

Tossups

1. In the months before this event, a canal project was started at Lake Avernus based on the plan of the architects Severus and Celer. This event seemed to have been stopped after five days, but it may have restarted at the Aemilian estates with support from the former prefect of the vigiles, Ofonius Tigellinus. Some people blamed for this event were allegedly made into human torches in a ruler's garden. After this event, Severus and Celer designed wider and straighter streets, as well as the Domus Aurea. This event was blamed on Christians by a ruler who was in Antium when it started, although Cassius Dio claimed that man sang the "Sack of Ilium" and played a lyre during this event. For 10 points, name this 64 CE conflagration that destroyed much of a city ruled by Nero.

ANSWER: Great **Fire of Rome** [or **burning of Rome**; prompt on partial answer]

2. Hot-bottomed convective envelopes in these objects may be the sites of the Cameron-Fowler mechanism of lithium production, and their outer layers generate heavier elements through s-process nucleosynthesis. These objects form a namesake "bump" on H-R diagrams that corresponds to their mean molecular weight discontinuity being reached by shell burning. The less massive examples of these stars undergo a helium flash, and when they exhaust core helium they ascend their namesake asymptotic branch. These stars undergo thermal pulsations culminating in the shedding of a planetary nebula, leaving behind a white dwarf remnant. For 10 points, name this next stage in the evolution of the Sun, when it will swell up past Earth's current orbit and cool down from its current yellow-green color.

ANSWER: **red giants** [accept **red supergiants** until "helium flash"; prompt on "giant (stars)"]

3. This author wrote about Blore-Smith's search for excitement in the novel *Agents and Patients*. In this man's most famous work, a character gets sugar poured on him by Barbara Goring at a ball, and is later attacked with paint by the Quiggin twins. That work by this author includes the narrator's first love Jean, the sister of Peter Templer. A mysteriously successful character created by this man has an unsuccessful marriage to Pamela Flitton and dies after joining a cult led by Scorpio Murtlock. Kenneth Widmerpool appears in a 12-volume work by this man which includes novels such as *Casanova's Chinese Restaurant* and *A Question of Upbringing*. For 10 points, name this British author of *A Dance to the Music of Time*.

ANSWER: Anthony **Powell** [pronounced like "Pole"]

4. James Tabor and Phillip Arnold engaged critically with this man's writings, which were saved from a fire by his secretary Ruth Riddle and delivered by his lawyer Dick DeGuerin. Henry McMahon was responsible for this man acquiring a large number of guns. Byron Sage negotiated with this man and his lieutenant Steve Schneider, both of whom died from shots to the head. This man called the police after he was challenged to a corpse resurrection contest by rival George Roden. Reports of child abuse led to the signing off on a plan to use tear gas against this man by Janet Reno. A 51-day siege of this man's compound began with a botched ATF raid. For 10 points, name this leader of the Branch Davidians who died at the end of the Waco siege.

ANSWER: David **Koresh** [or Vernon Wayne **Howell**]

5. One text of this faith group bans "large gathering[s] of people" or "display" when laying the cornerstone of churches. At the beginning of religious services, members of this denomination recite a "statement of being" which notes that "there is no life, truth, intelligence, or substance in matter." The founder of this denomination, who studied under Phineas Quimby, also wrote *Pulpit and Press* and *Manual of the Mother Church*, which can be found in its Reading Rooms. This denomination started after its founder opened a Bible to Matthew 9:2 during a spinal injury, and then wrote a text whose second part is a *Key to the Scriptures*. For 10 points, name this Christian sect founded by Mary Baker Eddy, whose belief in prayer healing leads members to refuse medicine.

ANSWER: **Christian Science** [or **Church of Christ, Scientist**]

6. A painter with this last name is most famous for a triptych depicting the results of a woman's adultery, including the paintings "Despair," "Misfortune," and "Prayer." That triptych is called *Past and Present*. A man emerges from one of these objects with the continents imprinted on it in a Dalí painting. One of these objects appears in a cage in Magritte's *Elective Affinities*. A flower grows from one of these objects being held by a hand in Dalí's

Metamorphosis of Narcissus. A Velazquez painting depicts an old woman frying these objects. Along with pigments and water, one part of this material was used to make tempera. For 10 points, name these foodstuffs, jewel-encrusted ones of which were named after Fabergé.

