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### Tossups:

1. **The Kshir Sagar was composed entirely of this substance, and, along with Vaikuntha, serves as a residence of Vishnu. According to the Matsya Purana, a wife of Brahma named Surabhi first produced this substance. The demoness Putana tried to kill Krishna by offering him this substance. The Halahala poison was swallowed by Shiva after it originated from this substance, on which the serpent Adishesha rests. Vishnu's sixth avatar, Parasurama, went on a Kshatriya genocide when (\*) Kartavirya stole a wish-granting creature that also produced this substance; those creatures were also tended by *gopis* like Radha. Mount Mandar was placed in this substance to produce amrit, and the naga Vasuki served as a rope in order to "churn" an ocean of it. For 10 points, identify this substance produced by Kamadhenu, the first cow.**

ANSWER: milk

2. **One book about these people proposes "original community," or "borrowing" as explanations for their prevalence, while another book about these people complains about second-graders who wrote stories such as "a man killed another man." That book later tells a story in which one of these people licks a lamp, causing him to be trapped, and it discusses the idea of the external soul as an example of the (\*) "ultimate boon." A book about these people discusses how their lives often feature such threshold-crossing events as the "road of trials" and the "call to adventure," elements of the "monomyth" structure. Otto Rank wrote about the "Myth of the Birth of" one of these types of people. For 10 points, name these figures exemplified by people such as Jesus, Prometheus, and Luke Skywalker, who, according to Joseph Campbell, have "a thousand faces."**

ANSWER: hero

3. **These peoples' flag has a yellow disc on a background divided into black top half and a red bottom. These peoples set up an unofficial tent embassy on the lawn of a former national legislature. Attorney General Michael Lavarch set up Bringing Them Home, a national inquiry into a wrong against these peoples. The landmark 1992 *Mabo* decision overturned the use of the *terra nullius* doctrine on the title to land held by these peoples in common law. National (\*) Sorry Day commemorates the mistreatment of these peoples. Official apologies for the Stolen Generations – young members of these peoples taken from their families – were delivered in 2008 and 2014 by Prime Ministers Kevin Rudd and Julia Gillard. For 10 points, name these peoples, who lived on a certain island country long before the British convicts were sent to live in places such as Melbourne and Sydney.**

ANSWER: Australian Aboriginals [or Indigenous Australians; or Australian Aborigines; prompt on Australians, Aboriginals, Indigenous, Aborigines etc.; anti-prompt on Stolen Generations or Stolen Children]

4. **Sleator et al performed an optical version of this experiment in which resonant and non-resonant helium atoms appeared to behave differently; that optical variant can be used to make non-demolition measurements. This experiment was assisted by the sulfurous output of a cheap cigar turning a photographic plate black. Although this experiment appeared to confirm the Bohr-Sommerfeld (\*) hypothesis over Larmor's theory, both were later shown to be incorrect. The experimenters never considered the atoms they used were in the  $L=0$  versus the  $L=1$  angular momentum states. In this experiment, silver atoms were accelerated through an inhomogeneous magnetic field, generating discrete spots on the detector. For 10 points, name this experiment which showed that nuclei have quantized spin.**

ANSWER: Stern-Gerlach experiment

5. **One writer from this movement wrote "Farewell, both! I shall see the shade you became" to end a poem which asks, "was it a dream I loved?" This movement's "manifesto" claimed that it wanted to "clothe the Ideal in a perceptible form." A poem from this movement claims its narrator "has wept too much" before exclaiming, "O let me go into the sea!" and declaring that it can no longer swim under the "terrible eyes of prison (\*) ships," while a speaker of a poem from this movement reminisces about sex with two nymphs. This movement, criticized for its "decadence," grew out of Baudelaire's *Les Fleurs du mal* and was inspired by**

Romanticism, and it inspired musical works based on *L'après-midi d'un faune* and *Clair de Lune*. For 10 points, name this literary movement whose members included Arthur Rimbaud, Stéphane Mallarmé and Paul Verlaine. ANSWER: Symbolism [or Symbolist or le symbolisme; accept decadence before mention; prompt on aestheticism]

