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## TOSSUPS

1. This leader was nearly assassinated by a settler terrorist group known as the Secret Army Organization in 1962. In response to a comment by this leader, Lester Pearson replied "Canadians do not need to be liberated" in 1967. His administration was briefly challenged by massive student protests and a wildcat general strike in May 1968. He arranged the Evian Accords, in which the FLN received control of the colony of (\*) Algeria, while he was serving as the first president of the French Fifth Republic. For 10 points, name this French president who had previously led the Free French during World War II.

ANSWER: Charles de Gaulle

2. The subjects of this ritual are obligated to lay tefillin after it occurs. Although it is increasingly uncommon, this ritual may also be practiced by 83-year old men. After this ritual, its subjects must follow 613 holy laws. Monetary gifts that are multiples of 18 are favored during this ritual. While some modern branches require this ritual's participants to (\*) write a research paper, its subject is usually called upon to recite parts of the Torah. It occurs on the first Shabbat after its subject's 12th or 13th birthday. For 10 points, name this Jewish coming-of-age ritual.

ANSWER: bar mitzvah [accept bat mitzvah, b'nay mitzvah, b'not mitzvah]

3. This family of musical instruments can produce intense, stressed sounds in a technique called martelé (MAR-tuh-LAY). Performers can lightly depress their fingers on this class of instruments to produce natural harmonics. These instruments often have four small metal screws on the tailpiece used for fine-tuning. The sound of these instruments can be improved by applying a brittle substance called (\*) rosin ("RAW"-zin). Smaller instruments in this family can be gripped comfortably using a shoulder rest. They can be plucked using pizzicato, a technique contrasted with arco, or using the bow. For 10 points, name this group of instruments which includes cellos and violins.

ANSWER: string instruments [or violin; or viola; or cello; or double bass]

4. The interior of these objects can be created by iterating the index of a pointer by a fixed value. The "append" operation can be used to increase the size of the dynamic variety of these objects. Though they are not lists, one can experience an off-by-one error when attempting to access these objects, and in C, strings can be represented as one of these objects filled with chars ("cares"). The index for (\*) rows always comes before columns when representing the two-dimensional examples of these objects, which can be used to represent matrices. For 10 points, name these objects in computer science which are initialized with square brackets and store a list of elements.

ANSWER: arrays [prompt on "vectors"]

5. A group from this continent was described by Marshall Sahlins as the "original affluent society." In the 1930s E. E. Evans-Pritchard conducted fieldwork on this continent's Nuer people. In 1938 a future political leader from this continent published an anthropological study of his native (\*) Kikuyu people, who always built their houses facing a certain mountain. Due to large scale migrations starting about 3000 years ago, a majority of this continent is now dominated by the Bantu language group. In 1974 a specimen of *Australopithecus* (aw-STRAY-loh-PITH-eh-kuss) nicknamed Lucy was discovered on this continent. For 10 points, name this continent where humans originated.

ANSWER: Africa

6. Several Egyptian gods possess a protective object of this kind known as the Wadjet. The Hindu god Kama is burned to ashes using one of these items belonging to the meditating Shiva. After fleeing from the underworld, Izanagi (ee-zah-nah-gee) washes two of them to produce the siblings Amaterasu (ah-MAH-tay-RAH-soo) and Tsukuyomi (SOO-koo-YOH-mee). It's not an ear, but drinking from the well of (\*) Mimir requires one of these body parts to be sacrificed by Odin. In Greek myth, the tail of the peacock is covered in one hundred of these body parts taken from the watchman Argus Panoptes (pan-OP-teez), who uses them to never fully fall asleep. For 10 points, identify this body part of which cyclopes possess only one.

ANSWER: eye [or eyeball]

7. One disease in this organ can calcify to form Ghon's complex, and can progress to a miliary form in immunocompromised people. Cancers in this organ are divided into the two general categories "small-cell" and "non-small-cell". Its Clara cells secrete uteroglobin, which may play a role in the synthesis of DPPC in its type II cells. The veins leading to these organs are the only ones to carry (\*) oxygenated blood, and diseases like emphysema (EM-fuh-ZEE-muh) obstruct its functions. This organ contains sacs called alveoli, which are fed by the bronchi (BRON-kye). For 10 points, name these respiratory organs that exchange carbon dioxide and oxygen with the bloodstream.