ANSWER: eggs

7. This law can be derived from the first law of thermodynamics by using a Maxwell relation to replace the partial derivative of entropy with respect to volume at constant temperature, and expressing the radiation pressure as one-third the energy density. The man who deduced this law applied it to Charles Soret's bolometric data to generate an estimate of the temperature of the sun. Its namesake constant equals one-fourth the speed of light times the radiation constant, and is approximately 5.67 times ten to the minus eight watts per meter squared per kelvin to the fourth. For 10 points, name this law that the irradiance of a black body is proportional to the fourth power of its thermodynamic temperature.

ANSWER: Stefan-Boltzmann law [or Stefan's law]

8. In a Shmuel Agnon story named for one of these items, the narrator goes to Palestine to escape the satanic Gressler, but Gressler is the first person he runs into on the boat. The graduate school of English at Middlebury College is named after this item. In the *Kalevala*, Kullervo sends wild animals to kill Ilmarinen's wife after finding a rock inside this item. Utnapishtim and his wife use these items to prove that Gilgamesh was unable to stay awake for a week. A disturbing discovery inside one of these items is made by Ivan Yakovlevich at the beginning of Gogol's "The Nose." A man ends up spending nineteen years in prison for stealing one of these items in *Les Misérables*. For 10 points, identify this item which, in the *Rubaiyat*, accompanies "a jug of wine" and "thou."

ANSWER: a loaf of bread

9. The dominant theory of this faculty was empirically tested with the "cancellation method" by Dorothea Jameson and her husband Leo Hurvich. Observations in the changes of the effectiveness of this faculty at different times of day led to the discovery of the Purkinje shift. Its effectiveness can be tested through the Farnsworth Lantern Test and the Ishihara test, which consists of a series of variously sized dots. Disorders affecting this ability include protanomaly and protanopia. Ewald Hering spent his whole career in a debate with Hermann von Helmholtz over the mechanism of this faculty, although modern theories generally unify the "opponent process theory" and the "Young-Helmholtz theory." For 10 points, name this faculty which is caused by cone cells in human beings and which is unavailable to dogs.

ANSWER: color vision [accept color perception or color recognition, prompt on "vision"]

10. This quantity can be calculated $-3kT$ times the natural log of an insertion parameter over the thermal de Broglie wavelength. For a given component, the excess of this quantity is RT times the log of its activity coefficient, and its residual is RT times the log of its fugacity coefficient. For an electron, this quantity is the negative electronegativity. At constant temperature and pressure, the sum of mole fraction times this quantity for each component equals zero, according to the most common version of the Gibbs-Duhem equation. It's not concentration, but neutral mass diffusion always occurs along gradients of this quantity. Like fugacity, for two phases in equilibrium, this quantity is the same for each component. For 10 points, name this quantity, the partial molar Gibbs free energy, symbolized μ .

ANSWER: chemical potential [or partial molar Gibbs free energy before it is read; prompt on just "Gibbs free energy"]

11. Some of the clothing and customs of people from this modern-day country were depicted in the Boxer Codex. A society in this country included gintubos, who were born to slaves or debtors called alipins. That society in this country included the independent timawa class and leaders of barangays called datos. A datu in this country named Humabon allied with an explorer who tried to curry favor by fighting a battle with a rival leader. Antonio Pigafetta described this country's Battle of Mactan, in which an invasion from Cebu Island was defeated by Lapu Lapu. Islam spread to part of this country to create the Moro people. For 10 points, name this Pacific Ocean archipelago where Ferdinand Magellan was killed while trying to circumnavigate the Earth, and which was named after a Spanish king.

ANSWER: Republic of the Philippines [or Republika ng Pilipinas]

12. This country's capital is home to a green domed market called the Chorsu Bazaar. One of its traditional foods is a lamb and rice dish called plov. One of the world's largest gold mines is located in the north of this country at

Muruntau in the Kyzyl Kum Desert. Many members of its Karakalpak ethnic group have been emigrating from the nominally autonomous region in this country's west to its northern neighbor. A fortress called The Ark and the great Kaylan minaret can be found in its city Bukhara. This country contains the mouth of the Amu Darya River and the majority of the Fergana valley. The site of the historic city of Samarkand, it shares the shrinking Aral Sea with its northern neighbor Kazakhstan. For 10 points, name this Asian country with capital Tashkent.