6. One of these artworks features a poem reading "I have no refuge in the world other than my threshold" and is attributed to the artist Maqsood of Kashan. Geometric designs often figure into *gabbah*, a type of these found among the Luri people. Many of these artworks use the *ejder*, a type of dragon motif, and more notably the *elibelinde* motif, which depicts a woman with her hands on her hips. One of a pair of these named the "Arbadil" inspired the creations of William (\*) Morris. These objects, which are called *gul* or *kilim* in the Islamic World, often appeared as a sign of exoticism in the paintings of Hans Memling. Shah Tahmasp set up royal factories for making these things in Isfahan and Tabriz, and the quality of these things are often judged by their knot density. For 10 points, name this type of decorative textile, which is often placed on the floor of Afghan and Persian homes. ANSWER: carpets [or rugs]

7. In one essay, this writer described a man who got a murderer released from prison, only for him to kill again. In one book by this author, a woman yells "Go curse your God, boy, and die" before her sons kick the narrator out of the house; that narrator is forced to repeat the phrase "social responsibility" before dreaming of opening an infinite series of envelopes. This author rebutted an Irving Howe essay in "The World and the Jug," and in another work by this author, a musician burns his Cadillac on the lawn of a senator, (\*) Adam Sunraider, who was raised by the black minister Alonzo Hickman. This author of *Shadow and Act* and *Juneteenth* created a character who works in a paint factory and is forced to fight in a "Battle Royale" before meeting Ras the Exhorter and who lives underground with 1,369 lightbulbs. For 10 points, name this author of *Invisible Man*. ANSWER: Ralph Ellison

8. A painting titled for these people was used as the basis for a series of anti-war Picasso paintings which show horses and soldiers trampling over screaming nudes. Two diagonal lines are used to organize the figures in the two versions of a painting titled for these people, in each of which a man in red at left stands above a crowd on some steps. The left background is dominated by a rock used as an execution site in a painting titled for these people which allegorizes the reconciliation of the French after the (\*) Revolution. One of these people is being carried in the most famous sculpture by Giambologna. One of these people named Hersilia stops combat between two nude warriors in that Jacques-Louis David painting titled for their "Intervention." For 10 points, identify this mythological group whom Nicolas Poussin depicted being taken from their husbands by Romans. ANSWER: The Sabine Women [or the Sabines; accept *Intervention of the Sabine Women*]

9. In his memoirs about fighting with man, Henri Ducoudray Holstein describes him as a coward, a lecher, and incompetent. While visiting Rome with a professor, he made a vow on the Monte Sacro to take the career path that would make him famous. This man frequently clashed with the separatist Francisco Santander over presidential powers before he resigned. This man issued a proclamation which exonerated any murders committed against (\*) political enemies of his movement, known as the Decree of War to the Death. This victor at Boyaca and Carabobo met José de San Martín at the Guayaquil Conference, just before becoming dictator of Peru. His efforts led to the independence of territories that were formed into Gran Colombia. For 10 points, name this Venezuelan general nicknamed "El Libertador" who kicked Spain out of much of northern South America. ANSWER: Simon Bolívar [or Simón José Antonio de la Santísima Trinidad Bolívar y Palacios; prompt on El Libertador until read]

10. This reaction can be modelled by the GRI-mech program, and models of this process include Spalding's eddy break up model, which assumes fast reactions after the pre-heating phase. For most substrates, this reaction requires one reactant to undergo a forbidden transition from a triplet state to a singlet state. Smoldering is an example of its incomplete variety, and these reactions commonly occur at temperatures greater than the (\*) flash point. This reaction requires a fuel and an oxidant, and devices that use this reaction have exhaust products that are broken down by catalytic converters. For 10 points, name this type of reaction in whose complete version a hydrocarbons is completely broken down into carbon dioxide and water. ANSWER: combustion

