

1. This man was offered the post of Chancellor of the Exchequer by Spencer Perceval, but he rejected it on the grounds that he was too young. Queen Victoria forced this man to resign from one post because of his support of Louis Napoleon. As Foreign Secretary, this man argued that the British Empire was obligated to protect overseas subjects in a five-hour locution before Parliament. He ordered the blockade of (*) Piraeus in response to the raiding of a British subject's home. This man delivered the "Civis Romanus sum" speech in response to the Don Pacifico Affair and dealt with the Union's blockade of Confederate ports in his highest post. For 10 points, name this last British Prime Minister to die during his term, who served during the American Civil War.

ANSWER: Lord Palmerston [or Henry John Temple, 3rd Viscount Palmerston]

<Kothari>

2. One recurring story in this tradition concerns a woman who gets stuck in mud after leaving the heavenly realm for the world of matter and births a lion-faced figure of imperfection. One set of people in this tradition, known as the serpent people, are unique for presenting an androgynous concept of Man. Irenaeus dedicated his life to combating this tradition. A library of texts from this tradition was unearthed in (*) 1945 at Nag Hammadi. Sophia is the consort of Jesus in this tradition, which produced the Gospel of Thomas and held that the Demiurge created the universe. For 10 points, name this set of various mystical heresies, denoted by the Greek word for knowledge.

ANSWER: gnosticism

<Gupta>

3. A poet in this novel hides in a basement for three years after the murder of "The Hummingbird" and marries the protagonist's future mother. This novel's protagonist becomes known as "The Buddha" after losing his memory due to an unfortunate encounter with a silver spittoon. Its protagonist's sister, who becomes a popular singer performing behind a sheet, is nicknamed "The (*) Brass Monkey." This winner of the "Booker of Bookers" opens with the story of Aadam Aziz and proceeds to tell the story of a boy switched at birth with the violent "Shiva of the Knees". Its protagonist's telepathic powers are due to being born at the exact moment India gained independence. For 10 points, name this novel about Saleem Sinai, a work of Salman Rushdie.

ANSWER: Midnight's Children

<Bollinger>

4. The collection of these transformations forms the symmetric group. The parity of one of these is given by the nonzero values of the Levi-Civita symbol. They are classified as odd or even depending on the number of transpositions they can be decomposed into. This is the name given to a bijection of a set onto itself, and those that reverse the order of a pair are known as inversions. A special type of these that leaves no object in its (*) original place is called a derangement. For n objects, the number of these is equal to n factorial, and unlike combinations they take the order of elements into account. Shuffling generates a random one. For 10 points, identify these arrangements of a set of objects in a particular order.

ANSWER: permutation [prompt on "bijection" or "isomorphism"]

<Mukherjee>

5. Edvard Grieg composed one of these pieces in homage to his friend Rikard Nordraak. The third movement of Beethoven's twelfth piano sonata unusually includes one of these pieces. Mahler began his fifth symphony with one of these pieces, and composed one based on the song "Frere Jacques" for the third movement of his first symphony. Charles Gounod composed a comic one about a (*) marionette. The most performed one by Chopin forms the third movement of his second piano sonata, while Beethoven broke with the classical tradition and composed one of these pieces as the second movement of the *Eroica* symphony. For 10 points, name these somber pieces of music composed to commemorate someone's death.

ANSWER: funeral march [or marche funèbre; or trauermarsch; prompt on "march"]

<Magin>

6. One technique often performed in this state uses a Buchner funnel to extract a dissolved solid from a solvent. Another technique performed in this state uses a spin bar instead of boiling chips, because that variant does not need to heat the liquid. Water-traps and water aspirators are occasionally used in both the aforementioned namesake filtration and distillation techniques. Experiments carried out in this state usually require Pyrex or round-bottomed glassware because Erlenmeyer flasks or those with (*) cracks may spontaneously collapse. The two walls of a Dewar flask are separated by material in this state, which is often achieved by means of a pump. For 10 points, name this state in which a near-complete lack of vapors leads to extremely low pressure.

