

1. **The overuse of this substance is known as overdraft, which may cause widespread collapses of land known as subsidence. Salt intrusion is a major problem facing use of this substance in coastal regions. A large area where this substance is found is centered on the plains states and is named for Ogallala. This substance completely saturates available space at a namesake (*) “table,” and it comes to the surface at artesian wells. For 10 points, name this substance found in aquifers.**

ANSWER: groundwater [prompt on water or equivalents]

026-10-23-08102

2. **Several families of rockets have been named for this event, whose initial failures were due to Otto Braun's poor planning and the printing presses and typewriters included as essential equipment. Following the destruction of the (*) Jiangxi (jang-SHEE) Soviet, this event allowed the survivors to set up a base at Yanan, which was separated from Jiangxi by eighteen mountain ranges, twenty-four rivers, and a total of six thousand miles. For 10 points, identify this mass migration that concluded in 1936 with Mao Zedong leading a newly secure Chinese Communist Party.**

ANSWER: Long March [or Chang Zheng]

019-10-23-08103

3. **The consequences of this philosophy title a work by Richard Rorty. One proponent of this philosophy seeks the “cash value” of truths in a work that delineates the “tender-”and “tough-minded” types of it with the example of a man chasing a squirrel around a tree. Its founders include Charles Sanders Peirce (“PURSE”) and John Dewey. It was described as “A New Name for Some Old Ways of Thinking” in an eponymous essay by William (*) James. For 10 points, name this philosophy that measures value with practical consequences.**

ANSWER: pragmatism [do not accept “pragmatism”]

079-10-23-08104

4. **This artist depicted the effects of World War I tactics in his painting *Gassed*, while the arrangement of the subjects in *Las Meninas* provided the inspiration for his *The Daughters of Edward Darley Boit*. In addition to depicting a Spanish dancer in *El Jaleo*, this artist also painted the socialite *Virginie Gautreau* in a (*) black dress with her right hand on a circular table while her face points towards the right. For 10 points, name this American artist of *Carnation*, *Lily*, *Lily*, *Rose* and *Portrait of Madame X*.**

ANSWER: John Singer Sargent

064-10-23-08105

5. **Eugene de Kock claimed that an assassination that occurred in this country was the work of a South African hit squad; a drug addict was acquitted of that 1986 murder of this country’s Prime Minister. Another man from this country received an honorary citizenship from the United States in 1981 in recognition of his work saving thousands of Hungarian Jews. A third man from this country died in a plane crash while investigating the (*) Katanga conflict as Secretary-General of the U.N. For 10 points, name this homeland of Olof Palme, Raoul Wallenberg, and Dag Hammarskjold.**

ANSWER: Kingdom of Sweden [or Konungariket Sverige]

003-10-23-08106

6. **One character in this work is cursed to sleep for six months of the year and ravenously devour all humans around him for the other six. That character's brother stores a nectar of immortality in his navel and banishes Vibhishana, who joins forces with the protagonist of this work. A trail of jewels is left by one character in this work, which opens as a scheming wife of Dasaratha gets the protagonist exiled for fourteen years. That protagonist goes to Lanka to defeat (*) Ravana and reclaim his wife Sita.** Ascribed to Valmiki, for 10 points, identify this Sanskrit epic.

ANSWER: Ramayana

020-10-23-08107

7. **The radius associated with one important one is calculated by taking the cube root of the quantity 86160 seconds squared times the mass of the earth times big G divided by four pi squared. Communication platforms that require a constant fixed service are often put into (*) geostationary and geosynchronous ones. The planets have elliptical ones around the sun. For 10 points, name these trajectories that allow an object to keep moving around a celestial object because of gravitational attraction, exemplified by the motions of the moon and satellites.**

ANSWER: orbits

001-10-23-08108

8. **This river's namesake dam was Soviet-built and is the center of the Tabqa Barrage Scheme. This river's only major tributaries are the Belikh and Khabur, and it forms Lake Hammar. Its headwaters are the Karasu and Murat rivers, and its upper portion flows through the Taurus Mountains. This river's Hadithah Dam submerged the ancient town of Anah, and the Ataturk Dam is also on this river. It joins another river at (*) Basra to form the Shatt al-Arab. For 10 points, name this river that is often paired with the Tigris.**