11. Paul Kocher developed a family of methods that perform this task by analyzing timing. Eli Bahim and Adi Shamir developed a set of methods that computes a “differential” between two certain values, which is used in this task. Don Coppersmith created many algorithms for this task, which is done indirectly through “side-channel” methods. This task often relies on solving the (\*) elliptic curve discrete logarithm problem, and would become relatively trivial with the advent of schemes based on Shor’s algorithm. “Plaintext” methods for doing this task often targets an algorithm that uses the Chinese remainder theorem to compute congruences. Brute-forcing, which is often done on shadow files on Linu, is a very primitive form of this kind of procedure. For 10 points, name this task of making data protected by Diffie-Hellmann and RSA schemes no longer secure.  
ANSWER: decryption or cryptanalysis [accept any answers indicating breaking codes or the like; prompt on hacking]

12. One of this author’s characters gives his wife a recorded “wedding present” telling her, “Damn you, you little bitch.” That character created by this author accidentally gets sulfuric acid on his own face when trying to attack Dallow. An antihero created by this author realizes that wives can’t testify against their husbands and marries a waitress at Snow’s restaurant with help from the lawyer Prewitt. In another work by this author, Yusuf uses a love letter to blackmail a man who fakes angina pectoris and loves (\*) Helen Rolt; that man can’t confess his adultery when his wife Louise brings him to Communion. This author wrote about Fred Hale’s murder and Ida Arnold’s attempts to find Pinky Brown, and he discussed Catholicism in a novel where Major Scobie commits the mortal sin of suicide. For 10 points, name this author of *Brighton Rock* and *The Heart of the Matter*.  
ANSWER: Henry Graham Greene

13. In his essays, this man praised Ulysses Grant as a man of “sands” and recounted meeting an old umbrella-mender. Karl H. Wiik nominated this man for the Nobel Peace Prize, and a radio station named in his honor was later taken over by *The Jewish Daily Forward*. Oliver Wendell Holmes, Jr. believed one of this man’s cases was too similar to *Schenck v. United States*, so did not bear relitigating. While participating in the ARU, this man was arrested for interfering with the (\*) mail, and was later represented by Clarence Darrow. Although the only public office held by this man was a seat in the Indiana General Assembly, this man ran for President in 1920 from a jail cell before having his sentence commuted by Warren G. Harding. For 10 points, name this prominent Socialist, cofounder of the International Workers of the World and perennial presidential candidate.  
ANSWER: Eugene Victor Debs

14. An essay about this thing opens “Keep always this dim corner for me,” as the author watches its “hour” glide a “proud pavane of Time”; that essay by Aleister Crowley notes that this thing’s name means “undelightful.” Rehnholm and Falander discuss theater and consume this substance in a chapter named after it in *The Red Room*. A woman in *Waiting at Grenelle* is featured with her back turned to the viewer as she consumes this thing in a painting by Toulouse-Lautrec. A character in “All the King’s Men” calls this substance with (\*) rye the best hangover cure, and Oscar Wilde compared it to a sunset. A Picasso portrait of Angel Fernandez de Soto features this thing, and a Picasso sculpture named for it contains a sugar cube sitting on a spoon. For 10 points, name this titular “green fairy” pictured alongside a miserable woman in a painting by Degas.  
ANSWER: absinthe [prompt on answers like the green goddess or the green fairy (until mentioned)]

15. This thinker argued that philosophers should make “free use” of science and that in doing so the normative becomes descriptive, as in other types of engineering. In one work, he recounted Neurath’s parable of the mariner who has to rebuild his boat while afloat in it, and praised Carnap’s “The Logical Structure of the World” for developing the “conceptual” side of a discipline. He posited a (\*) “rabbit-fly” that can only appear in the presence of rabbits in his analysis of the word “Gavagai”. He analyzed the sentence “Everything green is extended” in another work where he compared the terms “bachelor” and unmarried man.” He wrote that the titular discipline should be treated as a form of psychology in one work, and in another he attacked the analytic-synthetic distinction. For 10 points, name this author of *Word and Object* and “Two Dogmas of Empiricism.”  
ANSWER: Willard van Orman Quine

16. This composer used a text created by the founder of the Rosicrucian church in the hymn “Salut drapeau!” In one piece, he quoted what he called a “well-known Mazurka” by Schubert that’s actually a quotation of