ANSWER: lungs

8. A stream of consciousness monologue in this novel continually repeats the phrase "A hot thing." Due to his experiences working in a chain gang, a man in this novel describes his heart as a "tobacco tin box." In this novel, the hair ribbon of a dead black girl is found in a river by a man named Stamp Paid, who hesitates to knock on the door of (\*) 124 Bluestone Road. This novel's main narrative is interspersed with flashbacks to the Sweet Home Plantation, where Sixo and three slaves named Paul once lived. This novel's title character comes back from the dead to haunt her sister Denver and her mother, the escaped slave Sethe (SETH-uh). For 10 points, name this novel by Toni Morrison.

ANSWER: Beloved

9. In the 1890s W. E. B. Du Bois (doo BOYCE) went door-to-door through this city to collect data for a landmark sociological study titled after its namesake "Negro." In 1985, the local leader John Africa was killed in this city after a police helicopter dropped a bomb onto a row house occupied by a black liberation group known as MOVE. The First and Second Banks of the United States were based in this city, which was also the meeting place of both the First and Second (\*) Continental Congresses. In 1787, the Constitutional Convention met in its Independence Hall. For 10 points, name this largest city in Pennsylvania.

ANSWER: Philadelphia [accept *The Philadelphia Negro*]

10. In Islamic tradition, a mountain on this island is where Adam fell to Earth, leaving a prominent footprint on the peak. This island is connected to the mainland by a series of shallow limestone shoals, which people were able to walk across until the 15th century, known as Adam's Bridge. On this island, the sacred tooth of Buddha is currently housed in the former royal palace of the Kingdom of Kandy. The (\*) Tamil Tigers were a separatist group that once operated on this island, which was known as Ceylon during the British colonial era. For 10 points, name this island country south of India.

ANSWER: Sri Lanka [or the Democratic Socialist Republic of Sri Lanka or Shri Lamka or Ilankai; accept Ceylon before mentioned]

## HALFTIME

11. One of this author's characters asks to be forgotten in his will and instructs that no one hold a funeral for him. In another novel by this author, the protagonist falls asleep on her way to the market, leading to the death of Prince, her family's horse. That title character of a novel by this author is arrested at Stonehenge for killing her (\*) rapist Alec. This author set many novels in the fictional county of Wessex, including a novel which begins with the sale of Susan and Elizabeth-Jane to a sailor by Michael Henchard. For 10 points, name this author of many depressing novels including *The Mayor of Casterbridge* and *Tess of the D'urbervilles*.

ANSWER: Thomas Hardy

12. A pilot from this family was killed while test-driving an explosives-filled, remote-controlled airplane in 1944. A woman named Rosemary from this family was sent to a mental hospital after she received a lobotomy in 1941. In 1969 a senator from this family accidentally drove his car off a bridge and killed Mary Jo Kopechne (ko-PECK-nee) in the Chappaquiddick (chap-uh-KWID-ick) incident. A former Attorney General from this family was shot by (\*) Sirhan Sirhan while campaigning to become the 1968 Democratic presidential nominee. For 10 points, name this American political family whose members included the brothers Ted, Robert, and a president named John.

ANSWER: Kennedy family

13. This word titles a 2003 Baby Bash hit featuring Frankie J that was sampled by Robin Schulz in a song asking how a girl with this nickname "get so fly?" This substance appears in the title of a song which instructs its listener to "take a bottle, shake it up." That song by Def Leppard asks for some of this substance to be poured on the singer. Fall Out Boy tells a person named after this word that "we're going down swinging." This substance appears in title of a song in which (\*) Adam Levine sings "you got me begging / Begging, I'm on my knees." For 10 points, name this substance, which according to a Maroon 5 song would bring "sweetness in my life."

ANSWER: sugar [accept "Suga Suga" or "Sugar" or "Pour Some Sugar on Me" or "Sugar Ray Leonard"]

14. This procedure can be modeled visually using a series of horizontal lines drawn to represent the number of stages needed. A Perkin triangle is used in the vacuum variant of this procedure, and the number of theoretical plates that it needs can be calculated with the McCabe-Thiele method. One form of this procedure is used to split up large hydrocarbons, and it is unable to completely separate water from (\*) alcohol because they form an azeotrope. Raoult's law relates vapor pressure to mole fraction, and is used to calculate the results of this process. For 10 points, name this procedure of boiling a liquid to separate it from others.