ANSWER: Euphrates River

030-10-23-08109

9. **This man wrote a play in which the Duke of Alba orders the execution of the title count. This author of the poetry collection *The Roman Elegies* wrote a poem in which a supernatural being attacks a child while the child and father are riding on a horse. That poem is entitled "The Erl-King." One of his characters shoots himself after being unable to be with his beloved (*) Charlotte. He also wrote a work in which the title scholar is tempted by and makes a wager with Mephistopheles. For 10 points, name this author of *The Sorrows of Young Werther* and *Faust*.**

ANSWER: Johann Wolfgang von Goethe

001-10-23-08110

10. **In a 2010 song, Linkin Park sings that they wish they had the strength to stand while doing this action with respect to "the end." A room full of striking cab drivers perform this action in a Clifford Odets play. The subject of this action is a Broadway producer in a 1997 Christopher Guest film that centers on a production of *Red, White, and Blaine*. The subject of this action is (*) "Superman" in a 2010 documentary that details the shortcomings of the public education system. For 10 points, name this action that is done "for Guffman" and "for Lefty."**

ANSWER: waiting [accept answers given in title form, such as Waiting for "Superman"]

026-10-23-08111

11. An early rebellion in this colony was led by William Claiborne. Its original settlers landed on St. Clement's Island aboard two ships named the *Ark* and the *Dove*. Another revolt in this colony clashed with troops led by William Stone at the Battle of the Severn; that uprising led to the restoration of a version of an earlier Toleration Act, which had been itself enacted to balance Protestants and Catholics. Originally founded with a charter by George (*) Calvert, the Lord Baltimore, for 10 points, name this state with capital Annapolis.

ANSWER: Maryland

040-10-23-08112

12. The sign of a permutation is negative one if the permutation has this distinction. There are no known perfect numbers with this distinction. The Taylor expansion for sine consists of x to the n over n factorial where n is positive and this. A function is this if f of x equals (*) negative f of negative x . These numbers are congruent to one mod two. With the exception of two, all prime numbers are this. For 10 points, name this distinction given to numbers that are not even.

ANSWER: odd

001-10-23-08113

13. This monarch repealed the *Titulus Regulus* statute immediately after ascending to the throne. He defeated a rebellion led by the Earl of Lincoln at the Battle of Stoke. This king put down uprisings sparked by the pretenders Perkin Warbeck and Lambert Simnel. He empowered the Star Chamber, and through the treaty of Medina del Campo, married his son Arthur to (*) Catherine of Aragon. For 10 points, name this English monarch who defeated Richard III at Bosworth Field to become the first Tudor king.

ANSWER: Henry VII of England [prompt on Henry]

015-10-23-08114

14. This figure responds to Adonijah's request to marry Abishag by having him murdered. According to Jewish tradition, this Biblical figure wrote the Book of Proverbs. On the advice of Nathan, this son of Bathsheba was anointed king. He traded for cedar from Lebanon to build the first (*) Temple, and resolved a dispute between two women both claiming to be a baby's mother by ordering the baby to be cut in half. For 10 points, name this son of David, a legendarily wealthy and wise Jewish king.

ANSWER: Solomon

004-10-23-08115

15. One of this man's compositions is sometimes called *Variations on the St. Anthony Chorale* as it is unclear if Haydn composed the central theme. He wrote a D-minor work as a dramatic companion to another work which reworked various student drinking songs. This composer of the *Tragic Overture* and (*) *Academic Festival Overture* wrote a first symphony which evoked Beethoven, and used the Luther Bible rather than Latin for his *German Requiem*. For 10 points, name this German composer of a famous lullaby.

ANSWER: Johannes Brahms

015-10-23-08116

16. **This character saves the life of a friend by lying to a group of men about his father's smallpox. This character runs across Silas and Sally Phelps, who try to return him to his father, a town drunk who wins a custody battle thanks to a new judge who supersedes the authority of Judge Thatcher. This character and his friend are taken in by the Grangerfords. This character attempts to run North with (*) Jim and becomes rich from finding robber's gold in an earlier book. For 10 points, identify this protagonist of the sequel to *Tom Sawyer*, a Mark Twain creation.**

ANSWER: Huckleberry Finn [accept either name]

020-10-23-08117

17. **One spinoff game of this series featured the concept of stealth units like infectors and televangelists and used a separate window for combat, which could occur between groups of no more than nine units. Expansions to the third installment in this series include *Play the World* and *Conquests*, while expansions to the fourth installment were titled (*) *Beyond the Sword* and *Warlords*. The most recent installment in this series, the fifth, introduced independent city states and uses a hex grid map. For 10 points, name this Sid Meier created turn based video game series.**