**Chopin's B-flat minor sonata in A minor. David Toop was the first to perform another piece by this composer in its entirety. He used the Latour poem *Damnation* to preface one of his *Three Sarabandes*. This composer wrote a trio of pieces about a (\*) Holothurian, an Edriophthalma, and a Podophthalma, as well as a piece whose only tempo marking is *tres lent* [tre lahn] or "slowly"; the latter piece, which repeats a phrase 840 times, is titled *Vexations*. This composer claimed Flaubert's *Salammbô* inspired him to write a series of pieces evoking a Greek athletic festival. For 10 points, name this French composer of *Dessicated Embryos* and *Gymnopedies*.**

ANSWER: Erik Satie

**17. One of these non-living objects names a novel that repeats the line, "Every negro walk in a circle. Take of that and make it what you will." In that text named for one of these things, Lilith kills the abusive Rogets but fails to save Robert Quinn, who leaves her with their daughter Lovey. Along with that work by Jamaican author Marlon James, one of these things is given as a birthday gift to a Yale graduate and aspiring architect who dates Maxine; that character's father survived a (\*) train crash in India because medics saw a piece of one of these objects in his hand, causing him to name his son Nikhil. A man praises the speeding up of the modern world in a speech defending the "bright," "clean" destruction of these items; this man, Captain Beatty, uses the Mechanical Hound to track down Guy Montag. For 10 points, name these objects burned in *Fahrenheit 451*.**

ANSWER: books [generously prompt on novels]

**18. The *midrash* of this book found in the Halakhah is called the *Sifra*. A portion of this book that was likely added later, its 27th chapter, discusses votive offerings and is read as part of Bechukotai. A section of this work orders the sending of a second goat into the desert to Azazel - that is the origin of the term "scapegoat." This book relates the judgement of two brothers who offered a sacrifice with "strange fire," Nadab and Abihu. It explicitly outlines the various functions of the (\*) *kohanim* and describes the construction of the Tabernacle under the direction of Moses. This largely consists of directions on how to conduct sacrifices in it, as well as various laws, such as a famous prohibition on homosexuality. For 10 points, name this third book of the Old Testament, known for its extensive collection of legal practices and offerings for the forgiveness of sins.**

ANSWER: Book of Leviticus [or Vayikrah]

**19. According to Cassius Dio, this person killed one leader by poisoning figs on a tree. This person started the career of the grandfather of Otho, and tried to will money to Galba. It was rumoured that one ruler moved to Capri to avoid seeing this person. Drusus the Elder was born from this person's first marriage to Tiberius Claudius Nero. In 38 BC, she met her second husband back in Rome, while he was still married to (\*) Scribonia. Tacitus alleged that this woman was complicit in the deaths of Marcellus and Germanicus, both rivals to her son, as well as in the death of her second husband. A famous statue of her second husband was unearthed at the site of her villa of Prima Porta to the north of Rome. She was deified by her grandson, Emperor Claudius. For 10 points, name this woman, whose eldest son, Tiberius, succeeded her second husband, Augustus, as Roman Emperor.**

ANSWER: Livia Drusilla [or Julia Augusta]

**20. Branching morphogenesis of the vascular networks in this organ is mediated by the transcription factor Gcm1. A form of alkaline phosphatase named for this organ can be used as a marker for seminoma. Cells in this structure uniquely expressed HLA-E and HLA-G, and also secrete a peptide encoded by the TAC gene, which codes for neurokinin B and is highly expressed in cases of (\*) pre-eclampsia. Immunoglobulin G is capable of crossing this structure, which is also crossed by the TORCH infections. This structure contains structural contributions from both the decidua basalis and the chorion, and its layer of epithelial syncytiotrophoblast cells begins to secrete hCG soon after implantation. For 10 points, name this organ that mediates exchange of nutrients and oxygen between fetal and maternal blood.**

ANSWER: placenta

### Bonuses:

1. A minor spirit indigenous to the south of this region called Dorje Shugden has caused controversy among members of the Gelug-pa school, who dispute the spirit's nature. For 10 points each:

[10] Identify this region, which is home to a native religious tradition called Bon.

ANSWER: **Tibet** [or **Bod**]

[10] Dorje Shugden is a *gyalpo* spirit, a class of beings that also includes this group from Buddhist mythology, whose members are on the lowest level of Mount Meru. Their leader is Vaisravana, also known as Bishamonten.

