

Tossups

1. Many cities in this modern-day country were founded by raising a pillar shrine at their center. Royal ministers in this kingdom were called *krom*. A list of “Six Principles” was established by the revolutionary “Promoters” movement in this country, whose current capital was founded when the seat of government was moved across a river to a site with many olive plums. The murder of Inspector Groscurin by a person from this country triggered the (*) Paknam incident. One ruler of this country created a paramilitary group called the Wild Tiger Corps. In 1855, the British signed the Bowring Treaty with its ruling Chakri dynasty. Following the fall of the Ayutthaya kingdom, this country was founded in its modern incarnation by Taksin the Great. For 10 points, name this nation, whose ruler Mongkut employed Anna Leonowens of *The King and I* fame.

ANSWER: Kingdom of Thailand [or Siam; or Prathet Thai; or Ratcha Anachak Thai] <AL/CC>

2. This figure turns Odras into a pool of water after tricking her into coming to the otherworld. After having sex with a god, she promises to have the magicians of the land remove the blood and kidneys of Indech. This figure recites a poem foretelling the end of the world after the Battle of Magh Tureid, before which she had a tryst with the Dagda. This figure’s wounds are healed after she offers another figure three bottles of milk; before that event, she transforms into an (*) eel, a wolf, and a cow to hinder that figure. This figure appears as a bird to Donn Cuailnge (COOL-NEH), telling him to flee; that action begins the Cattle Raid of Cooley, during which this figure repeatedly confronts Cuchulainn. For 10 points, name this triple goddess of war and death in Irish mythology.

ANSWER: the Morrigan

3. This man included the work “48” in an early series of paintings on unprimed canvases. A painting by George Engleheart inspired this man’s *Portrait of Mistress Mills*. He was inspired by Hendrik Martensz Sorgh’s depiction of a musician to create a painting of a man with a gigantic head and ruffled collar playing a lute. This artist’s MoMA retrospective was called “Painting and Anti-Painting”. Random flags, a guillotine marked with the word “jour”, and an ear attached to a (*) tree appears in the middle of a work based on Bosch’s *Garden of Earthly Delights*. This artist, who once stated that he wanted to “assassinate painting”, depicted a white, red, and yellow ladder on the left of a brown and black landscape where a canine tilts its head to the sky on the right. For 10 points, name this Catalan artist of *Dutch Interior*, *The Tilled Field* and *Dog Barking at the Moon*.

ANSWER: Joan Miro

4. An extended simile late in this work describes a father passing by an empty house and lamenting after he sees his son hang on the gallows. The reigning scholarly edition of this text was annotated by University of Minnesota scholar Friedrich Klaeber. Its narrator notes that many desperate altar-offerings had to be intended for Hell, because the offerers hadn’t yet heard of the Christian God. At least three funerals, including at the (*) beginning and end, give structure to this poem, the longest surviving production of a *scop*. This poem includes a time skip of “fifty winters” after a skeptic questions the protagonist’s swimming prowess and a sword is melted by a descendant of Cain in an underwater lair near Heorot. For 10 points, name this poem in which the title Geatish warrior defends a mead-hall by slaying Grendel, an Old English epic.

ANSWER: Beowulf <SJ/MJ>

5. The square of this quantity is defined as 2 in Rydberg atomic units. The root-mean-square fluctuation in shot noise equals the square root of 2 times the current times the bandwidth times this quantity. This quantity is equal to 2 divided by the product of the Von Klitzing and Josephson constants, allowing for this quantity and Planck’s constant to be determined using watt balance experiments. This quantity appears squared in the numerators of the expressions for the plasma frequency and the (*) fine structure constant. An experiment to measure this quantity achieved a low result by using an incorrect value for the viscosity of air, which was ionized using X-rays. That experiment measured the terminal velocity of drops of oil and was performed by Robert Millikan. For 10 points, name this constant equal to minus 1.602 times 10 to the minus 19 Coulombs.