ANSWER: **Uzbekistan**

13. This director's searing documentary about shell-shocked World War II veterans in a Long Island hospital was suppressed by the Army until the 1980s. He was wheelchair bound when he directed his daughter in his final film, a 1987 adaptation of James Joyce's story "The Dead." He gave Marilyn Monroe her breakout role in a movie about four small-time crooks who plot to steal some jewels. This director of *Asphalt Jungle* is better known for a film in which the alcoholic Charlie Allnut and a missionary played by Katherine Hepburn attack a German ship during World War I. In another of his films, a statuette of a bird found by Sam Spade turns out to be fake. For 10 points, name this American who directed Humphrey Bogart in *The African Queen*, and *The Maltese Falcon*.

ANSWER: John **Huston**

14. During the Orkuta blood libel, this ruler spoke with the Hungarian Jew Abraham Mendel Theben, although earlier she had instituted the Tolerance Tax on Jewish subjects. This ruler issued a law about "magic, witchcraft, divination, and the like" after an investigation into superstition led to "Remarks on Vampirism" being written by her Dutch physician Gerard van Swieten. Manual labor could instead be fulfilled with money after this ruler issued one of her robot patents. An alliance with France was forged by this ruler's adviser Wenzel Anton von Kaunitz in the Diplomatic Revolution. Charles VI set up the legal path to the throne for this woman through the Pragmatic Sanction of 1713. For 10 points, name this empress whose rule was contested in the War of the Austrian Succession.

Answer: **Maria Theresa** [or **Maria Theresia**]

15. This thinker used the term "ampliative" for arguments whose conclusions go beyond their premises. His namesake law states that for two premises P and Q, if the statement "if P then Q" implies P, then P must be true. He defined the real as the object represented in the truth, which is the opinion "agreed to by all who investigate." He called the world as interpreted by senses the *phaneron*, and set the triad of sign, object, and interpretant as the adicity of Thirdness, which was developed along with Secondness and Firstness in his essay "On a New List of Categories." He argued that the best of four methods for settling opinion was the scientific method, in an article for *Popular Science Monthly* called "The Fixation of Belief". For 10 points, name this American pragmatist who wrote "How to Make Our Ideas Clear."

ANSWER: Charles Sanders **Peirce** ("purse")

16. One ruler of this city was the father of Tisamenus, and was killed by Telephus on Mysia, which meant this city had no king at the Trojan War. After defending this city against King Erginus, Heracles was given the hand of Megara in marriage. This city was once ruled by Thersander, and its usurper Lycus abducted Antiope, though Antiope's children killed him when they grew up. Music moved the stones around this city into place as the twins Amphion and Zethus built its walls. This city's founder was followed a cow until it rested, and sowed the teeth of a serpent sacred to Ares to form its first men. The Epigoni took over this city, a feat that their fathers, led by Polynices, failed to do. For 10 points, name this city founded by Cadmus, whose later kings included Oedipus.

ANSWER: **Thebes** [or **Thebai**; or **Cadmea**]

17. One character in this play describes another as a sucker who is getting smaller, saying that in another year "there'd be nothing left but his smell." Another character in this play regrets not professing his love for Lydia before she got married and had three children. In this play, George is told to remember incidents such as when his father blamed Frank for giving him a bad tip about oil stock. The death of a character not seen in this play is not believed by his mother Kate due to the fact that November 25th was his most favorable day, but that belief is shattered when Ann gives her a letter revealing that Larry purposely crashed his plane after discovering that his father had covered up defects in engine cylinders for P-40s. For 10 points, name this play about Joe Keller by Arthur Miller.

ANSWER: **All My Sons**

18. An ostinato work for this instrument is the *Passacaglia in D Minor*. A collection of music for this instrument consists of three masses and two secular capriccios; that collection is *Fiori Musicali* by Girolamo Frescobaldi. A

concerto for this instrument is nicknamed *The Cuckoo and the Nightingale*, and was written by a composer whose Opus 4 and Opus 7 are also sets of concertos for this instrument. The attribution of one piece for this instrument is in doubt partially because of the use of parallel octaves in the opening. The putative composer of that piece is said to have walked over 200 miles to hear this instrument played by Dietrich Buxtehude. For 10 points, name this keyboard instrument for which the *Toccata and Fugue* was written, which is often found in churches.