ANSWER: **Four** Heavenly **Kings** [accept anything mentioning the number **four** and **kings** or **emperors**; accept numerous foreign-language equivalents, like **Shitennou** or **Sacheonwang** or **Sì Tiānwáng**; accept **Elite Four**, since that's literally their Japanese name; prompt on **Heavenly Kings** or **Cheonwang** or **Tennou**]

[10] The current holder of this title advocates an "inclusive" position with regards to Gelugpa teachings and opposes purist worshippers of Dorje Shugden. This person is the main religious leader of Tibetan Buddhism.

ANSWER: **Dalai Lama**

2. This type of process shares its name with a type of flame temperature, which is reached in the absence of heat loss to surroundings. For 10 points each:

[10] This type of thermodynamic process involves no heat or matter transfer into or out of a system. The ideal compression of gas in an engine is an example of this type of process.

ANSWER: **adiabatic** process

[10] This constant, denoted gamma and sometimes called the isentropic expansion factor, is equal to the ratio of heat capacity at constant pressure and heat capacity at constant volume.

ANSWER: **adiabatic index** [accept heat capacity ratio, ratio of specific heat, or Poisson constant]

[10] The second adiabatic invariant is used to characterize particles trapped in these devices, in which particles are trapped in areas of low field by being bounced back from areas of high field.

ANSWER: **magnetic mirror** [accept **magnetic bottle**]

3. This device featured multiple rotors, which moved to create varying electric circuits. For 10 points each:

[10] Name this cryptographic machine used by the Germans during the Second World War, first broken by the Polish Cipher Bureau. Information from it was named "Ultra" after its cipher was more extensively cracked by the British.

ANSWER: **Enigma** machine

[10] This headquarters of British codebreakers during WWII, where the Enigma and Lorenz ciphers were cracked, housed such codebreakers as Alan Turing and Joan Clarke; notably, 75% of its workers were women.

ANSWER: **Bletchley Park**

[10] This codename was given to the Japanese diplomatic cipher that the Americans cracked for their cryptanalysis program code-named "Magic" This step-switching device followed "Coral," "JADE," and "Red" systems.

ANSWER: **PURPLE** [or **97-shiki ōbun injiki**; or **Angoti B-gata**]

4. This artist's relationship with Camille Claudel likely inspired Henrik Ibsen's play *When We Dead Awaken*. For 10 points each:

[10] Name this sculptor of *The Man with the Broken Nose* and a monument to Balzac. He depicted the title figures waiting to die in *The Burghers of Calais*.

ANSWER: Francois Auguste Rene **Rodin**

[10] This sculpture by Rodin depicting an athletic young man sparked controversy due to false claims that Rodin had taken a cast from a living model. It was inspired by Michelangelo's *Dying Slave*.

ANSWER: *The **Age of Bronze*** [or ***L'Âge d'airain***]

[10] The Rodin Museum in this city contains casts of many of Rodin's works, like *The Thinker*, *The Kiss*, and *Eternal Springtime*. Its Museum of Art contains Alexander Calder's *Ghost* and his portraits of Carl and Laura Canadé Ziggrosser.

ANSWER: **Philadelphia**

5. The narrator of this novel is disappointed that his French guide is named Billfinger and suggests calling him "Alphonse Henri Gustave de Hauteville" instead. For 10 points each:

[10] Name this humorous travelogue by the author of *Roughing It*, in which the protagonist tours Europe and the Middle East via the *Quaker City* boat.

ANSWER: The *Innocents Abroad*

[10] This author of *The Innocents Abroad* and creator of Huckleberry Finn published his voluminous autobiography one hundred years after his death.

ANSWER: Mark Twain

[10] *The Innocents Abroad* is subtitled the “new” *Pilgrim’s Progress*, a work which also inspires the title characters of this novel. The twins Daisy and Demi are born in this novel in which Sallie Gardiner marries Ned Moffat.

ANSWER: Little Women

6. Poor briefing materials led Günter Schabowski to say that new regulations about this wall would “[take] effect immediately, without delay.” For 10 points each:

[10] Name that wall which was then opened a on November 9, 1989, a day earlier than planned.