ANSWER: distillation [accept any specific types such as vacuum distillation]

15. Genres of literature from this country include the naturalistic I-Novel ("eye-novel"). A poetic form from this country requires two juxtaposing ideas separated by a "cutting" word, along with a *keigo*, or seasonal reference. A traditional form of theater from this country requires the use of puppeteers, chanters, and *shamisen* musicians. This country is home to a genre of theater plays categorized as (\*) "love suicides." A frog serves as a seasonal reference to spring and jumps into a pond in a poem from this country written by Matsuo Basho. For 10 points, name this home country of the *buraku* playwright Chikamatsu Monzaemon and origin of the seventeen-syllable *haiku*.

ANSWER: Japan [accept Nippon-koku or Nihon-koku]

16. This phenomenon can be modeled by considering material imperfections, or asperities, in a surface. A change in fluid velocity can be used to calculate this quantity using the Darcy-Weisbach equation. It can induce an electric current in the triboelectric effect, and its dry form was modeled by Coulomb. Amontons' laws state that this force is independent of contact area and is proportional to the (\*) normal force. A slipless rotating wheel will experience its static form, while a sliding box will undergo its kinetic form. For 10 points, name this force with a namesake coefficient that opposes motion.

ANSWER: friction [accept friction factor; accept static friction before "static" is read; accept kinetic friction before "kinetic" is read]

17. In order to support this country's president José Balmaceda, James G. Blaine prevented an arms shipment on the *Itata* from reaching this country's rebellious navy in 1891. From the 1950s to 1970s this country nearly fought its eastern neighbor multiple times over the disputed Beagle Channel. In 1883 it acquired valuable nitrate deposits in the Antofagasta region after it defeated (\*) Peru and Bolivia in the War of the Pacific. This country gained permanent independence from Spain in 1817, after Bernardo O'Higgins recaptured its capital of Santiago. For 10 points, name this South American country with a long Pacific coast.

ANSWER: Chile (CHEE-lay) [or Republic of Chile or Republica de Chile]

18. This company recently underwent a reorganization that divided it into, among other things, a semi-secret research division that produces "moonshots" known as "X." In April 2015 this company introduced a low-cost wireless service known as Project Fi (fye), and regulators in the European Union filed an (\*) antitrust suit against this company for discriminating against the travel and shopping sites of competitors. In 2014 a European court ordered this company to grant its users the "right to be forgotten." In 2013 it introduced its namesake Fiber service to Kansas City. For 10 points, name this search engine company.

ANSWER: **Google** [accept **Alphabet** Inc.]

19. This author wrote a children's book whose title character fights Khattam-Shud in a "Sea of Stories." In a novel by this author, an orphan girl eats butterflies and leads a march of pilgrims to the sea. One of this author's characters hopes to rearrange the Qur'an into chronological order and fathers a (\*) supernatural child who loses his abilities after a sinus surgery. In that novel by this author, a character sprouts wings and a halo while another grows horns and a tail after surviving a plane hijacking. For 10 points, name this author of *Midnight's Children*, against whom the Ayatollah Khomeini issued a fatwa for writing *The Satanic Verses*.

ANSWER: Sir Ahmed Salman **Rushdie**

20. An artist from this country produced a documentary about the street art of Thierry Guetta. Charles Saatchi funded another artist in this country to produce an artwork in which a tiger shark is suspended in a vitrine. A work from this country's *This Is Tomorrow* exhibition shows a woman vacuuming at the top of a set of stairs to the left of a bodybuilder holding a giant lollipop. This country is home to the creator of *Exit Through the Gift Shop*, as well as Damien Hirst and (\*) Richard Hamilton. An album cover from this country features four men walking down a crosswalk on Abbey Road. For 10 points, name this country home to the graffiti artist Banksy and The Beatles.

ANSWER: **United Kingdom** [or **UK**; or Great **Britain**; or the **United Kingdom** of Great Britain and Northern Ireland; accept **England**]

**END OF REGULATION, PROCEED ONLY IF TIED**

21. One definition of this quantity can be modeled as a line inversely proportional to the square of covalent radius, and has a y-intercept, or minimum value, of 0.744. This quantity is equalized in the Sanderson method of calculating this quantity, which considers the effect of atomic size on the Mulliken form of this quantity. The most common (\*) scale for this quantity was named after Linus Pauling. Differences in this quantity across covalent bonds determine whether they are polar. For 10 points, name this tendency of an atom to attract electrons, which is maximized for fluorine.