ANSWER: Civilization

040-10-23-08118

18. **For the Hamburg State Opera, this composer created an opera about aliens that are allergic to music, *Help, Help, the Globolinks!* Another of his operas deals with the secret police tracking down the vigilante John Sorrel, while Annina, who can perform miracles, is the titular religious figure of another work. In addition to *The Consul* and *The Saint of Bleeker Street*, this man also composed the first opera for (*) television which sees a little boy give his crutch to the Three Magi. For 10 points, name this Italian-American composer of *Amahl and the Night Visitors*.**

ANSWER: Gian Carlo Menotti

083-10-23-08119

19. **This author wrote a poem which claims "To see a world in a grain of sand / And a heaven in a wild flower / Hold infinity in the palm of your hand / And eternity in an hour." He asked "And did those feet in ancient time / Walk upon England's mountains green?" in a poem about his wish to build "Jerusalem / In England's green and pleasant land." Another of his poems wonders "Did he who made the (*) lamb make thee?", and describes an animal "burning bright / in the forests of the night." For 10 points, name this poet whose *Songs of Innocence and Experience* includes "The Tyger."**

ANSWER: William Blake

004-10-23-08120

20. **The rpo genes encodes one of this structure's RNAPs, while the other is a nuclear encoded polymerase. Among the materials found in this structure are cytochrome b6f, the protein P680, and a class of molecules called plastoquinones. One reaction in this organelle uses (*) RuBisCo. In this structure, the stromal lamellae connects disk like structures called granum. This organelle consists of stacks called granum which consist of several thylakoids; the thylakoids contain this organelle's characteristic green pigment. For 10 points, name this plant organelle that is the site of photosynthesis.**

ANSWER: chloroplast [prompt on plastid before P680]

064-10-23-08121

21. **The two main branches of these people were the Hasdingi and the Salingi. St. Augustine died during their siege of the city of Hippo. Their leader Huneric was usurped by Gelimer, who was defeated by Byzantine general Belisarius. These Arians took Carthage from the Romans. Under (*) Geiseric (GAHY-zur-rik), they sacked Rome in 455. For 10 points, name this East Germanic tribe whose name is synonymous with anyone who destroys property such as a graffiti artist.**

ANSWER: **Vandals**

079-10-23-08122

22. **The traditional date for this man's life was calculated as 258 years before Alexander the Great. His daughter married Jamasp, a minister of King Vishtaspa, whom this man had converted after curing his favorite horse. He authored a series of hymns called the gathas, which are now part of a holy book called the Avesta. He preached that Vohu Mana was one of the six Amesha Spentas and that the evil Angra Mainyu waged constant war on the good (*) Ahura Mazda. For 10 points, name this founder of a namesake dualistic Persian religion.**

ANSWER: **Zoroaster** [or **Zarathustra**]

015-10-23-08123

23. **Near the end of this novel, the protagonist listens to music by Otto Skadelig before jumping out of a window. During a burglary the protagonist is betrayed by Dim and is sent to prison where he kills an inmate who complained too much; as punishment, he is forced to watch violent films after taking drugs that make him feel ill. Words such as "rooker" and "droog" are part of this novel's language (*) Nadsat, which is spoken by the subject of the Ludovico Technique, Alex. Adapted into a film by Stanley Kubrick, name, for 10 points, this novel by Anthony Burgess.**

ANSWER: A **Clockwork Orange**

083-10-23-08124

1. This circuit element is represented by a series of coils and is the "L" in an RLC circuit. For 10 points each:

[10] Name this circuit element, that most commonly consists of a wire coiled around a magnetic object.

ANSWER: **inductor**

[10] This law that governs inductors says that the induced emf is proportional to the negative time derivative of the magnetic flux.

ANSWER: **Faraday's** Law of Induction

[10] This device consists of a ferromagnetic material around which a non-overlapping primary and secondary coil are wrapped. It transfers electricity from one circuit to another through mutual induction.

ANSWER: **transformer**

003-10-23-08201

2. Name these Pennsylvania-born painters, for 10 points each.

[10] Though born in present-day Pittsburgh, this female Impressionist made her name while living in Paris as a close associate of Edgar Degas. Her representative paintings include *Mother and Child* and *The Bath*.