ANSWER: Berlin Wall [or Berliner Mauer; or the Anti-Fascist Protection Wall; or Antifaschistischer Schutzwall]

[10] This wall and Hadrian’s Wall were constructed by the Romans in Great Britain. Building of this wall began in 142 AD, with governor Quintus Lollius Urbicus supervising, and it ran from the Firth of Forth to the Firth of Clyde.

ANSWER: Antonine Wall

[10] This Italian city-state found in Dalmatia had a famous wall called the Walls of Ston, which protected it until it was conquered by Napoleon.

ANSWER: Ragusa [or Ragusan Republic]

7. The author of this work was partly inspired by a Ludwick Fleck book that divided the thought collective into an esoteric circle and an exoteric circle. For 10 points each:

[10] Name this work whose final chapter compares the title discipline to evolutionary biology in asserting that that discipline has no end goal. It analogizes the normal form of the title discipline’s research to puzzle-solving.

ANSWER: The *Structure of Scientific Revolutions* [prompt on SSR]

[10] Thomas Kuhn, the author of *The Structure of Scientific Revolutions*, used this two-word phrase for the transition from normal science to a new viewpoint when traditional modes of thinking are unable to resolve anomalies.

ANSWER: paradigm shift [or paradigm change]

[10] Similarly, Kuhn uses this phrase, derived from the rapid change undergone by those viewing the duck-rabbit illusion, to describe the sudden perspective transformation thrust upon scientists in a new paradigm.

ANSWER: gestalt switch

8. In a novel by André Malraux, Baron Clappique is the only one of the four protagonists to survive a failed insurrection. For 10 points each:

[10] That novel, *Man’s Fate*, is set in this country home to authors like Mo Yan and Gao Xingjian.

ANSWER: The People’s Republic of China [or Zhōnghuá Rénmín Gònghéguó]

[10] This Chinese author of *The Writer as Migrant* and “Sabotage” wrote about Lin Kong, an army physician whose wife refuses to divorce him for years, in *Waiting*.

ANSWER: Ha Jin [or Jin Xuěfēi]

[10] In this other novel by Jin, Yu Yuan is taken prisoner during the Korean War and ends up caught between Communist Chinese and Nationalist Taiwanese forces, the latter of which leave him with an unfortunate tattoo.

ANSWER: War Trash

9. One philosopher with this surname helped found the Ricardian school of economics and wrote the influential - and racist - *History of British India*. For 10 points each:

[10] Name this surname shared by that author of *Elements of Political Economy* and his more famous son, who defined the “harm principle” in *On Liberty* and wrote the work *Utilitarianism*.

ANSWER: Mill [accept James Mill or John Stuart Mill]

[10] With his wife Harriet Taylor, Mill wrote this 1869 essay that argued for the education and enfranchisement of the title group, as society would overall benefit from more people “[using] their faculties freely.”

ANSWER: “The Subjection of Women”

[10] This other work argues that women should be educated in order for them to contribute to society. It also calls for women to not be ruled by their sensibilities and emotions, and attacks works by Rousseau and Talleyrand.  
ANSWER: “A Vindication of the **Rights of Woman**”

10. This process occurs during affinity maturation in a germinal center, and occurs are WRCH motifs. For 10 points each:

[10] Name this mechanism by which B cell receptors are modified during clonal expansion to improve their binding affinity to a given antigen. This process introduces both substitutions and indels.

ANSWER: **somatic hypermutation** [or **SHM**]

[10] This enzyme catalyzes both somatic hypermutation and class-switching. It causes mutations by changing cytosine into uracil.

ANSWER: **activation-induced cytidine deaminase** [accept **AID**]

[10] These Y-shaped proteins are secreted by plasma cells and are used by the immune system to recognize pathogens. They are also known as immunoglobulins, and B cell receptors are their membrane-bound form.

ANSWER: **antibodies**

11. This character reads a letter saying “M, O, A, I, doth sway my life” and assumes that this refers to him, since these letters are all in his name. For 10 points each:

[10] Name this Puritan steward who falls in love with Olivia. Maria tricks him into thinking Olivia wants him to wear yellow stockings and cross garters, which she finds hideous and which gets him arrested as a lunatic.