ANSWER: vacuum [or more specific answers such as high vacuum or ultra high vacuum; accept vacuum filtration until read; accept vacuum distillation until read; prompt on "low pressure"]

<Wynne>

7. One demonstration against this entity terminated at its River Rouge complex and was led by William Z. Bennett; that was its namesake "Hunger March". Its internal security was led by Harry Bennet, and this company constructed the Willow Run plant to build B-24 Liberators. The NLRB chastised its founder for its actions against a union led by Walter (*) Reuther at the Battle of the Overpass. The founder of this company is the only American mentioned in *Mein Kampf* due to articles that he published in his newspaper, *The Dearborn Independent*. Its most famous creation was produced at the Piquette plant in Detroit. For 10 points, name this company which popularized the assembly line and created the Model T.

ANSWER: Ford Motor Company

<Hothem>

8. Deflationary theories of this concept state that this property is redundant. Donald Davidson developed a form of semantics in which a statement's meaning reduces to the conditions for *this*. Tarski's semantic theory of it stated that it could only be applied to sentences in other languages and held that P has this property if and only P. Wittgenstein developed a series of constructs to determine whether a (*) statement has this property in propositional logic. The contrapositive of a statement has this property if the original statement has this property. If P has this property, then not P has the opposite of this property. For 10 points, name this property of certain logical statements which means that they're not false.

ANSWER: truth [accept word forms]

<Mukherjee>

9. This author wrote "when thou art gone, love itself shall slumber on" to conclude one poem, and depicted Laon's revolution against Othman, the tyrant of Argolis, in another. This author of "Music, when Soft Voices Die" and "The Revolt of Islam" wrote of an "old, mad, blind, despised, and dying king" in a reaction to the Peterloo Massacre called "England in 1819". He lamented the death of a figure whose "soul (*) beacons from the abode where the eternal are" in an elegy for John Keats and asked "If winter comes, can spring be far behind?" in another poem. A traveler describes a pedestal reading "Look upon my works, ye mighty, and despair!" in a sonnet by this author. For 10 points, name this English poet of "Adonais", "Ode to the West Wind", and "Ozymandias".

ANSWER: Percy Bysshe Shelley [prompt on partial answer]

<Carson>

10. Several women hold phones to their ears in this man's *The Gossips*. A series by this man contains an image where a man holds a newspaper about "bombings" and stands next to a doll as his children are put to sleep. Self-portraits of Durer and Van Gogh are pinned to the canvas in this artist's (*) *Triple Self-Portrait*. A young black girl in a white dress walks past a wall with the N-word scribbled on it in his *The Problem We All Live With*. One of his most iconic works sees a grandmother placing a large turkey on the table for Thanksgiving dinner. For 10 points, name this American artist best known for creating works like the *Four Freedoms* and for illustrating the covers of the *Saturday Evening Post*.

ANSWER: Norman Rockwell

<Bentley>

11. Soldiers under this man assassinated Carlos Luna during one conflict, and during that conflict this man escaped enemy forces held off at Tirad Pass. This man was given eight hundred thousand Mexican dollars to dissolve his government in the Pact of Biak-na-Bato. He took a pseudonym based on the name of Mary Magdalene when he joined Andres Bonifacio's (*) Katipunen movement. Manuel Quezon succeeded this man in his highest position, and this man was brought aboard the USS *Vicksburg* after being captured by Frederick Funston. This man sanctioned the Malolos Congress to create a constitution after George Dewey brought him back after the Battle of Manila Bay. For 10 points, name this revolutionary and first president of the Philippines.

ANSWER: Emilio Aguinaldo

<Mukherjee>

12. In Greek mythology, the scarlet color of poppies symbolized the promise of this action, as did the whiteness of white poplars. After observing the behavior of a snake, Polydus used an herb to do this to a son of Minos named Glaucus. The cult of Dionysus held that their patron underwent this process yearly. A god who helped others perform this action was a son of Coronis snatched from a burning pyre by Hermes at birth. Out of gratitude for Admetus, Heracles helped (*) Alcestis undergo this action. Apollo became Admetus' herdsman after an incident in which his son performed this action on Hippolytus, which angered Hades. For 10 points, name this action repeatedly performed on others by Asclepius and by Persephone at the beginning of every spring.

ANSWER: resurrection [accept equivalents like come back from the dead, returning from Hades, returning from the underworld, coming back to life, etc.; prompt on "heal" or "healing"]

<Mukherjee>

13. This is the middle river of the Three Parallel Rivers protected area, and another UNESCO World Heritage site along its course is the former royal capital of Luang Prabang. The 150-pound giant river carp native to this river are nearly extinct, for which this river's namesake Commission blames the Manwan Dam upstream in Yunnan Province. Annual floods of this river irrigate farmland and replenish the (*) Tonle Sap, but in September 2011 hundreds of people died in this river's floods, which even forced several tourists to be airlifted out of Angkor Wat. Both Vientiane and Ho Chi Minh City are located on this river, which forms the boundary between Thailand and Laos. For 10 points, name this river that flows into the South China Sea in southern Vietnam.