ANSWER: elementary charge [or the charge of an electron or fundamental charge] <EM/BB>

6. In one military campaign, this man marched his army through the Franconian Forest to the Saale River, catching an enemy rearguard commanded by Hohenlohe. After being checked at Maloyaroslavets, he abandoned his troops by hurrying to his capital to suppress the Malet conspiracy. He won a victory at Vauchamps and three other battles in rapid succession in the Six Days Campaign but failed to stop the (*) Sénat Conservateur from removing him. He retained the right to nominate bishops in a reconciliation with Pope Pius VII and won a pyrrhic victory over Kutuzov at Borodino before embarking on a retreat that triggered the War of the Sixth Coalition. For 10 points, name this man who was exiled to Elba following the French invasion of Russia and then ultimately defeated at the Battle of Waterloo.

ANSWER: Napoleon Bonaparte [accept either underlined; or Napoléon I of France; or Napoleone di Buonaparte accept either underlined] <AL, ed.>

7. Through the use of applications, abstractions and lets, Algorithm W infers these entities through unification in the Hindley-Milner system. In the Curry-Howard isomorphism, mathematical formulae are isomorphic to these constructs. These entities are not specified in the construction of algorithms in generic programming paradigms because templates are made instead, which allows these constructs to be determined at a later time. In C-like languages, a void pointer is not limited by this entity's value, thus void pointers cannot be dereferenced; that's because a (*) reference is one of these constructs in programming language theory. Correct usage of these entities are verified at compile-time in "static" languages; otherwise they are checked at run-time in "dynamic" languages. For 10 points, name these constructs, such as "int," "bool," or "string," that specifies the kind of data of variables in programming languages.

ANSWER: data types [prompt on "variables"]

8. Jacob Viner introduced a pair of effects in which this behavior is "diverted" or "created" due to integration. The Posner-Hufbauer model of this posits a technology gap to explain short-term monopolies. The incorporation of economies of scale into studies of this phenomenon is the primary innovation of the "new" theory of it. The Lerner Diagram can be used to demonstrate a theory developed by Paul Samuelson that this phenomenon leads to (*) factor price equalization. Leontief's paradox contradicts predictions about this phenomenon in capital and labor-intensive countries made by the Heckscher-Ohlin model. Paul Krugman won a Nobel Prize in Economics for his work on this phenomenon, which can be distorted by the practice of "dumping." For 10 points, identify this type of exchange that is taxed by tariffs.

ANSWER: international trade <CC, ed.>

9. One of these buildings has windows with surface patterns digitally translated from photographs of water ripples, birch trees, snowy branches, and prairie grasses. A six-story atrium in that Cesar Pelli-designed one is topped by a cantilevered metal "wing" and is located in Minneapolis. Another of these buildings has white marble less than two inches thick to filter light and protect the interior; that one of these was designed by Gordon Bunshaft and is called the (*) Beinecke one at Yale University. The Charles Simonyi Mixing Chamber and a four-story spiral are in a glass and steel one in Seattle. In Florence, the Medici family commissioned Michelangelo to design one of these in the Basilica de San Lorenzo di Firenze called the Laurentian one of these. For 10 points, identify these buildings that hold books.

ANSWER: libraries [or library] <SJ, ed.>

10. A novel by this author ends with the protagonist sitting in the Gild-Holm-'Ur seat, watching the *Cashmere* disappear into the distance carrying the newly-married Ebenezer Caudry and Deruchette. That novel by this man popularized the term "pieuvre" with its exciting depiction of an underwater battle between the Guernseyman Gilliat and an octopus. Another of this man's characters moons over a lost love during his daily visits to the Field of the (*) Lark, and in other episodes foils a robbery at Gorbeau House staged by the Patron-Minette and a disguised Thenardier and hangs out with the Friends of the ABC. This author of *Toilers of the Sea* created Marius Pontmercy in a novel whose protagonist adopts Cosette while fleeing from Inspector Javert. For 10 points, name this French author of *Les Misérables*.

ANSWER: Victor Hugo [or Victor Marie Hugo] <RC>

11. A compound containing four of this functional group is the basis of all chemical indicators used in calcium imaging; that molecule is BAPTA. A class of nucleophilic aromatic substitution involves the reaction of a para-substituted nitro compound with potassium cyanide to place this functional group at the meta position. That is the Von Richter reaction. These compounds, along with the corresponding haloform, are produced when methyl ketones react with halogens in the presence of a strong base. The proton NMR spectra for these compounds often show a singlet at (*) delta 10-12. These compounds undergo a highly reversible reaction with alcohols in both acidic and basic conditions to form esters; that reaction is Fischer esterification. For ten points, name this functional group written COOH.

