

TOSSUPS

1. Only three of these characters are women, one of whom owns the Black Inn where some of them meet. One of these people is a monk with a heavy staff who is nicknamed for his flowery tattoos, while another dies of poisoned wine and is persuaded by a mother to make a concubine of her daughter (*) Yan Poxi. Chao Gai is the first leader of these people, who oppose the corrupt official Gao Qiu and are called the 108 Stars of Destiny. Mount Liang is the base of - for 10 points - what group of people led by Song Jiang in a classic Chinese novel?

ANSWER: the outlaws (from *Water Margin*) [or the Outlaws of the Marsh; accept any term loosely equivalent to “outlaw” such as brigands or bandits or highwaymen; accept anything mentioning Song Jiang and his companions until mentioned; accept more specific answers referring to the group, such as 108 Stars of Destiny or 72 Earthly Fiends or 36 Heavenly Stars until “Stars of Destiny” is read]

2. In a series depicting his studio, this artist paid tribute to Henri Matisse’s *L’Atelier Rouge* in a painting that shows a figure who, in a different work, gazes at this artist’s initials in the water. Many of his subjects are women in relationships with domineering men, such as the blonde women in *Hopeless* and *Crying Girl*. This artist showed a character who’s (*) snagged his rod while exclaiming “I’ve hooked a *big* one!” in an example of his use of Ben-Day dots. For 10 points, identify this Pop artist of *Look, Mickey!* and *Whaam!*

ANSWER: Roy Lichtenstein

3. This thing names a *sura* whose verses describe the Day of Judgment and tell the stories of ‘Ad and Thamud to explain consequences of not heeding God, and which is named for a miracle in which this thing is split open. Some Christians claim that Allah is a pagan Arabian god of *this*, just like Hubal. After the (*) conquest of Constantinople, which had this object on its crest, it was adopted as an Islamic symbol. The Islamic calendar is based on this object’s cycles. Islam is often symbolized by - for 10 points - a “crescent” representing what object?

ANSWER: The Moon [or al-Qamar; accept crescent moon; prompt on crescent with “*crescent what?*”]

4. This organization adopted affirmative action hiring after its actions prompted a five-year consent decree with the Department of Justice in 2000. This organization’s firing of Bernard Parks contributed to James Hahn’s 2005 electoral loss, and its members committed misconduct while working for the Rampart Division of its (*) CRASH units. This organization co-founded D.A.R.E. while led by Daryl Gates, who resigned after four of its officers assaulted a black man. Rodney King was beaten by - for 10 points - what law enforcement of Los Angeles?

ANSWER: Los Angeles Police Department [or LAPD]

5. Salmanaazor claimed that in Taiwan, a particularly high-quality version of *this good* sold for an outlandish 400 crowns. This commodity is in season throughout the entire year, but more plentiful in March. The rising popularity of this commodity would be a “great inducement to (*) marriage,” and would greatly lessen the number of Papists, while additionally reducing the expenses of the poor people of Ireland. For 10 points, what foodstuff is recommended in Jonathan Swift’s essay “A Modest Proposal”?

ANSWER: babies [accept infants or children; accept human flesh or human meat; accept specific body parts, such as “meat” or “skin”; accept other equivalents]

6. A variant of this reaction that replaces its second step with acetic acid can reduce alkynes to cis-alkenes and is known as its protonolysis version. More selective versions of its main reagent include one bound to two isamyl groups and a bicyclic nonane known as 9-BBN. Its use on terminal alkynes results in an enol that tautomerizes to an (*) aldehyde. It begins with a syn addition, followed by an oxidation that uses NaOH and H₂O₂. For 10 points, name this anti-Markovnikov reaction that generates alcohols from alkenes.