ANSWER: Mekong River

<Haddad-Fonda>

14. In this work's final section, a woman is impregnated after eating a lingonberry and her son is crowned king after telling off a protagonist, who had earlier entered the belly of a giant to gain boat-building skills. The architect of the forests is summoned at the beginning of its second section, not long after a shattering duck egg results in the creation of the world. Longfellow borrowed its distinctive trochaic tetrameter for "The Song of Hiawatha". At the behest of a (*) witch from the north, one character in this work creates a magical mill called the Sampo. A tragic section of this work stars Kullervo, though most of it centers on Ilmarinen, Lemminkainen, and Vainamoinen. For 10 points, name this compendium of Finnish mythology edited by Elias Lonnrot.

ANSWER: The Kalevala

<Carson>

15. One technique for measuring the coefficient of this effect for a sample is to use an arrangement with four contacts named for van der Pauw. A type of spacecraft thruster named for this effect ionizes a gaseous propellant and then expels it using an electric field. In a semiconductor, the coefficient of this effect must take the hole mobility into account. In the inversion layer of a field effect transistor, the energy levels induced by this effect are quantized, as predicted by (*) von Klitzing. Its coefficient is inversely proportional to the carrier density, and this effect offers proof that carriers are negatively charged. For 10 points, name this effect in which a transverse voltage appears in a conductor when a magnetic field is applied.

ANSWER: Hall effect [accept more specific answers like quantum Hall effect, fractional quantum Hall effect, integer quantum Hall effect, etc.]

<Mukherjee>

16. A giant fish decorates the front of a restaurant this man designed in Kobe, Japan, while an F-104 fighter jet is attached to the facade of a building this man designed for the California Aerospace Museum. The common name of one of his buildings derives from the relationship between the more solid cylindrical tower and the arched glass tower; that building is located in Prague and is the (*) Fred and Ginger House. A monorail runs through one of his buildings that is adjacent to the Space Needle in Seattle. Besides the Experience Music Project, he's perhaps best known for the unusual geometric forms used for an art museum in Spain. For 10 points, name this architect of the Walt Disney Concert Hall in Los Angeles and Bilbao's Guggenheim Museum.

ANSWER: Frank Owen Gehry [or Frank Owen Goldberg]

<Bentley>

17. **The first fundamental welfare theorem states that any market in competitive equilibrium will have this property, which applies to scenarios where all consumers have the same marginal rate of substitution for two given goods. A generalization of this property only requires that potential improvements for some are enough to theoretically compensate for the losses of others, and is named for (*) Kaldor and Hicks. Any point lying inside a production possibility frontier represents a system without it, while the frontier's border defines the set of situations where this property holds. For 10 points, name this property of a system where no one can be made better off without making someone else worse off, an "optimality" named for an Italian economist and sociologist.**

ANSWER: Pareto efficient [or word forms; or Pareto optimality; prompt on just "efficient" or "optimality"]

<Bailey>

18. **An updated version of this agreement was called for in a 1973 speech by Henry Kissinger. This agreement was relaxed to allow Russia to control the Baltic. Its first point stated that the signatories sought no "aggrandizement," and the conference at which it was signed was codenamed "Riviera." This document was affirmed at St. James Place a month later. It stated peoples' right to (*) self-determination and to choose their type of government. It was signed in Newfoundland after the *USS Augusta* and the *HMS Prince of Wales* docked at Placentia Bay, at a meeting that also discussed the Lend-Lease Act. Partly the basis for the UN charter, for 10 points, name this agreement that outlined Roosevelt and Churchill's plan for World War II.**

ANSWER: Atlantic Charter

<Mukherjee>

19. **The title character of Elizabeth Strout's *Olive Kitteridge* retires from this profession, which is also the profession of Grant Wiggins, who must make Jefferson into a man before his execution, in a novel by Ernest Gaines. This occupation is held by Karen Wright and Martha Dobie, who are accused of being lesbians, in a work by Lillian Hellman, as well as by the pro-fascist title character of (*) Muriel Spark's *The Prime of Miss Jean Brodie*. Another character with this job competes with Brom Bones for the love of Katrina van Tassel and disappears after being pursued by the Headless Horseman. The central characters of *The Children's Hour* hold, for 10 points, what job, in which capacity Ichabod Crane educates the children of Sleepy Hollow?**