ANSWER: carboxylic acid [accept carboxylate] <CW/EM>

12. This work's narrator jokes that "a tiger doesn't look like it would need a staff!" while commenting on the way the word "knotweed" is written. It describes a man reciting "Snow lay upon such-and-such hills" before leaving a group gathered in front of a brazier in a section that delights in the effects of a thin snowfall. Two characters flirtingly discuss the effects of a false cock's crow on a barrier in one of this book's many sections about the Controller First Secretary (*) Yukinari. Examples of the most memorable sections of this book include "Pleasing Things", "Embarrassing Things", and "Deeply Irritating Things". Like *Essays in Idleness* and *An Account of My Hut*, this work belongs to the *zuihitsu* genre. For 10 points, name this collection of poetry, lists of various things, and thoughts about Heian court life by Sei Shonagon.

ANSWER: *The Pillow Book* [or *Makura no Soshi*] <SJ/RC>

13. A legal doctrine with this name overturned *Swift v. Tyson* to mandate that federal courts use substantive state laws in some jurisdictions. One conflict with this name involved an enforced stop at the namesake location to sell peanut snacks. Another conflict with this name saw several men abscond to Fort Taylor, which they surrounded with policemen in rowboats as they attempted to bribe the Black Horse Cavalry. Daniel Drew was ruined in that conflict after watered-down shares were offered to hold off a (*) takeover attempt of the namesake company by Cornelius Vanderbilt. Another project with this name was inspired by the prison letters of Jesse Hawley and was finished by a "marriage of the waters" headed by DeWitt Clinton in 1825. For 10 points, identify this name given to a waterway that connects the Mohawk to the Hudson River in New York.

ANSWER: Erie [or Erie Doctrine, Erie Gauge War, Erie War, Erie Canal] <CC>

14. This philosopher noted that "the absence of a work of art" was Antonin Artaud's version of one concept that he exemplified with an engraving by Sebastian Brandt. This philosopher argued that the birth of modern literature came with a process of "the return of language" which occurred alongside "the birth of man." This philosopher opened one of his books by noting the superimposition found in a model's gaze in a work of (*) art in which the painter is looking back at us. This philosopher noted that, as leprosy died off, the literary "ship of fools" became commonplace in a book arguing that the insane were treated with kindness during the Renaissance. He analyzed *Las Meninas* in the opening of a book that attempts to be "An Archaeology of the Human Sciences." For 10 points, name this French author of *Madness and Civilization* and *The Order of Things*.

ANSWER: Michel Foucault <DF, ed.>

15. One campaign billboard for this man showed him in front of a pile of vegetables criticizing rising onion prices. In October 2013, multiple bombs exploded at a Hunkar campaign rally led by this man in the city of Patna. This man claimed that his country's ancestors played with snakes, but now play with a mouse in a September 2014 speech. He was accused of being complicit in Ehsan Jafri's death after a fire on a train led to the Gulbarg Society massacre and spent time as a campaigner for the (*) RSS. His supporters handed out paper cups with his picture on it to celebrate his background as a tea seller as he stood for Vadodara constituency in a 2014 election using many saffron-colored campaign posters to attack the Congress Party. For 10 points, identify this former Chief Minister of Gujarat, a member of the BJP who defeated Rahul Gandhi to become Prime Minister of India.

ANSWER: Narendra Modi <CC>

16. Instead of abandoning the use of the *targumim* during this practice, Yemeni Jews added a third *targum* to be used during it. This is the holiest activity divided up by instances of *sof pasuk* (pah-SOOHK). This practice is typically followed by a *golel* being called up, and/or by witnesses raising their pinky fingers. It doesn't involve immigration, but people who bless this activity, of whom the first in a given (*) day must traditionally be a *kohen*, do so in a process called *aliyah* on the *bimah*. The 54-part annual cycle of *parshiyot* governing this practice is concluded a week after Sukkot on a namesake joyous *Simcha*. For 10 points, identify this activity done for the first time by a thirteen-year-old boy at his bar mitzvah while looking at a scroll with the Pentateuch on it.