ANSWER: pipe organ

19. In one episode in this novel, the protagonist remembers betraying a young man named Richard to the Gestapo underneath a painting of the Pieta. The protagonist of this novel briefly worked in a Belgian dockyard, where his order to unload several Russian ships led to the suicide of Little Loewy. A man known only as Hare-Lip is revealed to be the main character's old friend Kieffer during an interrogation led by Gletkin, who had replaced the former comrade of the protagonist, Ivanov. The protagonist of this novel communicates with the inmate in 402 by tapping a code into the wall. For 10 points, name this novel in which Nicholas Rubashov is arrested and executed on orders of Number 1, written by Arthur Koestler.

ANSWER: *Darkness at Noon* [or *Sonnenfinsternis*]

20. The column of Bertin is located in this organ, which is surrounded by a fascia named for Gerota. Children may experience minimal change disease in this organ. Collagen disorders like Alport Syndrome and Goodpasture's Syndrome affect this organ's basement membrane, and it's also the site of Wilms' tumors. This organ and the liver are the site of gluconeogenesis. The GFR is a measurement of its function. This organ falls into the pelvis in a condition which causes it to "float". Calcitriol and erythropoietin are synthesized by this organ, which secretes renin to increase blood pressure. Bowman's capsule surrounds this organ's glomerulus, and countercurrent exchange in its loop of Henle improves its filtration efficiency. For 10 points, name this paired organ composed of nephrons.

ANSWER: kidneys

TB1. This poet wrote "It is brave to be involved, to be not fearful to be unresolved" in the poem "do not be afraid of no." A poem by this author says that the word *dream* "makes a giddy sound, not strong like *rent*, *feeding a wife*, *satisfying a man*," though the speaker's reverie is interrupted because "Number Five is out of the bathroom now." She wrote a collection of poems about a woman's coming-of-age, divided into sections called "Notes from the Childhood and Girlhood," "The Womanhood," and "The Anniad." In a poem from the volume *The Bean Eaters*, she wrote about people who "thin gin" and "jazz June." For 10 points, name this poet of "kitchenette building," *Annie Allen* and "We Real Cool."

ANSWER: Gwendolyn Brooks

Bonuses:

1. The protagonist of this book asks the reader “do you know that you are very strong?” after turning the page tears down a brick wall he has built. For 10 points each:

[10] Name this book in which the fearful protagonist insistently begs the reader not to turn the page before realizing that he himself is the title character.

ANSWER: *The Monster at the End of this Book*

[10] *The Monster at the End of This Book* stars this fuzzy blue *Sesame Street* Muppet who ineptly serves Mr. Johnson at Charlie’s Restaurant and has a superhero alter-ego.

ANSWER: Grover

[10] In a recent episode, Grover stages an ambitious one-man show version of this Julie Taymor and U2 musical, which features the songs "The Myth of Arachne" and "Venom."

ANSWER: *Spider-Man: Turn Off the Dark* [prompt on *Spider-Man*]

2. Members of this family included Adela, a one-time Communist Party member who then joined the pro-fascist Australia First movement, and Sylvia, who started the newspaper *Worker’s Dreadnought*. For 10 points each:

[10] Name this British family whose members Christabel and Emmeline founded the WSPU in 1903.

ANSWER: Pankhurst

[10] Emmeline Pankhurst was a leading member of this movement in Britain. In the United States, this movement achieved its goal with the passage of the Nineteenth Amendment.

ANSWER: suffragettes [or suffragism; accept answers that describe getting women the right to vote]

[10] In 1913, this WSPU member threw herself in front of Anmer, the horse of George V running in the Epsom Derby. This suffragette may only have been trying to pin a WSPU banner to Anmer rather than commit suicide.

ANSWER: Emily Wilding Davison

3. Thanks to this axiom, given infinite pairs of socks, you can select one sock from each pair. For 10 points each:

[10] This axiom asserts that the product of any collection of non-empty sets is also non-empty, and is added to the Zermelo-Fraenkel axioms to give ZFC, the usual foundation of mathematics.

ANSWER: axiom of choice

[10] Axioms of this type assert the existence of sets that are larger than any set that can be shown to exist in ZFC. These axioms form a hierarchy, near the bottom of which lies the Grothendieck universe axiom.

ANSWER: large cardinal axioms

[10] This statement holds that no set has cardinality strictly between that of the natural numbers and that of the reals. Paul Cohen completed the proof that it is independent of ZFC, thus allowing it to be treated as an axiom.

ANSWER: continuum hypothesis [or CH]

4. Name these Vedic deities, for 10 points each.

[10] This leader of the Devas and rider of the elephant Airavata slew a serpent named Vrtra, who had stolen all the world’s water. He is an early Indian god of storms.