ANSWER: teachers [or schoolteachers; or schoolmasters; or math teachers; or any kind of teachers]

<Bollinger>

20. **One of these processes is inhibited by shocking the tail of *Aplysia californica* and is called "gill and siphon withdrawal." Warm water is used to test for the vestibulo-ocular one, whose absence causes "doll's eyes". The Jendrassik maneuver increases the magnitude of another one of these processes through the activation of the subliminal fringe. Conservation of oxygen while underwater is known as the "diving" one. Infants display "primitive" ones, including an extensor plantar one called the Babinski sign. These processes are governed by namesake (*) "arcs" consisting of neural circuits that do not synapse in the brain. For 10 points, the "patellar" type of what involuntary muscle contractions can be elicited by tapping a hammer on a patient's knee?**

ANSWER: reflexes

<Wynne>

21. This author wrote of "a hundred Watts / Detroit, Newark and New York" in the poem "Riot: '60s". "Where Love is a Scream of Anguish" is the first part of her collection *Just Give Me a Cool Drink of Water 'fore I Diie*. In one work by this author, the protagonist and her brother Bailey Jr. are sent to Stamps to live with Momma, who runs the William Johnson General Merchandise Store. That work told of her (*) rape by Mr. Freeman and was followed by *The Heart of a Woman* and *Gather Together in My Name*. She used a line from a Paul Laurence Dunbar poem to title her autobiography and read her poem "On the Pulse of Morning" at Bill Clinton's inauguration. For 10 points, name this African-American author of *I Know Why the Caged Bird Sings*.

ANSWER: Maya Angelou [or Marguerite Ann Johnson]

<Bentley>

22. One of this party's manifestos was called "The Longest Suicide Note in History" by Gerald Kaufman. One member of this party was attacked with the headline "Crisis? What Crisis?" after refusing to unfreeze wages in "The Winter of Discontent." Another member's government was implicated as part of a communist plot in the (*) Zinoviev Letter. Ed Miliband currently heads this party, whose other members included James Callaghan and Ramsey MacDonald. Another of its leaders presided over a referendum that created the Scottish Parliament. One prime minister from this party controversially led his country into Iraq. For 10 points, name this leftist British political party which opposes the Lib Dems and Tories, whose leaders have included Gordon Brown and Tony Blair.

ANSWER: Labour Party

<Mukherjee>

23. The coefficient of coincidence measures the level of interference in this process. In humans, this process is initiated by Spo11 and catalyzed by Dmc1, and its substrates are brought together by the synaptonemal complex. It results in the formation of a Holliday junction, and it occurs in the pachytene stage immediately after synapsis. Map distance is based on the (*) frequency of this process between two sites. If unequal, it can result in deletions and duplications, and chiasmata are microscopic evidence of this process occurring. This process occurs in tetrads between homologous regions of maternal and paternal chromosomes during prophase I. For 10 points, name this type of recombination that occurs during meiosis.

ANSWER: crossing over [or crossover; accept meiotic recombination before "meiosis"; prompt on "recombination"]

<Mukherjee>

24. Dividing this function of x by x gives the sinc ("Sink") function, whose integral from 0 to infinity is equal to pi over 2 according to the Dirichlet integral formula. In Euler's formula for e to the i x, this function appears in the imaginary term of the expansion, and this (*) odd function has a fixed point at zero. The Taylor expansion of this function has terms with odd exponents and divided by odd factorials, and that expansion is used to show that for small x, this function is approximately equal to x. The reciprocal of this function is the cosecant. For 10 points, name this trigonometric function which gives the opposite divided by the hypotenuse.

ANSWER: sine or sin x

<Mukherjee>

1. Name these mythological islands, for 10 points each.

[10] One hundred and twelve princes arrive at this island to woo its queen, Penelope, who weaves her loom as she awaits Odysseus's return.

ANSWER: **Ithaca**

[10] Nine sisters rule this island, which bears fruits without human cultivation. After losing the Battle of Camlann, Arthur comes to this island to die.

ANSWER: **Avalon** [or The **Isle of the Blessed**; prompt on "Fortunate Isles"]

[10] Rama constructs a stone bridge to access this island, home to the fortress of Ravana.