ANSWER: **Malvolio**

[10] Malvolio appears in this Shakespeare play about the twins Viola and Sebastian; Viola cross-dresses after a shipwreck but falls in love with Duke Orsino, who loves Countess Olivia.

ANSWER: **Twelfth Night**

[10] When Olivia’s companion Maria rebukes the fool Feste for being late and says that Olivia will do this to him, he replies that “many a good” one of these “prevents a bad marriage.”

ANSWER: **hanging**

12. Launched in 1965 and expanded in 1981, this is one of the largest programs of the War on Poverty. For 10 points each:

[10] Name this American federal government program, which provides free early-childhood education and nutritional programs to children from poor families.

ANSWER: **Head Start**

[10] This federal government office was created to administer many of the programs of the War on Poverty, including VISTA, the Job Corps and, initially, Head Start. This office’s first director was Sargent Shriver.

ANSWER: Office of **Economic Opportunity** [or **OEO**]

[10] The War on Poverty was part of this president's Great Society initiative, which also included the creation of Medicare and Medicaid. This Democrat served from JFK’s assassination in 1963 until 1969.

ANSWER: Lyndon Baines **Johnson** [accept **LBJ**]

13. This composer’s Grand Sonata No. 1 in F-sharp minor contains a second movement labeled “Aria.” For 10 points each:

[10] Name this composer of the *Spring* and *Rhenish*, who composed *Traumerei* for his collection *Scenes from Childhood*. He went insane and died in his mid-40s, survived by his brilliant pianist wife Clara.

ANSWER: Robert **Schumann**

[10] This collection of piano pieces by Schumann features movements inspired by commedia dell’arte characters as well as composers like Paganini and Chopin. It contains a three-bar long piece with no tempo markings, which many suspect was never meant to be played.

ANSWER: **Carnaval**

[10] The sixth movements of *Carnaval* was based on this alter ego of Schumann representing his passionate, fiery side, whom Schumann credited for composing the rousing fourth movement of his *Davidsbündlertänze* suite.

ANSWER: **Florestan**

14. Name some Hugo-winning novels, for 10 points each:

[10] This 1999 Hugo winner by Connie Willis is named after the subtitle of *Three Men on a Boat*. In it, the severely sleep-deprived, time-travelling Ned Henry and Verity Kindie try to locate the bishop's bird stump and a missing cat.  
ANSWER: **To Say Nothing of the Dog**; or, How We Found the Bishop's Bird Stump at Last

[10] In this 1967 Hugo winner by Robert Heinlein, the computer Holmes IV leads a libertarian lunar rebellion from Earth with the help of Mannie O'Kelly-Davis.

ANSWER: **The Moon Is A Harsh Mistress**

[10] This author was nominated for the Hugo in 2001 for *A Storm of Swords*, 2006 for *A Feast for Crows*, and 2012 for *A Dance with Dragons*, all part of his popular series adapted to the television show *Game of Thrones*.

ANSWER: George R. R. **Martin** [or **GRRM**, pronounced **GURM**]

15. The specific orbital energy in this trajectory has a time-averaged kinetic energy equal to the eccentricity. For 10 points each:

[10] According to Kepler's first law, a satellite's path has constant eccentricity, meaning that its orbit forms this shape. This is the shape of the orbit taken by the Earth around the sun.

ANSWER: **ellipse**

[10] To transfer from one circular orbit to another, astronomers use this elliptical orbit, which touches the first circular orbit on one end and the second on another end.

ANSWER: **Hohmann transfer** orbit

[10] To calculate the velocity at any point in a Keplerian orbit, this equation is used. It states that velocity squared equals the gravitational constant times mass times the quantity 2 over radius minus 1 over semimajor axis.

ANSWER: **vis viva** equation

16. This novel opens with an explosive "No!" as the narrator explains to Dr. Oblath why he cannot have a child. For 10 points each:

[10] Name this novel by Imre Kertész about the Holocaust survivor B., who imagines the dark-eyed, freckled daughter or stubborn, blue-eyed son he might have had. It ends "Lord God / let me drown / forever, / Amen."