ANSWER: electronegativity [accept Allred-Rochow electronegativity, Sanderson electronegativity equalization, Mulliken electronegativity, or Pauling electronegativity]

22. A John Milton closet drama set in one of these locations inspired the title for Aldous Huxley's *Eyeless in Gaza*. A poem titled after one of these locations states that "alien tears will fill for him" because "outcasts always mourn" and bemoans the fact that "each man kills the thing he loves." Oscar Wilde's epitaph is drawn from that poem titled after one of these places. Richard Lovelace addressed a poem to Althea from one of these places that states (\*) "stone walls do not" one of these places "make, / Nor Iron bars a cage." For 10 points, name these locations which include one in Reading ("redding") that held Oscar Wilde after he was convicted of homosexuality charges.

ANSWER: prisons [accept jails; accept gaols ("jails")]

## BONUSES

1. Answer some questions about iconic locales from American horror films, for 10 points each:

[10] In Alfred Hitchcock's *Psycho*, Norman Bates is the proprietor of one of these establishments, where he dresses up in his dead mother's skin and stabs Marion Crane while she's showering.

ANSWER: Bates **Motel** [or **hotel**; do not accept "Bates Hotel"]

[10] Jack Torrance types out several pages of "All work and no play makes Jack a dull boy" and puts an axe through a door in this other hotel from Stanley Kubrick's *The Shining*.

ANSWER: **Overlook** Hotel

[10] This Los Angeles road names a David Lynch film in which Diane shoots herself after finding a blue key.

ANSWER: **Mulholland Drive**

2. Answer the following about Abraham Lincoln in poetry. For 10 points each:

[10] Walt Whitman wrote "Rise up--for you the flag is flung" in this shorter elegy for Lincoln. Several students use this elegy to address Robin Williams' character in the film *Dead Poet's Society*.

ANSWER: "**O Captain! My Captain!**"

[10] Anne Rutledge claims that Lincoln's forgiveness towards the Confederacy stemmed out of his earlier love for her in this collection of fictional epitaphs written by Edgar Lee Masters.

ANSWER: **Spoon River Anthology**

[10] This poet wrote "Abraham Lincoln Walks at Midnight," as well as a poem which repeats "Boomlay, boomlay, boomlay, BOOM" and whose speaker sees "THE CONGO, CREEPING THROUGH THE BLACK."

ANSWER: Vachel **Lindsay** [or Nicholas Vachel **Lindsay**]

3. During a battle in this war, Robert Capa photographed a loyalist militiaman being shot in *The Falling Soldier*, which might actually have been a staged scene. For 10 points each:

[10] Name this European civil war of the 1930s, which was won by a right-wing Nationalist coalition of Carlists and Falangists (**fah-LAHN-jists**).

ANSWER: **Spanish** Civil War

[10] The Republicans in the Spanish Civil War received substantial financial support from this Communist country, which was led by Joseph Stalin.

ANSWER: **Soviet Union** [or **U.S.S.R.** or **Union of Soviet Socialist Republics** or **Sovietsky Soyuz** or **S.S.S.R.** or **Soyuz Sovietskikh Sotsialisticheskikh Respublik**; prompt on "Russia"]

[10] Meanwhile, the Nationalists in the Spanish Civil War were aided by this volunteer "legion" of the German Luftwaffe (**LOOFT-vah-fuh**).

ANSWER: **Condor** Legion

4. For 10 points each, answer the following about government buildings in London.

[10] In 1732 George II bequeathed Robert Walpole this house, which is now the official residence of the Prime Minister of the United Kingdom.

ANSWER: Number **10 Downing Street** [prompt on "Number 10"]

[10] 10 Downing Street is situated near this palace, which is the London residence of the British royal family.

ANSWER: **Buckingham** Palace

[10] To the south of Buckingham Palace and 10 Downing Street is Vauxhall (**vox-"hall"**) Cross, a busy intersection near the headquarters of this British foreign intelligence agency.