ANSWER: reading the Torah [accept answers such as chanting, reciting, or singing from the Torah; accept synonyms for Torah such as reading from the Pentateuch until mentioned; accept lavning; prompt on "reading;" prompt on "reading the Bible," prompt on "Torah service"] <WA/MJ>

17. The protein that causes this condition appears to be restricted to binding to the V-beta variable chain and has immunogenic properties independent from its lethality according to experiments conducted on its “ovine” mutant. One criteria for this disease is the desquamation of the palms and soles after 1-2 weeks. The rash characteristic of this condition is fine, red, papular, and is often described as sunburn-like. The protein responsible for triggering this condition binds to both MHC class II and TCR, resulting in the activation of up to 20% of the patient’s (*) T-cells and massive release of TNF-alpha and IL-2. This condition causes a cytokine storm and multiple organ failure. For 10 points, name this potentially fatal disease caused by a superantigen secreted by *Staphylococcus aureus*, an outbreak of which was associated with the overuse of super-absorbent tampons.

ANSWER: toxic shock syndrome [or TSS]

18. James Wood critiqued this man’s onomatopoeic image of a boat going “SMACK from swell SMACK to swell SMACK to swell SMACK,” and his “identically voiced characters,” reviewing a novel by this man about forgeries in the Korolyov Museum of Art exposed by police officer Nestor Camacho. He also created Adam Gellin, a news editor who tutors basketball star Jojo Johanssen and comforts a girl from Appalachia after she loses her virginity. This author, who set *Back to Blood* in (*) Miami, argued for a new American realism in “Stalking the Billion-Footed Beast,” and used Duke as the basis for his DuPont University in *I Am Charlotte Simmons*. In his first novel, a tire thrown by Wall Street banker Sherman McCoy incites racial tensions in New York. For 10 points, name this author who adapted New Journalism techniques in his novel *Bonfire of the Vanities*.

ANSWER: Tom Wolfe [or Thomas Kennerly Wolfe; do not accept or prompt on “Thomas Wolfe” by itself; accept Thomas K. Wolfe but not “Thomas Clayton Wolfe” or “Thomas C. Wolfe”] <DF/MJ>

19. The largest ship of one side in this conflict was positioned to block the approaching forces who eventually captured the *Elefanten*, taking the admiral as a prisoner of war from his own ship. To commemorate the victory during this war, the navy of the winning side of that battle always has a vessel named *Gangut*. A breaking wheel was used to execute Johann Patkul after one treaty during this conflict, during which the Peace of (*) Travendal and Treaty of Altranstadt were concluded. Ingria and Karelia were transferred to the winning side after this war, while the losing side was returned most of Finland. A king in this war won a battle during a blizzard at Narva, but fled to the Ottoman court following the Battle of Poltava. For 10 points, name this war between Charles XII of Sweden and an allied force led by Peter the Great of Russia.

ANSWER: Great Northern War [accept Battle of Gangut/Hanko/Rillax before “Gangut” is read; prompt on “Northern War”] <SJ, ed.>

20. The text from Psalm 55 was set to a hymn called *Hear My Prayer* by this man, who included the well-known passage “O for the Wings of a Dove”. This composer’s second string quartet quotes one of his earlier songs based on Johann Gustav Droysen poem “Is it True?” This composer used an eight-part fugato to open the finale of his E-flat major String Octet. All three movements are played *attacca* and the typical orchestral preview is skipped in his Violin (*) Concerto in E minor. This composer revived the appreciation of Bach’s music when he re-premiered a modified version of the *St. Matthew Passion* in Berlin. This composer included three Venetian boat songs in his *Songs Without Words*. For 10 points, identify this German composer of the Wedding March in *A Midsummer Night’s Dream* and the Reformation, Scottish, and Italian symphonies.

ANSWER: Felix Mendelssohn <SJ, ed.>

Bonuses

1. The sinoatrial node is often called the pacemaker of the heart because it independently generates electrical impulses. For 10 points each.