ANSWER: hydroboration-oxidation

7. In a work inspired by this conflict, a fisherman earns money by showing tourists his “scar made by a rusted anchor.” A poem alluding to the aftermath of this conflict compares a “husband’s longing” to an adulterer hearing his lover’s name in “every gull’s outcry,” and laments: “The (*) classics can console. But not enough.” That work’s author was inspired by this war to include Major Plunkett, Seven Seas, and Ma Kilman in a work set on St. Lucia. In his *Omeros*, Derek Walcott adapted – for 10 points – what war chronicled in the *Iliad*?
ANSWER: Trojan War

8. This economist showed that labor-saving devices do not reduce labor’s share of income by formally explaining the elasticity of substitution. This non-Jevons economist introduced Walrasian general equilibrium theory to English-speaking academia and showed that ordinary utility is sufficient for consumer theory in his book (*) *Value and Capital*. With Alven Hansen, this economist developed the IS-LM model. The cost of a bundle of goods is minimized in the “compensated” demand function named after - for 10 points - what British economist?
ANSWER: Sir John (Richard) Hicks

9. In this empire, concerns about the taxation of women prompted the Aba Women’s Riot. Under this empire, Ibadan became a trading city of over 100,000. A Muslim leader in this empire named Ahmadu Bello distrusted mercantile southern Christian ethnicities so much that he called them Jews. This empire let the (*) Sokoto sultan and local *emirs* govern cities like Kano, but also appointed District Commissioners to govern native peoples such as the Yoruba and Igbo. For 10 points, name this empire which controlled Nigeria before independence.
ANSWER: British Empire [accept United Kingdom or Great Britain or equivalents]

10. A function named for this letter is defined as the partial derivative of g with respect to the natural log of μ , and gives the dependence of a coupling parameter on the energy scale. Another quantity denoted by this letter is equal to the derivative of the natural log of the number of microstates with respect to energy. That quantity named for this letter is the inverse of (*) kT . In a phenomenon named for it, a W boson transforms an up quark to a down quark, changing the atomic number by 1. For 10 points, name this form of nuclear decay that produces an antineutrino and electron.
ANSWER: beta

11. At a wedding, this man slew the centaur Eurytus. One of this man’s children seduced Laodice during the Trojan War, and died of a snakebite near Olynthus. Another of his children was conceived atop a bed of asparagus with the maid Perigune. This father of Acamas and Melanippus defeated a king of Eleusis named (*) Cercyon in a wrestling match, and used a stretching table to dismember the bandit Procrustes on his way to find his father in Athens. For 10 points, name this son of Aegeus, who descended into the Labyrinth to slay the Minotaur.
ANSWER: Theseus

12. This is the *more populous* [emphasize] of two countries whose favorable history was interpreted as the result of initial factor endowments by Engerman and Sokoloff. A historian argued that this country’s early years saw a struggle between owners of “personal property” and “real property” while another historian argued its (*) egalitarian character resulted from free land and a process of “westering.” Charles Beard economically interpreted the constitution of - for 10 points - what country, the subject of Turner’s frontier thesis?
ANSWER: The United States of America [or USA; or Murika; or this one if the question is played in the USA]

13. This song was based on the harmonies of Jimmy McHugh’s “Exactly Like You.” Betty Roche is best known for her bebop vocals on a 1952 recording of this song, which was the intro to Willis Conover’s jazz program on Voice of America. Ray Nance’s most famous trumpet solo was for this piece. Joya Sherrill wrote the lyrics to this song, which refer to (*) “Sugar Hill up in Harlem.” Billy Strayhorn is best known for composing - for 10 points - what signature tune of the Duke Ellington orchestra named for a subway line?
ANSWER: “Take the ‘A’ Train”

14. In this city, a prison inmate managed to impregnate four female guards in a corrupt inmate-run facility closed down by the governor in July 2015. Anthony Batts was fired as this city’s police commissioner in the

wake of a crime spike, resulting in Kevin Davis' appointment. This city's mayor, (*) Stephanie Rawlings-Blake, was criticized for a muted response to protests by governor Larry Hogan. Martin O'Malley is a former mayor of this city, where riots occurred after Freddie Gray died in a police van. For 10 points, name this largest city in Maryland.