ANSWER: **MI6** [or **Military Intelligence**, Section **6**; or **SIS**; or **Secret Intelligence Service**]

5. This trophic level is at the base of the energy pyramid, and is composed primarily of phytoplankton in oceanic ecosystems. For 10 points each:

[10] Name this ecological role, which is filled by plants on land. Organisms in this group create carbon compounds independently, relying only on outside energy sources like the sun.

ANSWER: primary **producers** [prompt on, but do not reveal, "autotrophs"]

[10] Producers use carbon fixation to produce their own energy, making them this kind of organism. They are contrasted with heterotrophs, which must consume other creatures to survive.

ANSWER: **autotrophs**

[10] Some communities have bacteria with this ability as their primary producers; bacteria with this ability use molecules like methane and hydrogen sulfide instead of oxygen.

ANSWER: **chemosynthetic** [accept word forms]

6. During this war, Stephen Decatur was forced to burn down the USS *Philadelphia* after it was captured by enemy forces in Tripoli (**TRIP-uh-lee**) Harbor. For 10 points each:

[10] Name this war that began in 1801 after the U.S. refused to pay tribute to the Pasha of Tripoli.

ANSWER: First **Barbary** War

[10] The First Barbary War was launched by this U.S. president, who had succeeded John Adams a year earlier.

ANSWER: Thomas **Jefferson**

[10] Jefferson later stoked anti-British sentiments after several crew members from an American warship were impressed into the British navy during this "affair."

ANSWER: **Chesapeake**-Leopard Affair

7. *Monogatari* are traditional Japanese prose narratives from the Heian period. For 10 points each:

[10] In one *monogatari*, a man of this profession finds the sparkling infant Kaguya next to some gold and raises her as his daughter, in an early example of proto-science fiction. It turns out Kaguya is a princess from the moon.

ANSWER: a **bamboo cutter** [accept *The Tale of the **Bamboo Cutter*** or ***Taketori** Monogatari*]

[10] In *The Tale of the Bamboo Cutter*, a heartbroken Emperor burns the Elixir of Immortality on top of this mountain near Tokyo that is ubiquitous in Japanese culture.

ANSWER: Mount **Fuji** [accept **Fujisan**]

[10] This other Heian period *monogatari* chronicles its protagonist's many affairs with women in its depiction of courtly life. The death of this tale's title character is represented by a blank chapter named "Vanished into the Clouds."

ANSWER: *The **Tale of Genji*** [or ***Genji Monogatari***]

8. One of these creatures named Litr is kicked onto a funeral pyre at Baldr's funeral; another, Alvis, is turned into stone by the morning sunlight. For 10 points each:

[10] Name these diminutive human-like creatures from Norse mythology, known for forging treasures such as the necklace Brisingamen.

ANSWER: **dwarf** [or **dwarves**; or **svartalf**; or **svartalfar**]

[10] This hammer of Thor ends up with a short handle when its forgers, the dwarves Brokkr and Eitri, are distracted by Loki in the form of a stinging gadfly.

ANSWER: **Mjölmir** (**mee-YOHL-"near"**)

[10] The dwarf Andvari is the original owner of Andvaranaut, a magical gold-producing variety of this object. Another dwarf-forged type of this item creates eight copies of itself every nine nights.

ANSWER: **ring**

9. During the Classical period, this musical form was divided into four movements comprising a fast movement, a slow movement, a minuet and trio, and a rondo. For 10 points each:

[10] Name this genre of orchestral music, whose name derives from the Greek words for "together" and "sound."

ANSWER: **symphony** [do not accept "symphonic poem"]

[10] The second-to-last of Joseph Haydn's symphonies begins with a quiet solo for this instrument, whose pitch can be altered using foot pedals.

ANSWER: **timpani** [or **kettledrum**; prompt on **drum**]

[10] This European city lends its name to both Haydn's very last symphony and to the collective set of his last twelve symphonies.

ANSWER: **London**

10. This element's isotope 40 is one of the most commonly encountered radioactive substances in everyday life. For 10 points each:

[10] Name this element, whose prevalence in a certain curved fruit inspired the unit of dosage BED, or banana equivalent dose.

ANSWER: **potassium** [accept **K**]

[10] This quantity for potassium-40 is 1.2 billion years, meaning the trace amounts of potassium in your body *right now* will be there for quite a while.