ANSWER: **Lanka** [or **Sri Lanka**]

<Gupta>

2. Answer the following about recent scandals related to hacking, wiretapping, and eavesdropping, for 10 points each.

[10] This country has been convulsed by scandal since allegations surfaced that tabloids here owned by Rupert Murdoch's NewsCorp, including the now-defunct *News of the World*, hacked emails and voicemails of prominent newsmakers.

ANSWER: **United Kingdom** of Great **Britain** and Northern Ireland [accept either underlined portion; accept **UK**; accept **England**]

[10] This South American country was rocked by scandal in August 2011 amid allegations that its intelligence agency bugged its supreme court. More recently, this country's city of Cartagena was the site of a different kind of impropriety by the US Secret Service.

ANSWER: Republic of **Colombia** [or República de **Colombia**]

[10] Up-and-coming Chinese politician Bo Xilai (BWAH shee-LAI), who had long served as party chief of this huge municipality on the Yangtze River, was purged from the Politburo and imprisoned, allegedly because he eavesdropped on top Chinese officials.

ANSWER: **Chongqing** (chong-ching)

<Haddad-Fonda>

3. For a particular axis and a series of point masses, this value is equal to the sum over all masses multiplied by the square of the distance from the axis. For 10 points each:

[10] Identify this value, symbolized I , which is the rotational equivalent of mass. The angular momentum is equal to this value times the angular velocity.

ANSWER: **moment of inertia**

[10] This theorem gives a method of computing the moment of inertia through an axis that does not intersect an axis that runs through the center of mass.

ANSWER: **parallel axis** theorem [or Huygens-**Steiner** theorem]

[10] If no axis is given, the moment of inertia can be represented as a three by three matrix. This version of the moment of inertia is one of these quantities, which are generalizations of matrices that have upper and lower indices.

ANSWER: **tensor**

<Mukherjee>

4. Name these composers that set music to an adaptation of Torquato Tasso's *Jerusalem Delivered*, for 10 points each.

[10] A court composer for Louis XIV, his *Armide* is an adaptation of Tasso's work. He is known for his ballets, such as *The Triumph of Love*, and he died after a performance of his *Te Deum*.

ANSWER: Jean-Baptiste **Lully**

[10] This German's *Rinaldo* is another adaptation of Tasso's masterpiece. His lesser known operas include *Serse*, but he is better known for an anthem depicting Zadok the Priest that is played at royal coronations.

ANSWER: Georg Friedrich **Handel**

[10] This Italian's *Armida* is dwarfed by his *Axur, re d'Ormus*, which itself is dwarfed by apocryphal stories detailing his jealous for Mozart.

ANSWER: Antonio **Salieri**

<Jose>

5. Answer these questions about trial procedure in the United States legal system, for 10 points each:

[10] The sixth and seventh amendments provide defendants with the right to one of these bodies, whose traditional incarnations are known as "petit." The "grand" type of this body decides whether to bring indictments and is drawn from the general populace.

ANSWER: **Jury**

[10] This term refers to the process of vetting and jury selection in which a final group of twelve is chosen from a large pool of potential jurors. This linguistically odd hybrid of Old French and Latin roughly means "to speak the truth."

ANSWER: **Voir dire**

[10] During selection, both sides generally may challenge any number of jurors "for cause," but may also strike a set number using this action, which does not require explanation. *Batson v. Kentucky* held that prosecutors cannot use these simply to rid the jury pool of a particular race.

ANSWER: **Peremptory** Challenges

<Ray>

6. Identify the following about German literature and literary theory, for 10 points each.

[10] Johann Georg Hamann was a major force behind this proto-Romantic literary movement, which took its name from a Friedrich Maximilian Klinger play. The author of *Cabal and Love* and *The Robbers* was another proponent of this movement.

ANSWER: **Sturm und Drang** [or **Storm and Stress**]

[10] This is the highest point on Gustav Freytag's dramatic "pyramid". Preceded by the rising action and followed by the falling action, it represents a major turning point in the narrative.

ANSWER: the **climax**

[10] Hans Jakob Christoffel von Grimmelshausen's *Simplicius Simplicissimus* is often considered part of this literary genre, in which rascally heroes survive using their intellect. *Lazarillo de Tormes* is another example of this genre.

ANSWER: **picaresque** novels [or **picaresca**]

<Jose>

7. Identify the following about penal colonies, for 10 points each.

[10] The First Fleet, under the command of Arthur Phillip, established a prison colony in this Australian state. Sydney is located in this present-day state.