ANSWER: Baltimore

15. When one character in this story yawns, others follow suit in accordance with their "character," "knowledge of life," and "social position." In this story, Mr. and Mrs. Follenvie prepare a hearty meal for a group of ten people in the town of Totes, and it ends as Cornudet (*) whistles the "Marseillaise." This story's title character earned her nickname for her "celebrated *embompoint*," or plumpness. A Prussian officer sleeps with the prostitute Elizabeth Rousset in - for 10 points - which Guy de Maupassant story?"

ANSWER: "Ball of Fat" [accept "Boule de Suif"]

16. Competitive players of a game in this series developed the "Flush" and "Fast Fortress" strategies to counter slower ones like booming. In the first expansion to this series' third entry, dancing around the fire pit is one way to accumulate experience, which allows you to get more (*) shipments from your home city. The core building in these games is the Town Center, which allows you to train villager units to gather resources. For 10 points, name this real-time strategy series by Microsoft based on historical warfare, including *Age of Kings*.

ANSWER: Age of Empires series

17. A general from this country organized his pikemen and gunmen into formations based on the Roman *quincunx* and perfected countermarch tactics. This country endured several devastating invasions in its so-called "disaster year." This country tried to repulse invaders by opening (*) dikes during a war in which the De Witt brothers were lynched after panic over English and French victories. The Duke of Alba led an occupation of this country by Spain during the Eighty Years' War. For 10 points, name this country home to the House of Orange.

ANSWER: The Netherlands [or Nederlanden; accept Holland or United Provinces]

18. ALX1 haplotypes are linked to polymorphic craniofacial development in this highly introgressive species group. Permethrin-soaked cotton balls are used to protect members of this group against parasitic *Philornis downsi*. Studies of these organisms on Daphne Major show (*) oscillatory selection with climate in work by Peter and Rosemary Grant. Their name was popularized by David Lack, who interpreted bill shape variation as food niche specialization. For 10 points, name this group of tanagers that underwent an adaptive radiation on the Galápagos Islands.

ANSWER: Darwin's finches [or Galápagos finches; or Geospizinae; or Geospizini; prompt on "finches" even though they're not finches]

19. Type of piece and composer required. In one of these pieces dedicated to Joseph Stutterheim, seven variations on an A-major theme appear in the fourth of seven movements played without pause. The recurring pizzicato theme of one of these pieces gives it its nickname "Harp." Another of these pieces is nicknamed (*) "Serioso." A climbing eight-note chromatic motif appears in the difficult sixth and final movement of the thirteenth of these pieces, a movement republished as the *Grosse Fuge*. For 10 points, identify these chamber works by the composer of the "Eroica" symphony.

ANSWER: string quartets by Ludwig van Beethoven

20. On this non-island landmass, the Batek negritos and the Senoi are three of the Orang Asli indigenous groups. Most registered pirate attacks take place near the southern tip of this landmass. The Tenasserim mountains run the entire length of this peninsula, whose narrowest part is at the (*) Kra Isthmus, through which the Phuket mountains pass. Thailand controls most of this peninsula, which is separated by the Straits of Malacca from Sumatra. For 10 points, name this peninsula which shares its name with the majority ethnicity in Kuala Lumpur.

ANSWER: Malay peninsula [or Malaya; or Semenanjung Tanah Melayu; or Kra Peninsula before "Kra" is read; prompt on Southeast Asia or less specific answers]

21. In one novel, a character with this name argues that Don Quixote's insanity was an act intended to determine the gullibility of his fellow men. An author with this name wrote a novel about a detective hired by White to watch over the writer Black, and included motifs like the Tower of Babel and a red notebook in a

trilogy of novels that includes (*) *Ghosts* and *The Locked Room*. For 10 points, give the name of the American author who wrote about writer Daniel Quinn in *City of Glass*, the first novel of his *New York Trilogy*.
ANSWER: Paul (Benjamin) Auster [prompt on “Paul”]