ANSWER: **half-life** [prompt on "lambda"]

[10] The half-life of a radioactive material can be found by modeling its decay as a reaction of this order. Reactions of this order are linear when the natural logarithm of concentration is plotted against time.

ANSWER: **first** [accept **one**]

11. The walls of Vincent Van Gogh's *The Night Cafe* are this color, which forms most of the sky along with yellow in Edvard Munch's *The Scream*. For 10 points each:

[10] A maid arranges fruit inside a room of this color in a painting titled *Harmony in this color*, whose dull tone produces a lack of three-dimensional depth.

ANSWER: **red**

[10] This leader of Fauvism painted *Harmony in Red*. He depicted his wife in *The Green Stripe* and scenes of leisure in *The Joy of Life* and *The Dance*.

ANSWER: Henri-Émile-Benoît **Matisse**

[10] At one of these events, art critic Louis Vauxcelles (**LOO-ee voh-sell**) labeled Matisse and Andre Derain as "wild beasts," or fauves. That annual "Autumn" one was paired with another one of these events for "Independent artists" in the springtime.

ANSWER: **salons** [prompt on English language equivalents like "exhibitions" by asking for the French word]

12. Throughout the Obama administration, this think tank has opposed health care reform but backed legalization of same sex marriage. For 10 points each:

[10] Name this prominent libertarian "institute."

ANSWER: **Cato** Institute

[10] The Cato Institute was founded in 1974 with financial backing from these brothers, a pair of billionaire industrialists known for their support of libertarian and conservative causes. Only last name is required.

ANSWER: **Koch** ("**Coke**") brothers [accept **Charles** [de Ganahl] and **David** [Hamilton] **Koch** in either order]

[10] Every two years, the Cato Institute awards a prize named after this conservative economist, who wrote *Capitalism and Freedom* and led the so-called Chicago school of economics.

ANSWER: Milton **Friedman**

13. For 10 points each, answer the following about walls of the ancient world:

[10] This Roman wall was built in AD 122 to protect the northern border of Britannia. It lies south of the smaller Antonine Wall, which was built two decades later.

ANSWER: **Hadrian's Wall**

[10] From the 5th century onwards, the double line of the Theodosian Walls provided the main defense for this historic city, which was captured by Mehmet II in 1453.

ANSWER: **Constantinople** [accept **Istanbul** or **Byzantium**]

[10] The 30 foot-high walls of this ruined city's "Great Enclosure" were first built in the 11th century by ancestors of the Shona people. Until the 1980s, the Rhodesian government denied that this city had been built by Africans.

ANSWER: **Great Zimbabwe** [prompt on "Zimbabwe"]

14. Eliphaz, Bildad, and Zophar assume that this man's suffering is the result of his sin, although Elihu attributes it to the infinite wisdom of God. For 10 points each:

[10] Name this character from the Bible, an inhabitant of Uz who questions the benevolence of God when he is suddenly struck with misfortune.

ANSWER: **Job** [or **Iyyov**; or **Ayyub**]

[10] In the Book of Job, Job's wealth and his ten children are taken away by this adversary of God and inhabitant of hell.

ANSWER: **Satan** [or **Ha-Satan**; or the **Devil**; prompt on "Lucifer"]

[10] Job is compared to righteous men such as Noah and Daniel by this prophet, who goes into a valley and brings dry bones back to life.

ANSWER: **Ezekiel**

15. For 10 points each, name these poems by Rudyard Kipling:

[10] This infamous Kipling poem about imperialism tells readers to "Send forth the best ye breed / Go bind your sons to exile, to serve your captives' need," as part of a title "Burden."

ANSWER: "The **White Man's Burden**"

[10] In 1910 Kipling was inspired by the life of Leander Starr Jameson, the British colonial politician who led the failed Jameson Raid before the Boer War, to write this poem that ends with the line "you'll be a Man, my son."

ANSWER: "**If**-"

[10] After visiting Burma in 1889, Kipling wrote this other poem that described the Irrawaddy River as the "road to" this poem's title city.

ANSWER: **Mandalay**

16. A particle in a box is modeled by confining it to a specific region surrounded by areas with infinite values of this quantity.

For 10 points each:

[10] Name this quantity, whose gravitational form can be calculated as mass times g times height, and is contrasted with kinetic energy.