ANSWER: Indra [or Sakra; or Shakra]

[10] This god of the sea and counterbalance of Mitra watches over *rta*, the source of order in the universe. He is sometimes depicted holding a noose or riding the crocodile-like *makara*.

ANSWER: Varuna [or Waruna]

[10] These gods, the dedicatees of over fifty Rig Veda hymns, ride in a chariot and heal people. They either have horse heads or ride horses at sunrise and sunset.

ANSWER: the Ashvin twins [or Ashwin; or Aswin]

5. James Long may have designed the first flag of this type, and the Dane Charles Zanco created another flag of this type with the word “Independence” beneath its distinguishing feature. For 10 points each:

[10] Name this type of flag with a distinctive object that now serves as a nickname for the state in which Zanco died during an 1836 battle.

ANSWER: Lone Star flags [do not accept “Texan flags”]

[10] Zanco died fighting in this battle, in which all the defenders of a San Antonio mission were killed by Mexican forces.

ANSWER: Battle of the Alamo

[10] This woman and her daughter, Angelina, were the only white people to survive the Battle of the Alamo, and both were sent to give a letter of warning to Sam Houston following the battle.

ANSWER: Susanna Wilkerson Dickinson [or Susanna Wilkerson; or Susannah Wilkerson Dickinson Hannig]

6. In this novel, the protagonist prevents Igor Dashkov from investing in Madoff Securities. For 10 points each:

[10] Name this novel focusing on Maxine Tarnow, head of the Tail 'Em and Nail 'Em detective agency, and her investigation of the computer security firm hashlingerz.

ANSWER: Bleeding Edge

[10] *Bleeding Edge* is the most recent novel by this American author, who included a story about the English spies Porpentine and Goodfellow, "Under the Rose," in his collection *Slow Learner* and wrote *Gravity's Rainbow*.

ANSWER: Thomas Ruggles Pynchon, Jr.

[10] This event takes place a few days after Maxine attends a party hosted by Gabriel Ice. In *Extremely Loud and Incredibly Close*, Oskar's father dies during this event, which is also the subject of an Art Spiegelman book.

ANSWER: 9/11 attacks on the World Trade Center [or September 11, 2001 attacks; prompt on "World Trade Center attacks" or logical equivalents]

7. Name some forms of medieval song, for 10 points each.

[10] This form of plainchant named for a pope was the standard form of monophonic song in the Catholic church.

ANSWER: Gregorian chant

[10] This early form of polyphony typically consisted of a Gregorian chant paralleled by a second line a perfect fourth or fifth below. This form was pioneered by members of the Notre Dame school like Léonin and Pérotin.

ANSWER: organum

[10] This form of responsory now refers to any call-and-response singing. A group of four hymns including *Regina Coeli* and *Alma Redemptoris Mater* is referred to as the "Marian" type of these songs.

ANSWER: antiphony

8. The first word of this poem is spelled differently in different Greek manuscripts, and could mean either "many-colored throne" or "many-colored mind." For 10 points each:

[10] Name this poem which addresses a "deathless child of Zeus" who is asked to "come to me once more, and abate my torment" and "fight as my comrade" rather than "crush down my spirit."

ANSWER: "Hymn to Aphrodite"

[10] The "Hymn to Aphrodite" was written by this "tenth muse" from Lesbos.

ANSWER: Sappho

[10] Another "Hymn to Aphrodite," praising "immortal beauty, the kind that marks the one with the beautiful garlands, the goddess from Kythera," was traditionally ascribed to this author, whose name also tags thirty-two other hymns.

ANSWER: Homer

9. In the first step of this reaction, the attack of a single solvated electron forms a radical anion, which is quenched by an alcohol. For 10 points each:

[10] Name this dissolving metal reduction, which forms 1,4-cyclohexadienes from phenyl groups.

ANSWER: Birch reduction

[10] This compound is added in Birch reductions because electrons dissolve in it, forming a deep blue colored solution. This common weak base is synthesized in the Haber process.

ANSWER: ammonia [or NH₃]

[10] Another synthetic route to 1,4-cyclohexadienes is the Diels-Alder reaction of a diene with one of these compounds. These compounds have pK_as around 25, and can be deprotonated by ammonia's conjugate base.

ANSWER: alkynes [or terminal alkynes]

10. In this work, a sick boy named Kamante becomes the narrator's cook and gets to prepare a meal for guests such as the Prince of Wales. For 10 points each:

[10] Name this memoir of life on a coffee plantation whose narrator falls in love with Denys Finch Hatton.