22. This philosopher claimed that setting theory in the syntax of first-order logic greatly simplifies it into a “regimented” theory. He is the alphabetically-second namesake of an argument that states that mathematical entities must be real because of their role in science, an (*) “indispensability argument” named for Hilary Putnam and him. Two classes of statements exemplified by “unmarried man” and “bachelor” were distinguished by - for 10 points - which philosopher, who attacked the analytic/synthetic distinction in *Two Dogmas of Empiricism*?
ANSWER: Willard Van Orman Quine

23. Joseph Stilwell led the defense of one of these things against Japanese capture in a battle in Yunnan province. One of these things was created by Sher Shah Suri on the plain of the Ganges and was extended by the British to include Howrah. The Golden Quadrilateral is a network of these things, which were often lined with (*) *caravanserais*. During World War II, the “Burma” one was used by the Allies to move supplies into China. For 10 points, identify these things exemplified by the “Grand Trunk” one in India and the “Silk” one across Asia.
ANSWER: roads [or routes; or highways; due to possible ambiguity, accept mountains or mountain ranges or humps until “Sher Shah” is read and do not accept or prompt thereafter]

24. This scientist wrote a letter to Oppenheimer supporting the H-bomb, and was the only member of the GAC not to testify in Oppenheimer’s favor during his security hearing. This scientist worked with John Livingood to discover iodine-131. This longest-serving chair of the U.S. Atomic Energy Commission made one discovery by using (*) deuterium to bombard uranium nuclei. At Berkeley, with Kennedy and Segrè, he discovered that the resulting isotope, plutonium-239, was fissionable. For 10 points, name this chemist who won a 1951 Nobel Prize for discovering ten transuranium elements.
ANSWER: Glenn Theodore Seaborg

BONUSES

1. Name some of Chaucer’s *Canterbury Tales*, for 10 points each:

[10] In this character's tale, a knight is tasked with discovering what women most desire; he learns the answer is "sovereignty over their husbands" from an old hag

ANSWER: "The **Wife of Bath's** Tale" [accept **Alyson** or **Alys**]

[10] In this other character's tale, a carpenter named John sleeps in a bucket suspended from the ceiling while his wife Alisoun sleeps with their tenant Nicholas.

ANSWER: "The **Miller's** Tale" [accept **Robin**]

[10] This character's tale is interrupted by the Franklin. In his tale, Genghis Khan receives a bronze horse that can teleport, and his daughter Canace uses a magical ring to speak to a falcon who got dumped by a hawk.

ANSWER: "The **Squire's** Tale"

2. The title of this song is taken from a Natalie Portman line in the 2004 film *Closer*. For 10 points each:

[10] Name this song whose chorus asks "testosterone boys and harlequin girls, will you dance to this beat and hold a lover close?" and appears on the album *A Fever You Can't Sweat Out*.

ANSWER: "**Lying is the Most Fun** a Girl Can Have Without Taking Her Clothes Off"

[10] "Lying Is the Most Fun" is by this band, better known for a song in which the lead singer interrupts a wedding and announces that "the poor groom's bride is a whore," "I Write Sins Not Tragedies."

ANSWER: **Panic! At the Disco**

[10] Panic! At the Disco is a member of the label Fueled by Ramen along with this other band known for their songs "Snakes on a Plane" and "Guilty Pleasure".

ANSWER: **Cobra Starship**

3. This law arises as a solution of the BGK equation. For 10 points:

[10] Name this equation that relates the attenuation of light in a medium to its molar extinction coefficient, concentration, and path length.

ANSWER: **Beer-Lambert** law

[10] Beer's law is commonly applied in this type of spectroscopy, which uses the empirical Woodward-Fieser rules to predict the wavelength of maximum absorption. This technique is especially useful for conjugated molecules.