ANSWER: **New South Wales**

[10] Henri Charriere supposedly used sacks filled with coconuts to escape from Devil's Island, a penal colony on the coast off this polity. A space center in this South American territory was established by Charles de Gaulle.

ANSWER: **French Guiana** [or **Guyane française**]

[10] The Tarrafal Camp was established by this dictator, an economist who long ruled over Portugal.

ANSWER: Antonio de Oliveira **Salazar**

<Bentley>

8. In June 2011, Caltech researchers announced that they had developed a way to measure this property in dinosaurs. For 10 points each:

[10] Name this property that, in a properly functioning human, is given as roughly ninety-eight point six degrees Fahrenheit.

ANSWER: **body temperature** [or **internal temperature**; prompt on "temperature"]

[10] That technique may help solve the question of whether the dinosaurs were this type of animal that regulates its own body temperature by producing heat internally. They are also called warm-blooded.

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

[10] This ancient synapsid regulated its body temperature using a large, ribbed sail on its back. It lived between 280 and 265 million years ago.

ANSWER: **dimetrodon**

<Wynne>

9. Identify some Kurt Vonnegut works, for 10 points each.

[10] During the course of this 1969 novel, Billy Pilgrim survives the firebombing of Dresden only to become "unstuck in time", after which he is kidnapped by Trafalmadorians.

ANSWER: **Slaughterhouse-Five**, or *The Children's Crusade: A Duty-Dance with Death*

[10] Kilgore Trout is asked to deliver a keynote address at a festival in Midland City in this novel. Trout gives a novel to Pontiac salesman Dwayne Hoover, who promptly takes it as gospel and goes on a rampage.

ANSWER: **Breakfast of Champions**, or *Goodbye Blue Monday*

[10] This novel's title character appears in both *Slaughterhouse-Five* and *Breakfast of Champions*. Norman Mushari attempts to have that title character declared insane in order to swindle him out of his family fortune, which had been dedicated to charity as a tax dodge.

ANSWER: **God Bless You, Mr. Rosewater**, or *Pearls Before Swine*

<Carson>

10. This ruler sought to improve his empire financially by opening the Diet of Roncaglia. For 10 points each:

[10] Name this Holy Roman Emperor who was defeated at the Battle of Legnano by the Lombard League and who drowned in the Saleph River on his way to the Third Crusade.

ANSWER: **Frederick Barbarossa** [or **Frederick I**; prompt on "Frederick"]

[10] Frederick Barbarossa was crowned Holy Roman Emperor by this Pope, the only Englishman to hold the office.

ANSWER: **Adrian IV** [or **Hadrian IV**; or Nicholas **Breakspear**; prompt on "Adrian"; prompt on "Hadrian"]

[10] Frederick won a favorable decision at the Diet of Roncaglia when faculty from this leading law school of the Middle Ages ruled that the Emperor had significant power over trade.

ANSWER: University of **Bologna**

<Huang>

11. The patronage of saints is sometimes tenuously connected to the saint's life. For 10 points each:

[10] Because she is said to have been able to hear and see Mass celebrated when she was too ill to attend, she is the patron saint of television. She had earlier founded a namesake "Poor" order of women.

ANSWER: Saint **Clare** of Assisi [accept Poor **Clares**]

[10] This apostle healed a man suffering from a foot problem and became the patron saint of that ailment. He is the rock upon which Jesus built his church.

ANSWER: Saint **Peter** [or **Simon Peter**]

[10] One saint with this name became the patron saint of aviators and astronauts since he would sometimes levitate in ecstasy. Another saint with this name temporarily loses his son following a Passover feast in Jerusalem.

ANSWER: **Joseph** [or Saint **Joseph of Cupertino**]

<McNamara>

12. These constructs give rise to a namesake kind of "wedging" in which warm air rises over cold air. For 10 points each:

[10] Name these constructs that occur when cold and warm air masses collide. They too can be "cold" or "warm" depending on which air mass has more momentum.

ANSWER: **fronts**

[10] This kind of front occurs when cold and warm fronts run into each other such that neither is advancing. It is depicted with alternating blue triangles and red half-circles on a weather map.

ANSWER: **stationary** front

[10] Fronts are a special case of this phenomenon in which two different air masses meet, forcing air to rise. The northeasterly and southeasterly trade winds collide in an "intertropical" zone named after this phenomenon.