ANSWER: Out of Africa

[10] *Out of Africa* is by this Danish author who also wrote the story collections *Seven Gothic Tales* and *Anecdotes of Destiny*, which contains "Babette's Feast."

ANSWER: Isak **Dinesen** [or Karen von **Blixen-Finecke**]

[10] In this Gothic Tale, the De Coninck sisters, Fanny and Eliza, are visited by the ghost of their brother Morten.

ANSWER: “The **Supper at Elsinore**”

11. These people had a Golden Age that lasted from the middle- or late-seventeenth century until 1730. For 10 points each:

[10] Name these people who formed the Brethren of the Coast, which included Francois L’Ollonais and other unsavory characters based in ports like Tortuga in the Caribbean.

ANSWER: **pirates** [or **buccaneers**]

[10] Along with Tortuga, this port in Jamaica was a common haven for pirates, leading to it being called the “wickedest place on earth.” A 1692 earthquake devastated this city, leading most commerce to move to Kingston.

ANSWER: **Port Royal**

[10] During times of war, pirates could become privateers by receiving one of these letters that allowed them to legally plunder the ships of a government’s enemies, at least until hostilities ended.

ANSWER: letters of **marque** and reprisal

12. This quantity is found by sandwiching an operator between the bra and ket forms of a state. For 10 points each:

[10] Name this quantity, which equals the algebraic mean of the values one would observe if the operator were applied to each member of a large ensemble of identical states.

ANSWER: **expectation** value [or **expected** value; prompt on “mean”]

[10] This term describes pairs of observables whose corresponding Hermitian operators have a simultaneous eigenstate and are not restricted by the Heisenberg uncertainty principle.

ANSWER: **compatible** [or word forms; prompt on **commuting** or word forms]

[10] The simultaneous eigenstates of the operators corresponding to the square and z-component of this classical kinematic quantity are spherical harmonics. Classically, it is equal to “omega” times the moment of inertia.

ANSWER: **angular momentum** [or **rotational momentum**; do not prompt on or accept “momentum”]

13. This cathedral’s massive three-shelled dome offers panoramic views of London from its Golden Gallery and Stone Gallery. For 10 points each:

[10] Name this seat of the Bishop of London, a major cathedral rebuilt by Christopher Wren after the Great Fire of London.

ANSWER: **St. Paul’s** Cathedral

[10] This French Cathedral is considered one of the chief examples of Gothic French architecture along with Amiens and Reims. It has 176 stained-glass windows, including a south transept rose window depicting the apocalypse.

ANSWER: **Chartres** Cathedral [or Notre-Dame d’**Chartres**, do not accept or prompt on “Notre-Dame”]

[10] This city’s 20th century cathedral has an ovoid baptistry designed by Athos Bulcao and consists of 16 hyperbolic columns which meet at the center and stretch outward.

ANSWER: **Brasilia**

14. These objects were repeatedly painted after a 1954 dream by a man who was named for the sergeant who saved one of these objects at Fort Moultrie. For 10 points each:

[10] Name this object which an artist painted using newsprint collage, in white using beeswax as an encaustic medium, and doubly superimposed upon itself.

ANSWER: American **flags**

[10] *Flag*, *White Flag*, and *Three Flags* were painted by this pop artist, who used “Sculpmetal” to create his *Numbers* and worked with Samuel Beckett on the book *Foirades/Fizzles*.

ANSWER: Jasper **Johns**

[10] In the 50s, Johns was the live-in boyfriend of Robert Rauschenberg, the creator of this “combine” consisting of a goat with a car tire around its middle.

ANSWER: **Monogram**

15. One example of this type of enzyme is mdm2, which acts on tumor suppressor proteins such as p53, and is thus very active in cancer cells. For 10 points each:

[10] Name these enzymes which are often denoted E3 to contrast with similar activating and conjugating enzymes. They act on proteins’ lysine residues.

ANSWER: E3 ubiquitin ligase [prompt on ligase]

[10] An important ubiquitin ligase is a promoting complex named for this phase of mitosis. This phase occurs after metaphase, and during it, the sister chromatids get pulled apart.

ANSWER: anaphase

[10] Many ubiquitin ligases have the RING type of this protein motif, which is often composed of two conserved cysteines and two histidines that bind a metallic cation. This domain is very common in DNA-binding proteins.