ANSWER: **Uv-vis** spectroscopy [or **Ultraviolet-visible** spectroscopy]

[10] UV-vis spectrophotometers can be used to determine the optical density of a cell culture by passing light of this wavelength, in nanometers, through the sample.

ANSWER: **600** nm [accept OD**600**]

4. The "port" variety of this beverage is actually named for the city of Porto. For 10 points each:

[10] Name this alcohol, a major historic export of Portugal that was traditionally traded for English cloth.

ANSWER: **wine**

[10] The *vinhateiro* region in the valley of this river in Portugal where Porto wine is grown was declared a UNESCO World Heritage site. This river flows through Porto into the Atlantic and arises in the central *meseta* of Spain.

ANSWER: **Douro** River [or **Duero** River]

[10] This popular resort archipelago owned by Portugal is also known for producing a namesake type of wine. This historic center of sugar production is governed from its largest city, Funchal.

ANSWER: **Madeira**

5. Answer the following about destitute farmers in Nordic literature, for 10 points each:

[10] In this Finnish novel, Jussi Toivola works as a farmhand and acquires a bit of land before a string of unfortunate events leave him dead in the wake of a failed Socialist revolution.

ANSWER: **Meek Heritage** (written by Frans Sillanpaa)

[10] This Halldor Laxness novel tells the story of the sheep farmer Bjartur, whose first wife Rosa dies in childbirth. A supposed curse on his land hinders his aspirations to become one of the title individuals.

ANSWER: **Independent People**

[10] Halldor Laxness is an author from this country. Around 800 years earlier, the *Eddas* were compiled by this country's native author Snorri Sturluson.

ANSWER: **Iceland**

6. Answer the following about German immigrants to the United States, for 10 points each.

[10] Germans founded these publications wherever they went and often called them *Zeitung* or "Times." John Peter Zenger edited one of these publications.

ANSWER: newspapers

[10] This city's growth in the mid-19th century was largely due to German immigration. This city's moguls included Ellis Wainwright, for whom the German-born Dankmar Adler worked.

ANSWER: St. Louis, Missouri

[10] This turn-of-the-century derogatory term referred to immigrants with close ties with Europe, especially Germans. Teddy Roosevelt claimed there was "no room for" these people in a speech he gave in Columbus.

ANSWER: hyphenated Americans

7. This novel is written from the perspective of Toby and Zeb. For 10 points each:

[10] Name this final novel in a trilogy that includes *Oryx and Crake* and *The Year of the Flood*.

ANSWER: MaddAddam

[10] *Oryx and Crake*, *The Year of the Flood*, and *MadAddam* were written by this Canadian author, who also wrote *The Handmaid's Tale*.

ANSWER: Margaret Atwood

[10] In *The Handmaid's Tale*, this husband of Serena Joy illicitly plays Scrabble with the protagonist. The protagonist's name derives from the fact that she serves as this character's concubine.

ANSWER: The Commander [accept "Fred"; do NOT accept "Offred"]

8. Power laws of the form "f of x equals a times x to the b" are dubiously said to be ubiquitous in science. Answer some things about them, for 10 points each:

[10] The scale invariance displayed by power laws is related to the self-similarity of these mathematical objects whose Hausdorff dimension is often greater than their topological dimension. An example is the Mandelbrot set.

ANSWER: fractals

[10] Zipf's law was made to describe the inverse proportionality of these quantities with rank in a corpus. For a hapax legomenon, this quantity is equivalent to one.

ANSWER: word frequency [accept answers denoting the number of times a word appears in a text]

[10] Bak et al.'s work on power laws in self-organized criticality used a sandpile model, one of these discrete systems. These systems, like Conway's Game of Life, are the subject of Stephen Wolfram's *A New Kind of Science*.

ANSWER: cellular automata [or cellular automaton]

9. Answer the following about judgment in Greek mythology, for 10 points each:

[10] Athena casts the deciding vote to acquit this son of Agamemnon for murdering his mother Clytemnestra. He is hounded by the Furies in a trilogy written by Aeschylus.