[10] This chamber of the heart which contains the SA node is also the site of the embryonic crista terminalis and receives incoming deoxygenated blood through the venae cavae.

ANSWER: right atrium

[10] This hole connecting the right atrium and left atrium should only be open in infants; after birth, it closes to form the fossa ovalis.

ANSWER: foramen ovale

[10] Abnormalities in this feature of an electrocardiogram reading can indicate ventricular hypertrophy, arrhythmias, or heart attack because this feature of an ECG immediately precedes ventricular depolarization.

ANSWER: QRS complex <SJ>

2. This phrase originally appeared in a poem in which Postumus is warned against marriage, as a response to the advice “throw the bolt and lock her in”. For 10 points each:

[10] Identify this most famous phrase from a poem about the decay of feminine virtue, the sixth Satire of a certain Roman poet.

ANSWER: “Sed quis custodiet ipsos custodes?” [or “But who watches the watchmen?” or clear translational equivalents, like “but who will guard the guards themselves?”]

[10] The sixteen *Satires* are the most famous works of this man, who also coined the phrase “bread and circuses” in the tenth of those poems.

ANSWER: Juvenal [or Decimus Iunius Juvenalis; or Decimus Junius Juvenalis]

[10] Juvenal’s tenth satire also coined this phrase, the first entry in a list of things that one should pray to the gods for, where it immediately precedes “a stout heart that has no fear of death”.

ANSWER: “a sound mind in a sound body” [or “mens sana in corpore sano”; or “a healthy mind in a healthy body” or equivalents] <DF/RC>

3. Marius Petipa got his daughter Marie to play the role of the Lilac Fairy in this ballet, which he choreographed in 1890. For 10 points each:

[10] Name this ballet whose first act includes peasant girls performing a waltz with flower garlands after inadvertently threatening the protagonist with their knitting. Its title character is kissed by Florimund.

ANSWER: *The Sleeping Beauty* [or *Spyashchaya krasavitsa*]

[10] Two years later, Petipa and Tchaikovsky teamed up on this famous set of ballets, in which Clara runs off with the title toy. Everyone who does ballet as a kid (*including Chris Ray?*) is in a production of it around Christmas.

ANSWER: *The Nutcracker* [or *Shchelkunchik*]

[10] Petipa also worked with this Italian composer on *The Talisman* and *Harlequinade*, which have both had some afterlife in excerpted pas de deux which are performed alone. He also revised the *Swan Lake* score.

ANSWER: Riccardo Drigo <SJ/MJ>

4. Answer some questions about an electoral ass-whooping, for 10 points each.

[10] While serving as a Senator from Minnesota, this man opposed the Vietnam War as a member of the Church Committee. He campaigned for the Democratic presidential nomination by questioning Gary Hart using the Wendy’s slogan “Where’s the Beef?”

ANSWER: Walter Frederick “Fritz” Mondale

[10] Mondale teamed up with Geraldine Ferraro on the Democratic ticket in the 1984 election, but lost 49 states to this incumbent president who invoked the image of “Morning in America.”

ANSWER: Ronald Wilson Reagan

[10] Reagan ran another ad during the 1984 election featuring images of this animal and asking, “Isn’t it smart to be as strong as [this animal]?” as a lone man blocks the path of this creature.

ANSWER: a bear in the woods [accept answers like ursus, ursidae from smart alecks] <DF, ed.>

5. This Anglican wrote fictional words of advice sent between footsoldiers of “Our Father Below,” namely Satan, in *The Screwtape Letters*. For 10 points each:

[10] Name this fast friend of J.R.R. Tolkien and author of Christian apologetics. He posited a “trilemma” that Jesus, if real, had to be insane, a liar, or actually God in his radio lectures, which became *Mere Christianity*.

ANSWER: C.S. **Lewis** [or Clive Staples **Lewis**]

[10] Lewis uses this Chinese word to refer to the standards of universal morality in his booklet *The Abolition of Man*. An 81-part ancient Chinese text about this concept opens by noting that any fully effable concept could *not* be the same as this concept.