ANSWER: zinc finger [prompt on RING finger]

16. This creature is revealed to have killed Selden due to the scent of clothes once belonging to Henry, and to have been trained by the so-called Jack Stapleton, who made it more frightful by covering it in phosphorus. For 10 points each:

[10] Name this creature, involved in a plot by a disgraced nobleman who embezzled money in Costa Rica to regain his family fortune.

ANSWER: the hound of the Baskervilles

[10] The true nature of the hound of the Baskervilles is discovered by this cocaine enthusiast, who died at Reichenbach Falls in "The Final Problem" but was resurrected by Arthur Conan Doyle after a public outcry.

ANSWER: Sherlock Holmes

[10] Holmes is almost killed a second time at Reichenbach when this man pushes boulders at him. This man is captured by Holmes and Lestrade in "The Adventure of the Empty House," ending his career as "the second most dangerous man in London."

ANSWER: Colonel Sebastian Moran [accept either name]

17. This collection's essay on "The Availability of Wittgenstein's Later Philosophy" was expanded upon in *The Claim of Reason*, and it asked how to expose "fraudulent" art in "Music Decomposed." For 10 points each:

[10] Name this 1969 essay collection by American philosopher Stanley Cavell. It also contains "Aesthetic Problems of Modern Philosophy" and "The Avoidance of Love: A Reading of *King Lear*."

ANSWER: Must We Mean What We Say?

[10] Cavell used the "ordinary language philosophy" style pioneered by this thinker, who analyzed the felicity of performative utterances in *How to Do Things With Words*.

ANSWER: John Langshaw "J.L." Austin

[10] In Austin's paper "Performative Utterances," a performative utterance names of these objects the *Queen Elizabeth* or the *Generalissimo Stalin* after a bottle is thrown at it. Foucault assessed one "of Fools" in *Madness and Civilization*.

ANSWER: a ship [or a boat, or a naval vessel]

18. Yogendra Singh Yadav was posthumously awarded the Param Vir Chakra during this war, although he had actually survived the Battle of Tiger Hill. For 10 points each:

[10] Name this 1999 war in which Operation Vijay was used against troops that had crossed the Line of Control. The Battle of Tololing helped the defenders in this war keep the Srinagar-Leh Highway secure.

ANSWER: Kargil War

[10] The Kargil War took place in Kashmir between these two Asian nations. A 1947 partition separated these countries into two dominions independent from Great Britain.

ANSWER: Republic of India and Islamic Republic of Pakistan [or Bharatiya Ganarajya and Jamhuryat Islami Pakistan]

[10] This Pakistani chief of army staff planned the incursion into the Kargil district. Shortly after the Kargil War, he led the coup that overthrew Nawaz Sharif when Sharif tried to retire him and stop him from returning to Pakistan.

ANSWER: Pervez Musharraf

19. Answer these questions about traditional Korean spirituality, for 10 points each.

[10] In Korean folk mythology, this realm is watched over by beings called *gashin*. The Lares and Penates of ancient Rome, brought from Troy by Aeneas, guarded this realm, which is cleaned prior to Chinese New Year.

ANSWER: gods of the home [or household gods; or hearth gods, or kitchen gods]

[10] This Korean term describes a type of ritual, usually performed by a female shaman called a *mudang*, in which offerings are left for spirits before the shaman dances and sings to invite and entertain the spirits before an audience.

ANSWER: gut [accept *jaesu gut*, *byeong gut*, *hwanja gut*, *ogu gut*, *jinogi gut*, *jin gut*, or *naerim gut*; accept kut]

[10] In the traditional Korean form of this ritual, a man gives a pair of wooden duck figurines to a woman. Sun Myung Moon's Unification Church does this ritual *en masse* for thousands of couples at a time.

ANSWER: **weddings** [or **marriages**]

20. A 2003 Meston & Frohlich study examined this phenomenon by showing photographs to people who had just disembarked from a roller coaster. For 10 points each:

[10] Identify this psychological labeling error which can make a person who is excited due to fear expresses greater romantic or sexual interest than he otherwise would.

ANSWER: **misattribution of arousal**

[10] The classic experiment on misattribution of arousal had a female researcher give out her phone number to men who had just used either a faulty or sturdy one of these items.

ANSWER: **bridge**

[10] Misattribution of arousal is part of the "two-factor" model of these things, developed by Schacter and Singer.

ANSWER **emotions**