ANSWER: Orestes

[10] Everyone who listened to the musical contest between Apollo and Pan ruled in favor of Apollo, except for King Midas. In response, Apollo cursed Midas with this physical characteristic.

ANSWER: the ears of an ass [accept anything indicating that Midas received the ears of a donkey]

[10] After Halirrhothius raped this daughter of Ares, the god of war responded by murdering Halirrhothius. During the ensuing trial on the Areopagus, Ares was acquitted of his crime by his fellow Olympians.

ANSWER: Alcippe

10. Answer the following about the exciting intersection of cyborgs and feminism, for 10 points each.

[10] This feminist scholar used the idea of a cyborg to represent rejection of boundaries in *A Cyborg Manifesto*.

ANSWER: Donna Haraway

[10] Some feminists see cyborgs as a way for future societies to get past "roles" of this concept, which they contrast with biological sex as being socially constructed.

ANSWER: gender

[10] The cyborg Major Kusanagi from this media franchise has provoked internet feminist debate since she's sexualized but, as a cyborg, has agency over her appearance and sexuality. This franchise spawned a movie about the Puppet Master, as well the *Stand Alone Complex* anime series that ran on Adult Swim.

ANSWER: Ghost in the Shell [or Kōkaku Kidōtai]

11. Name some Early Netherlandish painters, for 10 points each.

[10] With his brother Hubert, this artist created the *Ghent Altarpiece*. He also painted *The Arnolfini Wedding*.

ANSWER: Jan van Eyck

[10] This artist's version of *The Descent from the Cross* shows a skull below a fainting Mary and puts Jesus in a T-shape pose. He painted the birth, death, and resurrection of Jesus in the Miraflores Altarpiece.

ANSWER: **Rogier van der Weyden** [accept either underlined portion]

[10] This artist created a richly colored depiction of the Adoration of the Magi called the Monforte Altarpiece. Some credited Andrea del Castagno with creating this artist's famous depiction of the Adoration of the Shepherds.

ANSWER: Hugo van der **Goets** [or **Hugo of Antwerp**; or **Ugo d'Anversa**; prompt on **Hugo**]

12. This philosopher is believed to have been inspired by Pythagorean ratios in his treatise on contemporary music and *maqams* called *The Book of Music*. For 10 points each:

[10] Identify this philosopher, who equated God with the Neo-Platonists' concept of One and presented an Islamicized version of Plato's political philosophy in *The Virtuous City*.

ANSWER: Abu Nasr Muhammad ibn Muhammad **Farabi** [or al-**Farabi**; or "The **Second Teacher**"]

[10] al-Farabi's political philosophy is rooted in this Platonic dialogue, which discusses an ideal city ruled by philosopher-kings called Kallipolis.

ANSWER: *The **Republic*** [or *De **Republica***; or ***Politika***]

[10] While this man argued that Neoplatonism had diverged from true Aristotelian doctrine, he still defended Greco-Islamic concepts like the eternity of the world from al-Ghazali in *The Incoherence of the Incoherence*.

ANSWER: Abū l-Walīd Muhammad ibn Ahmad **ibn Rushd** [or **Averroes**]

13. This faction included Pompey the Great. For 10 points each:

[10] Name this faction opposed to the *populares*, which promoted the interests of patrician families. They generally opposed the entrance of *novi homines* into the Senate.

ANSWER: **Optimates** [or **boni**]

[10] The Optimates opposed the general interests of these Roman commoners, who were represented by tribunes.

ANSWER: **plebeians** [or **plebs**]

[10] This historian used the word *boni* to refer to the Optimates in his writings. This *novus homo* may have been trying to clear his friend Julius Caesar of involvement in a 63 CE conspiracy by writing a history of it.

ANSWER: **Sallust** [or Gaius **Sallustius** Crispus] (the conspiracy is Catiline's conspiracy)

14. Ruminants have a four-compartment version of this organ, where anaerobic bacteria help them break cellulose into volatile fatty acids. For 10 points each:

[10] Name this organ, where gastric acid and enzymes like pepsin are released to aid in digestion.