ANSWER: **Kaddish for an Unborn Child** [or **Kaddish for a Child Not Born** or **Kaddis a meg nem született gyermekért**]

[10] Kertész is from this modern-day Eastern European country, also home to Ferenc Kazinczy and the author of *The Transporters* and *She Loves Me*, Péter Esterházy.

ANSWER: **Hungary** [or **Magyarország**] [do not accept or prompt on **Austro-Hungary**]

[10] In *A Novel of Production*, Esterházy caricatures the regime of this leader, who is represented by Napoleon in *Animal Farm*.

ANSWER: Joseph **Stalin** [or Ioseb Besarionis dze **Jughashvili**; prompt on titles like **Great Architect of Communism** or **Gardener of Human Happiness**]

17. Herodotus claims that the main participant of this event had a dream in which his eventual successor shadowed his empire with his gigantic wings. For 10 points each:

[10] Name this event that led to the ascension of Cambyses II. Ctesias claimed that it occurred during a battle against the Derbices.

ANSWER: **death** of **Cyrus** the Great [or obvious equivalents]

[10] According to Herodotus, Cyrus was actually killed by this queen of Massagetae, who supposedly bathed Cyrus's decapitated head in a vessel of blood as a revenge for the death of her son.

ANSWER: Queen **Tomyris** [or **Thomyris**; or **Tomris**; or **Tomiride**; or **Tomiri**]

[10] After the death of Cyrus and the troubled reign of Cambyses II, this man became the ruler of the Achaemenid Empire. He was best known for leading the first Persian invasion of Greece and his eventual defeat at Marathon.

ANSWER: **Darius I** [or **Darius the Great**; prompt on **Darius**]

18. An artist from this country compiled his lectures at the Bauhaus into his namesake notebooks. For 10 points each:

[10] Identify this country, the birthplace the author of the *Pedagogical Sketchbooks*, as well as the painter Ricco, whose work placed youthful, androgynous figures into magical realist scenes.

ANSWER: **Switzerland** [or **Schweiz**; or **Confoederatio Helvetica**]



[10] This other Swiss artist was inspired by the burial of his daughter Maria in Florence's English Cemetery to produce several versions of his best known work. This painter depicted several tombs carved into the cliffs surrounding a group of dark cypress trees in his *Isle of the Dead*.

ANSWER: Arnold **Böcklin**

[10] Switzerland home to Henri Fuseli, who showed a shadowy one of these animals poking its head into the title scene in his *The Nightmare*. Napoleon is shown atop one of them in David's painting of him crossing the alps.

ANSWER: **horse**

19. Zeus told this son of Iapetus and Clymene that he would have given him the ability to do work enough in a day to supply him for a whole year, if he had not angered the gods. For 10 points each:

[10] Name this Titan who stole fire from the gods and gave it to humans, only to be rewarded by having an eagle eternally eat his liver.

ANSWER: **Prometheus**

[10] In a meeting at this place, Prometheus tricked Zeus into picking a large offering of fat and bones rather than a small offering of meat from an ox.

ANSWER: **Mecone**

[10] Description acceptable: Hercules killed the eagle tormenting Prometheus during this labor, his eleventh. Out of gratitude, Prometheus gave him instructions for how to complete this task.

ANSWER: retrieving the golden **apples** from the **Garden** of the **Hesperides** [prompt on incomplete answer]

20. When NASA introduced electronic computers to do their navigation calculations, John Glenn refused to fly unless this woman checked the computer's work. For 10 points each:

[10] Name this African-American mathematician, who performed flight navigation calculations for NASA before digital computers became prevalent. She calculated the trajectories for Apollo 11.

ANSWER: Katherine **Johnson**

[10] Johnson performed the calculations for this first American human spaceflight program, which used cone-shaped spacecraft to launch John Glenn and others into space.

ANSWER: Project **Mercury**

[10] This member of the Mercury Seven became the first Chief of the Astronaut Office. He was grounded because he was discovered to have atrial fibrillation.

ANSWER: Donald Kent Deke **Slayton**