ANSWER: **Tao** [or **Dao**; prompt on “Way”]

[10] This C.S. Lewis text examines the differences between *eros*, *philia*, *storge*, and *agape*, different positive emotions from the Ancient Greek New Testament which are all rendered the same way in English.

ANSWER: *The **Four Loves*** <NH/MJ>

6. Identify the following novels that are, in varying degrees, picaresque, for 10 points each.

[10] The Leibniz parody Dr. Pangloss continually asserts that “all is for the best in the best of all possible worlds” in this novel by Voltaire, whose title character steadfastly loves Cunegonde.

ANSWER: **Candide**, or *Optimism* [or **Candide**, or *The Optimist*; or **Candide**, ou *L'Optimisme*; or **Candide**, or *All for the Best*]

[10] The title character of this anonymously-published picaresque amusingly eats the cheese out of mousetraps while serving a series of masters, from a blind beggar to an archbishop.

ANSWER: **Lazarillo de Tormes**, *His Fortunes and Misfortunes as Told by Himself*

[10] Being waylaid by robbers on the way to the University of Salamanca sets the title character of this Alain-Rene Lesage novel on the path of the picaresque hero.

ANSWER: **Gil Blas** [or *L'Histoire de **Gil Blas** de Santillane*] <NH/RC>

7. This man got into a spat with the White House in October 2014 by claiming that opposing settlements goes against American values. For 10 points each:

[10] Name this current Israeli prime minister who oversaw Operation Protective Edge in early 2014.

ANSWER: Benjamin **Netanyahu**

[10] This is the political party to which Netanyahu belongs and which received a plurality of votes in the 2013 legislative election. It was founded by Menachem Begin and holds a center right position.

ANSWER: **Likud** Yisrael Beiteinu

[10] Daniel Wultz died in 2006 in a suicide bombing partially funded through this institution. Netanyahu created a headache by refusing to allow Israeli officials to testify in Wultz’s murder trial since that could endanger financial ties to this institution.

ANSWER: **Bank of China** <DF, ed.>

8. This philosopher authored the *Summulae de Dialectica*, a handbook on medieval logic. For 10 points each:

[10] Name this philosopher. He names a thought experiment in which a certain animal is unable to choose between two equally-sized stacks of hay, which leads it to starve to death.

ANSWER: Jean **Buridan** [or John **Buridan**; or **Buridan’s ass**]

[10] Inspired by the concept of Avicenna’s *mayl*, or inclination, Buridan proposed this proto-scientific concept to explain why an object continues to move through the air after it has been thrown.

ANSWER: **impetus**

[10] Buridan’s theory of impetus rejects this philosopher’s notion of external causes continuously affecting movement. Buridan’s *Summulae* is an update of the *Organon* of this student of Plato.

ANSWER: **Aristotle** <IJ>

9. The arms of these structures would wrap more and more tightly around their centers if they obeyed Newtonian dynamics. For 10 points each:

[10] Name this type of galaxy. The Milky Way is an example of their “barred” variety, and they occupy the bottom branch of the Hubble Tuning Fork diagram.

ANSWER: **spiral** galaxy

[10] The Milky Way galaxy is currently believed to have four arms. The Earth’s solar system lies within this arm, which is sometimes called the Local Arm or Local Spur.

ANSWER: **Orion**-Cygnus arm

[10] The Lin-Shu density wave theory of spiral formation states that structure can only be maintained between the inner and outer resonances named for this man, between which stars tend to stay.

ANSWER: Bertil **Lindblad** <SJ/EM>

10. This English county was a hotspot for social unrest up through the Swing Riots, which began in its Elham Valley. For 10 points each:

[10] Jack Cade’s rebellion issued a “Complaint of the Poor Commons” of this county before marching on London. Thomas Wyatt the younger’s rebellion also began at Allington Castle in this county.

ANSWER: **Kent**

[10] During this 1381 rebellion with Kentish origins, rebels burned down the Savoy Palace and set fire to the Treasurer’s Highbury Manor. This rebellion was ended after Wat Tyler was killed and John Ball was captured and executed.

ANSWER: English **Peasants’** Revolt/Rebellion [or **Great Rising**; prompt on “Wat Tyler’s Rebellion”; do NOT accept “Peasants’ War”]

[10] Near the end of the War of the Roses, this man started a conspiracy planning to depose Richard III and place Edward V back in power. George Villiers, a favorite of James I of England, also held this title.