ANSWER: **stomach**

[10] If you want to know what bacteria are in your stomach, you'll likely sequence these conserved nucleic acids which Woese and Fox used to discover Archaea. Their 3-prime end has the anti-Shine-Dalgarno sequence.

ANSWER: **16S rRNA** [or **16S ribosomal RNA**; or **16 S**vedberg unit **ribosomal ribonucleic acid**; prompt on partial answer]

[10] For vertebrate herbivores, digestion can be made harder by these astringent polyphenols that precipitate proteins. They come in condensed and hydrolyzable types, are found in red wine, and can make water turn brown.

ANSWER: **tannins**

15. This phrase is followed by the parenthetical comment: "i carry it in my heart." For 10 points each:

[10] Identify this six-word phrase that opens a poem whose speaker declares: "i fear no fate" and "i want no world" before revealing "the deepest secret nobody knows."

ANSWER: "**i carry your heart with me**"

[10] This title character of another poem is described as "a conscientious object-or" "whose warmest heart recoiled at war." He is "more brave than me: more blond than you."

ANSWER: "i sing of **Olaf** glad and big"

[10] This American poet neglected punctuation in his poems "i carry your heart with me" and "i sing of Olaf glad and big".

ANSWER: edward estlin **cummings**

16. The Antes are the earliest known tribal polity of these people. For 10 points each:

[10] Identify this large ethno-linguistic group which includes modern Ukrainians, Poles, Czechs, and Croatians.

ANSWER: **Slavs** [or **Sclaveni**]

[10] Early Common Slavic was the lingua franca of the state established by these people, who migrated into the Pannonian basin under the leadership of the *kbagan* Bayan.

ANSWER: **Avars**

[10] With his brother Methodius, this Byzantine missionary spread Christianity among the early Slavs and designed a writing system used for many Slavic languages.

ANSWER: Saint **Cyril** the Philosopher

17. Glenn Gould's career was launched by a recording of this piece. For 10 points each:

[10] Identify this piece whose *bandesemplar* copy, owned by the composer himself, contains fourteen additional canons to supplement this piece's nine. The origins of the aria on which this piece is based are unknown.

ANSWER: **Goldberg Variations**

[10] This composer of *The Well-Tempered Clavier* created the *Goldberg Variations*.

ANSWER: Johann Sebastian **Bach**

[10] The first recording of Bach's *Goldberg Variations* was made in 1933 by this Polish harpsichordist, who revived the instrument's popularity. Manuel de Falla's harpsichord concerto was written for this performer.

ANSWER: Wanda **Landowska**

18. This world leader's approval ratings have dipped *below ten percent* in recent months. For 10 points each:

[10] Identify this leader of the Workers' Party. Many voters probably now regret narrowly choosing this handpicked successor of Lula instead of Aécio Neves [*"ab-EH-siu NEH-vees"*] in 2014.

ANSWER: Dilma **Rousseff** [pronounced "DJEEW-ma WHO-zeff" but be lenient]

[10] Dilma Rousseff is the leader of this South American country, the second-largest economy in the Americas.

ANSWER: (Federative Republic of) **Brazil** [or Republica Federativa do **Brasil**]

[10] Brazil is often grouped with China, Russia, and India as the BRIC emerging economies. What fifth emerging market country, home to the JSE stock exchange, is frequently grouped along with the BRIC countries?

ANSWER: **South Africa** (the fifth of the BRICS)

19. Identify the following Ancient Greek sculptors, for 10 points each:

[10] The beautiful courtesan Phyrne modeled for this sculptor's *Aphrodite of Knidos*. This artist also sculpted *Hermes and the Infant Dionysus*.