ANSWER: **convergence**

<Wynne>

13. Carl Nielsen's *Inextinguishable* Symphony features a battle between two sets of these instruments in its final movement. For 10 points each:

[10] Name these sets of drums played by Vic Firth and Saul Goodman. Their pitch is typically altered by a sliding footpedal .

ANSWER: **timpani** [or **kettledrums**; prompt on "drums" but not specific types of drums]

[10] Timpani are in this family of instruments which include mallet keyboards, drums, and any instrument struck with either hands, mallets, or sticks.

ANSWER: **percussion** instruments

[10] This larger relative of the xylophone often has keys made of rosewood. Steve Reich composed a piece for this instrument in Nagoya, Japan.

ANSWER: **marimbas**

<Montoya>

14. He adapted the story of the Danaids to the stage in his *The Suppliant Women* and penned the now-lost satyr play *Proteus*. For 10 points each:

[10] Identify this early Greek tragedian, whose plays *Agamemnon* and *The Libation Bearers* make up the first two-thirds of a trilogy known as the Oresteia.

ANSWER: **Aeschylus**

[10] This author of *Murder in the Cathedral* loosely adapted the Oresteia in his play *The Family Reunion*. He noted that the world ends "not with a bang but a whimper" in his poem "The Hollow Men".

ANSWER: Thomas Stearns **Eliot**

[10] This Jean-Paul Sartre play is a retelling of the Oresteia which describes the Furies as the gods of Argos.

ANSWER: *The **Flies*** [or *Les **Mouches***]

<Mukherjee>

15. An oil pipeline in this state provides the funds for the Permanent Fund Dividend, paid annually to its citizens. For 10 points each:

[10] Identify this state, formerly home to the long-tenured Senator Ted Stevens.

ANSWER: **Alaska**

[10] The PKK, which agitates for great autonomy for these people, bombed another oil pipeline, the BTC, in 2008. Many people of this ethnicity were massacred in the 1988 Halabja poison gas attack.

ANSWER: The **Kurds** [or **Kurdish** People]

[10] This capital city has greatly benefited from the BTC pipeline. This birthplace of Nobel laureate Lev Davidovich Landau currently serves as the seat of government for President Ilham Aliyev.

ANSWER: **Baku**

<Bentley>

16. Tacticity refers to the arrangement of side groups in these molecules, and ethylene can be made into one of these molecules by using a Ziegler-Natta catalyst. For 10 points each:

[10] Name these molecules that consist of repeating units of a simpler molecule. Nomex, Kevlar, and polyethylene are some examples.

ANSWER: **polymers**

[10] Wallace Carothers from DuPont invented this polymer, which was originally developed as a replacement for silk. It consists of repeating units of a carbon compound linked by amide bonds.

ANSWER: **nylon**

[10] This is the process of creating bonds between different chains of a polymer in order to increase its strength.

ANSWER: **cross-linking**

<Mukherjee>

17. One philosopher from this nation used the example of a child falling down a well to show that humanity is innately good. For 10 points each:

[10] Identify this modern-day country, whose long tradition of philosophical output includes the thinker Mencius and the universal love-propounding Mohist school. A philosopher and despot from this country wrote "The Little Red Book."

ANSWER: **China** [or **Zhongguo** (Jong-GOO-oh)]

[10] This Chinese philosophical school advocated by Shang Yang and Han Feizi believed that rulers should use charisma and secrets to control the populace and believed that humans were inherently evil.

ANSWER: **legalism** [or word forms; accept **fa jia**]

[10] This is the term given to the flourishing of many philosophical ideas, such as the Naturalists and Logicians, during the Spring and Autumn period.

ANSWER: **Hundred Schools** of Thought [or **zhuzi baijia**]

<Mukherjee>

18. In this poem's first appearance, it is read by holding a book up to a mirror, allowing a certain character to read lines like "One, two! One, two! and through and through / The vorpal blade went snicker-snack!" For 10 points each:

[10] Identify this 1872 poem which opens "'Twas brillig, and the slithy toves / did gyre and gimble in the wabe" and describes a boy hunting a "manxome foe".

ANSWER: **"Jabberwocky"**

[10] "Jabberwocky" appears in the novel *Through the Looking-Glass*, a sequel to *Alice's Adventures in Wonderland*, both of which were written by this English mathematician.

