patience**

[10] *Sir Gawain* often uses this Middle English poetic device, in which a very short alliterative line marks the transition to a rhyming verse.

ANSWER: **bob and wheel**

019-13-64-08211

12. This man helped maintain control of London during the Great Fire. For 10 points each:

[10] Name this man who was placed in charge of Scotland after the Battle of Dunbar. He also helped draft the Declaration of Breda with John Grenville.

ANSWER: George **Monck**, **1st Duke of Albermarle** [accept either]

[10] This king promised to forgive transgressions during the English Civil War with his Declaration of Breda. This Stuart monarch was the target of the fictional Popish plot.

ANSWER: **Charles II**

[10] George Monck fought in two wars between Great Britain and this other country. This country sailed up the Thames River during the Raid on the Medway.

ANSWER: **Dutch Republic** [or Republic of the Seven United **Netherlands**; or Republic of the **Seven United Provinces**]

149-13-64-08212

13. These things provide the most accurate measurement of the magnitude of an earthquake and specific examples include "breathing" and "football" . For 10 points each:

[10] Identify these things that occur in spheroidal and toroidal types and that are described by an angular order and overtone number.

ANSWER: **normal** modes of free oscillation [or **free oscillations**; prompt on **harmonics**; prompt on fundamental **modes**]

[10] The toroidal normal modes are equivalent to the standing wave resulting from interference among all of these fastest surface waves. The particle motion for these non-Rayleigh eponymous surface waves is transverse to the direction of propagation.

ANSWER: **Love** waves [or **Q** waves]

[10] Surface waves have this property, which means that waves of different frequencies travel at different phase speeds. Kelvin waves notably lack this property.

ANSWER: **dispersive** [or word forms]

066-13-64-08213

14. Jezibaba allows the title figure of this opera to become a beautiful woman, but only on the condition that she lose her voice and she and the prince be damned forever if he leaves her. For 10 points each:

[10] Name this opera in which the title water sprite becomes a death monster after her prince falls in love with another princess.

ANSWER: **Rusalka**

[10] The score for *Rusalka* was written by this composer that used his time in Iowa to compose his ninth symphony, "From the New World".

ANSWER: Antonin **Dvorak**

[10] In this song from Act I of *Rusalka*, Rusalka begs the title object to carry the message of her love to the human prince for which she has fallen.

ANSWER: "**Song to the Moon**" [or "**Lieblicher Mond**"; or "**Mesíčku na nebi hlubokém**"]

002-13-64-08214

15. Put yourself in the shoes of the generic Russian folktale protagonist Ivan Tsarevich, for 10 points each.

[10] In different stories, you go to this witch's hut on chicken legs to obtain apples of youth and a horse that's way better than Koschey the Deathless's steed.

ANSWER: **Baba Yaga**

[10] You abscond with Yelena the Beautiful because this creature, your best friend, transforms into a clone of her to give to Tsar Kusman. Even though you disregard this creature's advice when you go to fetch the Firebird and the horse with the golden mane, he still revives your sorry ass after you get killed by your jealous brothers.

ANSWER: grey **wolf** [or seryj **volk**; or *Canis* **lupis** if you really want to do that]

[10] In another story, the storm person of this type beats your wife with a bronze, an iron, and a lead rod until they all break, then wishes you both a happy marriage. Less-assholish examples of these knights include Alyosha Popovich and Ilya Muromets.

ANSWER: **bogatyr**s

020-13-64-08215

16. Assassin Al Simmons was murdered on a mission in Botswana, leading to his becoming this figure. For 10 points each:

[10] Name this Todd MacFarlane creation that gained his powers through an agreement with the ruler of the 8th circle of hell, Malebolgia.

ANSWER: **Spawn**

[10] This character from *Spawn* recently debuted in the Marvel Universe for reasons yet unknown. Spawn testified during her trial that she had had permission to kill him, and they started dating until she died fighting Malebolgia.

ANSWER: **Angela**

[10] Angela was able to be brought over to Marvel because this writer won her rights in one of his many court battles. In addition to the novels *American Gods* and *Good Omens*, this writer penned a series about Dream and the other Endless.

ANSWER: Neil **Gaiman**

002-13-64-08216

17. This person served as Foreign Minister of Germany for Gerhard Schroder. For 10 points each:

[10] Name this German who once called Richard Stucklen an “asshole” while in the Bundestag.

ANSWER: Joschka **Fischer**

[10] Fischer was a member of this environmentally conscious political party. It holds approximately ten percent of the seats in the Bundestag and is led by Claudia Roth and Cem Ozdemir.

ANSWER: Alliance '90s/The **Greens** [or German **Green** Party; or Bundis 90/Die **Gruenen**]

[10] Fischer worked closely with Daniel Cohn-Bendit, who moved to Germany after participating in these riots. These riots began when students from the Sorbonne protested the closure of the University of Paris at Nanterre.

ANSWER: **May, 1968** riots [accept anything involving riots or protests in May 1968 in France]

149-13-64-08217

18. Pericyclic reactions and the Diels-Alder reaction are examples of this type of reaction. For 10 points each:

[10] Identify this type of reaction that occurs without any intermediates; it is contrasted with stepwise.

ANSWER: **concerted** reaction

[10] Both the nucleophilic substitution and elimination denoted by this term are concerted reactions. Those two reactions described by this term are subscripted "two".

ANSWER: **bimolecular**

[10] Concerted reactions have this many peaks on their potential energy diagram.

ANSWER: **one**

066-13-64-08218

19. In this painting the title figure grabs a sword by the blade as a man in chains grabs at his chest wondering why he is still alive. For 10 points each:

[10] Name this painting in which the title saint intercedes to save three men from their execution.

ANSWER: **Saint Nicholas of Myra in Lycia** [or **Saint Nicholas Saves Three Innocents From Death**]

[10] This artist's realist paintings earned him a cult following in the Soviet Union. He depicted men wearing straps as they walk along the title river in another painting.

ANSWER: Ilya **Repin**

[10] Ilya Repin painted a depiction of this man wide-eyed as he cradles the body of his son and tries to cover a wound on that son's head. A large bloody staff can be seen on the floor in front of this man.

ANSWER: **Ivan IV** [or **Ivan the Terrible** or **Ivan Grozny**]

002-13-64-08219

20. This character, an incredibly difficult role for an actor, who must remain on stage continuously for about three and a half hours, twice strikes a cruciform pose as he attempts to fix a light fixture. For 10 points each:

[10] Name this character, a lawyer who sits alone on a chair as if on trial, as people from his past arrive and leave from a three-story stone tower.

ANSWER: **Quentin**

[10] Quentin verbalizes his guilt over two failed marriages in this play, which largely alienated an American audience too distraught over the "probable suicide" of Marilyn Monroe.

ANSWER: **After the Fall**

[10] This author of *After the Fall* achieved more critical success with *The Crucible* and *Death of a Salesman*.

ANSWER: Arthur Asher **Miller**

020-13-64-08220

21. The main thrust of this program was to have monasteries directly responsible to the Pope instead of local rulers, so as to avoid simony and lay investiture. For 10 points each:

[10] Identify this movement begun by Saint Odo and Duke William at the namesake abbey in Aquitaine.

ANSWER: **Cluniac reforms**

[10] The Cluniac reforms were targeted at monasteries of this order, which had departed from the namesake "rule" laid down by their founder from Nursia.

ANSWER: **Benedictines**

[10] The Cluny monasteries pacified secular interests by offering this service on behalf of departed souls in Purgatory. The "sleepless ones" pioneered this practice in Western Christianity.

ANSWER: **perpetual prayer** [prompt on partial answer]

019-13-64-08221