ANSWER: **Praxiteles**

[10] A strong youth standing contrapposto balances the title object against his shoulder in this sculptor's *Doryphoros*, or *Spear-Bearer*. This sculptor laid out his ideals for anatomical measurements in a written *Kanon*.

ANSWER: **Polykleitos**

[10] This sculptor's most famous work was a bronze sculpture of Meleager standing next to the head of the Calydonian Boar. He also sculpted the statues along the northern face of the Mausoleum at Halicarnassus.

ANSWER: **Scopas** [or **Skopas**]

20. Answer some questions about circuit analysis. For 10 points each:

[10] One way of solving a circuit is to set up a system of equations from this man's loop and junction rule.

ANSWER: Augustus **Kirchoff**

[10] These TWO [*emphasize*] component oscillating circuits alternate storing energy in an electric field and a magnetic field. They are frequently analogized to water sloshing back and forth in a bucket.

ANSWER: **LC** circuit [or **inductor-capacitor** circuits]

[10] This technique in electrical engineering approximates nonlinear devices with linear equations by considering the DC bias point and an AC signal of small amplitude.

ANSWER: **small signal** model

21. Answer the following about ancient Celtic religion, for 10 points each.

[10] Ancient Celtic religion was led by these priests, some of which conducted "wicker man" human sacrifices.

ANSWER: **druids** [or **druits**; or **druides**]

[10] The word “druid” takes its name from an Indo-European word for these things, which were the center of Celtic *nemeton* sites of worship. These things were frequently sacred to Demeter, such as ones destroyed by Erysichthon.

ANSWER: **trees** [accept **thickets** or **groves**; accept **oak** trees specifically]

[10] The sacred groves on this island, a druidic stronghold, were destroyed during the invasion of Gaius Suetonius Paulinus before he had to go deal with Boudica’s revolt.

ANSWER: **Mona** [or **Anglesey**]

22. This phenomenon results from the Pauli exclusion principle preventing fermions from occupying the same state. For 10 points each:

[10] Identify this phenomenon that results from the Heisenberg uncertainty principle, since the spread of fermions’ momenta will increase as they are compressed into smaller space. It gives rise to the Chandrasekhar limit.

ANSWER: electron **degeneracy pressure** [prompt on partial answer]

[10] Beyond the Chandrasekhar limit, these degenerate dwarf stars collapse into neutron stars or black holes.

ANSWER: **white** dwarf [or **white** dwarves]

[10] This is the heavier of the two elements that comprise most white dwarfs since it’s an end product of the triple-alpha process. A rarer type of massive white dwarf consists primarily of this element, neon, and magnesium.

ANSWER: **oxygen** [or **O**] (the other of the two elements is carbon)

23. These words vary between languages, exemplified by *very* different ones for elephant calls. For 10 points each:

[10] Identify these words which imitate the sounds that they represent, like “woof” for a dog’s bark.

ANSWER: **onomatopoeia**

[10] This morphological process, in which part or all of a word is repeated in some manner, is an extremely common way of forming onomatopoeia.

ANSWER: **reduplication**

[10] This language’s writing uses a special character to indicate the reduplication of a particular syllable or sound. This language’s writing system includes two syllabaries, one of which is mainly for writing foreign words.

ANSWER: **Japanese** [or **Nihongo**]

24. This leader of the Gongche Shanshu movement published a notable study of Peter the Great. For 10 points each:

[10] Identify this man, who worked with his student Liang Qichao during the Hundred Days’ Reforms. He promoted racist theories of East Asian and white supremacy and outlined a utopian Confucian society in *Da Tongshu*.

ANSWER: **Kang Youwei** [or **Hōng Yáuh Wàih**; prompt on partial answer]

[10] Kang Youwei served this unscrupulous Empress Dowager, who ruled in place of her son Ruizong.

ANSWER: Empress Dowager **Cixi**

[10] Kang’s monarchist ideology lost out to that of this developer of the Three Principles of the People, who co-founded the Kuomintang and was the First President of the Republic of China.

ANSWER: **Sun** Yat-Sen