ANSWER: Lewis **Carroll** [or Charles Lutwidge **Dodgson**]

[10] In the chapter "A Mad Tea Party", the Mad Hatter poses this riddle to Alice; when Alice is unable to come up with an answer, the Hatter reveals that he doesn't know what the answer is either.

ANSWER: "Why is a **raven** like a **writing desk**?" [accept anything suggesting a **raven** is being compared to a **writing-desk**]

<Carson>

19. The Leyden variety of this color began to replace smalt in the 19th century. For 10 points each:

[10] Identify this color which, along with gold, titles a nocturne by James McNeill Whistler depicting the Old Battersea Bridge.

ANSWER: **Blue**

[10] This artist's Blue Period includes facial masks like *Head of a Picador with a Broken Nose* and paintings like *The Blind Man's Meal*. This Spanish-born artist also painted *Guernica*.

ANSWER: Pablo **Picasso** [or Pablo Diego José Francisco de Paula Juan Nepomuceno María de los Remedios Cipriano de la Santísima Trinidad Ruiz y **Picasso**]

[10] Thomas Gainsborough, artist of *The Blue Boy*, also painted this dual portrait, where one of the title figures stands with his legs crossed and holds a rifle. The woman's lap in this painting was never finished.

ANSWER: Double Portrait of **Mr. and Mrs. Robert Andrews**

<Bentley>

20. This event occurred as a result of police brutality at the McCormick Harvesting Machine Company. For 10 points each:

[10] Name this May 4th, 1886, violent confrontation between policemen and labor protestors in which a thrown bomb led to random gunfire by the Chicago police force.

ANSWER: Haymarket Riot [or Haymarket Affair; or Haymarket Massacre]

[10] The Haymarket Riot was blamed on this labor organization, whose leaders included Uriah Stephens.

ANSWER: Noble and Holy Order of the Knights of Labor

[10] In 1893 after receiving a petition from Clarence Darrow, this Illinois governor pardoned three of the German-American anarchists involved in the Haymarket Riot.

ANSWER: John Peter Altgeld

<Huang>

21. When performing this action using polynomials, the Weierstrass approximation theorem is often used. For 10 points each:

[10] Name this mathematical action that seeks to estimate values of a function f of x at points in between nodes for which the value of f of x is known.

ANSWER: **interpolation**

[10] A common alternative to polynomial interpolation uses these piecewise curves that fit a number of low-degree polynomials together over different intervals.

ANSWER: **splines**

[10] This most commonly used kind of spline is named because the highest-degree polynomial used is of degree three. Not coincidentally, this adjective also describes polynomials of degree three.

ANSWER: **cubic** [or **cubic** splines; or **cubic** polynomials]

<Wynne>

22. This statesman received the Nobel Prize for Peace in 1971. For 10 points each:

[10] Name this member of the Social Democratic Party, who formulated a policy of *Ostpolitik*.

ANSWER: Willy **Brandt** [or Herbert Ernst Karl **Frahm**]

[10] *Ostpolitik* was an attempt to cool relations with this Soviet-controlled state, ruled by men such as Erich Honecker and Walter Ulbricht.

ANSWER: **East Germany** [or the **GDR**; or the **DDR**; or the **German Democratic Republic**; or **Deutsche Demokratische Republik**; do not accept or prompt on "Germany"]

[10] One outcome of *Ostpolitik* was West Germany's recognition of this line as the western border of Poland.

ANSWER: **Oder-Neisse** Line

<Huang>

23. The central conflict of this work is complicated by the protagonist's longstanding rivalry with Maitre Malandain. For 10 points each:

[10] Name this story in which Maitre Hauchecorne is eventually driven mad by his inability to shake accusations that he had picked up a leather pocketbook, rather than the title object, in the marketplace of Goderville.

ANSWER: "The **Piece of String**" [or "La **Ficelle**"]

[10] Henry James's story "Paste" is based on this work by the same author, in which Mathilde Loisel loses the title object, which belongs to Jeanne Forestier at a party. She buys a replacement and works for ten years to pay it off, only to find out that the original was a fake.

ANSWER: "The **Necklace**" [or "The Diamond **Necklace**"; or "La **Parure**"]

[10] "The Piece of String" and "The Necklace" are works by this French short story master, whose other masterpieces include "Mademoiselle Fifi" and "Ball of Fat".

ANSWER: Guy de **Maupassant** [or Henri René Albert Guy de **Maupassant**]

<Carson>