ANSWER: Henry Stafford, 2nd Duke of **Buckingham** [or **Henry Stafford**; prompt on “Stafford”<AL>

11. For ten points each, answer some questions about the most complex biomacromolecules.

[10] This end of a protein, the first to exit the ribosome during biosynthesis, contains an amino group.

ANSWER: **N-terminus**

[10] In solid-phase peptide synthesis, the N-terminus of each amino acid is often protected with this group. Due to safety considerations, however, Fmoc (“F-mock”) is sometimes used as an alternative to this.

ANSWER: t-**Boc** group

[10] The Boc group is cleaved off of the N-terminus with a brief treatment of the trifluoro derivative of this compound. This compound can be formed by the carbonylation of methanol through the Monsanto process.

ANSWER: **acetic acid** [or **acetate**] <CW, ed.>

12. This man defeated the Indian king Porus at the Battle of the Hydaspes. For 10 points each:

[10] Name this highly successful Macedonian military commander, who built on the ambitions of his father, Philip II, to create a freaking enormous empire.

ANSWER: **Alexander the Great** [or **Alexander III** of Macedon; or **Megas Alexandros**; prompt on “Alexander”]

[10] This elite military force created by Philip II was typically personally led by Alexander during his battles. This early shock cavalry force was typically armed with the *xyston*.

ANSWER: **Companion** Cavalry [or **hetairoi**; or **Companions**; do not accept “hetaireia”]

[10] This arrogant and tactless commander of the Companions ended up being accused of a conspiracy against Alexander and was executed in 330 BCE shortly before his father Parmenion.

ANSWER: **Philotas** <SJ/PL>

13. This painter showed three witches hovering over a writhing nude figure in *Witches’ Sabbath*. For 10 points each:

[10] Name this court painter to Charles IV, who painted scenes of madness and fantasy like *Saturn Devouring His Sons* in his *Black Paintings* series. He also showed an execution in *The Third of May, 1808*.

ANSWER: Francisco **Goya**

[10] This Goya painting depicts a young woman unabashedly gazing directly at the viewer. It was originally positioned behind its less obscene companion painting, so that a pulley could be used to reveal this painting from behind.

ANSWER: *The* **Nude Maja** [or *La maja desnuda*]

[10] Goya gave this name to prints 65 to 82 of his *The Disasters of War Series*, which show allegorical scenes of Spanish politics following the devastation of the Napoleonic Wars.

ANSWER: **emphatic caprices** [or **caprichos enfaticos**; prompt on “caprichos” or “caprices”] <AL, ed.>

14. The plot of this story is set in motion when the Saro University scientist Beenay 25 discovers some irregularities regarding Onos. For 10 points each:

[10] Name this 1941 story that describes what happens when the inhabitants of the planet Lagash see stars, an unpredicted phenomenon, for the first time.

ANSWER: “**Nightfall**”

[10] “Nightfall” was written by this author of an excellent *Guide to Shakespeare*, who is undoubtedly more famous for science-fiction works like *I, Robot* and the *Foundation* trilogy.

ANSWER: Isaac **Asimov** [or Isaak Yudovich **Ozimov**]

[10] Many of Asimov’s robot stories involve this misanthropic robopsychologist. The stories in *I, Robot* are framed as the reminiscences of this woman.

ANSWER: **Susan** Calvin [Susan **Calvin**] <NH/RC>

15. This piece was composed to regain the favor of a king, who had it first played near Whitehall palace. For 10 points each:

[10] Name this collection scored for a large, open-air orchestra, which contains three suites, including the “Air” and “Alla Hornpipe” movements.

ANSWER: **Water Music**

[10] This composer of *Water Music* wrote the “Hallelujah” chorus for his oratorio *Messiah*.

ANSWER: George Frideric **Handel**

[10] The seventh movement of the first suite and fifth movement of the second suite of *Water Music* are both this type of gavotte-like French dance, which originated in Auvergne.