ANSWER: gravitational **potential** energy [accept **PE** or **U**]

[10] Gravity is this kind of force, meaning that gravitational potential is only dependent on height. Forces of this kind act independently of path.

ANSWER: **conservative**

[10] This force sets a lower limit on the speed of an object at the top of a loop, raising it above what would be expected if potential energy was purely converted into kinetic.

ANSWER: **centripetal** force [prompt on "centripetal acceleration"; prompt on "gravity"; do not accept "centrifugal force" or "centrifugal acceleration"]

17. This event occurred several months after the Cowboys Tom McLaury, Frank McLaury, and Billy Clanton attempted to rob a stagecoach. For 10 points each:

[10] Those Cowboys were shot and killed in what 1881 gunfight, the most famous in the history of the "Wild West"?

ANSWER: Gunfight at the **O.K. Corral** [accept descriptions that mention the **O.K. Corral**]

[10] The O.K. Corral was located within this Arizona frontier town, which was renowned for its lawlessness.

ANSWER: **Tombstone**, Arizona

[10] The Gunfight at the O.K. Corral occurred between the Cowboys and three brothers from this family of lawmen.

ANSWER: **Earp** family

18. Name these thinkers who wrote philosophical critiques, for 10 points each.

[10] This thinker wrote about the "categorical imperative" in his *Groundwork for the Metaphysics of Morals* and extended that concept in his *Critique of Practical Reason*.

ANSWER: Immanuel **Kant**

[10] This ex-Young Hegelian criticized the influence of Ferdinand Lassalle while commenting on the platform of the Eisenachers in his *Critique of the Gotha Program* and famously stated that religion is "the opium of the people".

ANSWER: Karl Heinrich **Marx**

[10] This author's shift towards Marxism is evident in his *Critique of Dialectical Reason*, which came after his *Search for a Method*. He used the examples of a waiter and a woman being complimented to describe "bad faith."

ANSWER: Jean-Paul **Sartre (SAR-truh)**

19. These shapes can be formed by a plane intersecting a cone parallel to its sides, a visual representation of how much they deviate from circles. For 10 points each:

[10] Name these conic sections that always have an eccentricity of one and consequently always look the exact same, because they can be formed from transformations of  $x$  squared.

ANSWER: **parabolas**

[10] A parabola can be constructed as the locus of all points equidistant from the focus and this line on the opposite side. The minimum distance between this line and the vertex equals one over four  $a$ .

ANSWER: **directrix**

[10] Parabolas with this property can exist as a single parallel line. A hyperbola with this property can simply be two intersecting lines, while an ellipse with this property can be a single point.

ANSWER: **degenerate** [accept word forms]

20. God uses this Hebrew word during a conversation in which He had earlier said "sin crouches at the door." For 10 points each:

[10] Give this word which Adam Trask tells his son Cal, after Aron dies fighting overseas. According to a council of elders in Chinatown, this word most accurately translates into English as "thou mayest."

ANSWER: ***timshel***

[10] *Timshel* is a theme in this John Steinbeck novel about the parallel lives of the Trasks and the Hamiltons. Much of it is set in Salinas Valley.

ANSWER: ***East of Eden***

[10] These two Biblical brothers are a central motif in *East of Eden*, as their story parallels the lives of Charles and Adams, and later Cal and Aron. The older of these two brothers is considered the first murderer.

ANSWER: **Cain** and **Abel** [both names required; accept in either order]

21. This country's army employed a sniper nicknamed "White Death" who had over 500 confirmed kills. For 10 points each:  
[10] Name this Scandinavian country that was invaded in 1939 by the Soviet Union, during the Winter War.

ANSWER: **Finland** [or **Suomi**; or Republic of **Finland**; or **Suomen** tasavalta; or Republiken **Finland**]

[10] One year after the end of the Winter War, Finland counter-invaded the Soviet Union and aided the German assault on this major city in northwest Russia, which was besieged for 872 days of World War II.

ANSWER: **Leningrad** [prompt on "Petrograd" or "St. Petersburg"]

[10] After the tide turned against Germany during World War II, the Finnish government was forced to expel the German army through this northernmost region of Finland, as part of a namesake 1944 to 1945 war.

ANSWER: **Lapland** [accept **Lapland** War; accept **Sápmi**]