ANSWER: **bourrée** [or **borrèia**] <SJ, ed.>

16. The repertory grid developed by George Kelly originally used this technique to process responses to a personality type interview. For 10 points each:

[10] Identify this type of statistical analysis whose exploratory version uses responses to develop constructs, while its confirmatory version evaluates *a priori* hypotheses about the validity of certain constructs.

ANSWER: **factor** analysis

[10] Factor analysis was used in some early research into this concept. Howard Gardner claimed there were eight types of this concept and this concept’s “quotient” can be measured using tests like the Wechsler and Stanford-Binet.

ANSWER: **intelligence**

[10] This student of William Wundt theorized that intelligence was influenced by a single g-factor that could be studied with factor analysis. His namesake rho in statistics is a rank correlation coefficient statistic.

ANSWER: Charles **Spearman** <CC>

17. According to a fable very early in Herodotus’s *Histories*, these creatures emerged to save the musician Arion from drowning after pirates threw him overboard. For 10 points each:

[10] Name these sea creatures which, like horses and hippocampi, served as messengers of Poseidon. Another set of pirates was turned into these creatures by the newborn Dionysus.

ANSWER: **dolphins**

[10] Zeus saved a still-embryonic Dionysus by sewing him into this body part after his mortal mother Semele was incinerated.

ANSWER: Zeus’s **thigh** [or **groin**; or, apparently, in some sources, **testicles** or **scrotum**; prompt on “leg”]

[10] But back to dolphins for a sec. This island, along with Ceos, was home to four dog-headed, dolphin-flipped sorcerers called Telchines, who raised Poseidon here. Helios had seven sons with the nymph of this island, which he favored.

ANSWER: **Rhodes** <MJ>

18. Abd al-Rahman succeeded Marwan II as head of a certain Islamic caliphate, but moved rule to this country. For 10 points each:

[10] Name this modern day country where the Moors were able to establish rule after Tariq ibn Ziyad conquered the previously Visigothic held region in the eighth century AD.

ANSWER: **Spain**

[10] This caliph of the Umayyad Dynasty who ruled for just ten years was an Islamic architecture enthusiast and constructed the Great Mosque of Damascus over the previous Basilica of St. John.

ANSWER: **Al-Walid I** [or **Al-Walid ibn abd al-Malik**; prompt on “Al-Walid”]

[10] Al-Walid I also ordered the construction of this religious building. A visit by Ariel Sharon to this building several hundred years later sparked a massive uprising often named for it.

ANSWER: **Al-Aqsa** Mosque [or al-Masjid **Al-Aqsa**; or **Bayt al-Muqaddas**] <SJ, ed.>

19. Magnetic fields are used in a cooling technique in which the energy is leached out of a magnetic material; that technique is this type of demagnetization. For 10 points each:

[10] Name this type of process in which there is no heat transfer. An unrelated theorem from quantum mechanics with this name states that slow perturbations of a system do not change its eigenstate.

ANSWER: **adiabatic**

[10] The adiabatic index is equal to the ratio of heat capacity at constant pressure and constant volume. What is the adiabatic index of a monatomic ideal gas?

ANSWER: **five-thirds** [or **5/3**]

[10] On a P-V diagram, both adiabatic processes and these kinds of processes show concave curves. For an ideal gas, this kind of process results in no change of internal energy.

ANSWER: **isothermal** [prompt on anything involving “same temperature”]

20. A famous section of this work contrasts mere “fancy” with “imagination”, which the author claims has an “esemplastic”, or unifying, power. For 10 points each:

[10] Identify this autobiographical prose work that, among other things, coins the term “suspension of disbelief” and extends the philosophy of poetry first put forth by its author’s counterpart in *Lyrical Ballads*.

ANSWER: **Biographia Literaria**

[10] This opium superfan, the English Romantic author of *Biographia Literaria*, also wrote such famous poems as “Kubla Khan” and “The Rime of the Ancient Mariner”.

ANSWER: Samuel Taylor **Coleridge**

[10] This “conversation poem” by Coleridge is addressed to his son, the “Dear Babe, that sleepest cradled by my side”, and describes how the title meteorological effect performs its “secret ministry, unhelpt by any wind”.

ANSWER: **“Frost at Midnight”** <RC>