ANSWER: Mary **Cassatt**

[10] In his home of Chadds Ford, this painter made hundreds of unauthorized images of his neighbor Helga Testorf, though his most iconic work, *Christina's World*, is set in Maine.

ANSWER: Andrew **Wyeth**

[10] His paintings of his hometown include *Buildings, Lancaster*, but this artist's 1928 painting *I Saw the Figure 5 in Gold* honors a poet of New Jersey, William Carlos Williams.

ANSWER: Charles **Demuth**

019-10-23-08202

3. This is the first object in the Messier Catalogue. For 10 points each:

[10] Name this nebula which contains a namesake pulsar and is the result of a 1054 supernova.

ANSWER: **Crab** Nebula

[10] The Crab Nebula lies in this zodiac constellation, whose brightest star is Aldebaran.

ANSWER: **Taurus**

[10] This other nebula, named for its resemblance to a body part of a certain animal, is located in the constellation Orion. Its appearance is the result of a dark cloud in front of a large mass of ionized gas.

ANSWER: **Horsehead** Nebula [or **Barnard 33**]

024-10-23-08203

4. A pervasive rumor alleges that this character cheated to win her first golf tournament. For 10 points each:

[10] Name this terrible driver and friend of Daisy Buchanan who serves as a love interest to Nick Carraway in a 1925 novel.

ANSWER: **Jordan** Baker [or Jordan **Baker**]

[10] Nick Carraway and Jordan Baker are characters in this masterpiece of F. Scott Fitzgerald.

ANSWER: *The* **Great Gatsby**

[10] Daisy Buchanan is frequently compared to Judy Jones, who repeatedly toys with Dexter Green and his title aspirations in this short story.

ANSWER: "**Winter Dreams**"

015-10-23-08204

5. According to Greek myth, Hera's rage against this woman is the reason why *Ursa Major* and *Ursa Minor* are visible at all times of the year. For 10 points each:

[10] Name this nymph that Hera turned into a bear.

ANSWER: **Callisto**

[10] Zeus seduced Callisto in the guise of this other deity, the virgin sister of Apollo, whom Callisto followed on her hunts.

ANSWER: **Artemis**

[10] This other woman was seduced by Zeus in the form of a swan. Her twin sons, one by Zeus and one by Tyndareus, split their afterlife between Olympus and the Underworld.

ANSWER: **Leda**

003-10-23-08205

6. This lake contains a group of artificial islands called the Uros. For 10 points each:

[10] Name this lake which lies on the border between Bolivia and Peru.

ANSWER: Lake **Titicaca**

[10] Lake Titicaca is the largest lake in South America by volume, although this lake in Venezuela has a larger surface area.

ANSWER: Lake **Maracaibo**

[10] Lake Maracaibo suffers from an infestation of this plant, which is problematic because no chemical method of removing it has been discovered.

ANSWER: **duckweed** [accept **Lemna**]

024-10-23-08206

7. This people's alphabet was invented by Sequoyah. For 10 points each:

[10] Name this Native American tribe whose members were forcibly relocated to Oklahoma during the Trail of Tears.

ANSWER: **Cherokee** Nation

[10] The Trail of Tears was sparked by the gold rush that began in the northern part of this state in 1828. Four years later, the Supreme Court reversed this state's prosecution of Samuel Worcester.

ANSWER: **Georgia**

[10] Nineteenth century Americans gave the Cherokee, Choctaw, Chickasaw, Creek, and Seminole this name, reflecting their adaptation of American customs such as written constitutions and animal husbandry.

ANSWER: Five **Civilized Tribes**

004-10-23-08207

8. This character is loved by Marie Cardona and his neighbor Salamano cries when his dog runs away. For 10 points each:

[10] Name this character who does not express any remorse or grief at his mother's funeral and later shoots an Arab on the beach for no particular reason.

ANSWER: **Meursault**

[10] The pimp Raymond Sintes and Mersault appear in this 1942 novel by Albert Camus (kah-MOO).

ANSWER: *The* **Stranger** [or *L'Étranger*]

[10] This other Camus novel begins with several rats dying in the streets, which alerts Dr. Rieux of the titular disease that soon sweeps through the town.

ANSWER: *The* **Plague** [or *La Peste*]

083-10-23-08208

9. The Reform Act of 1832 had profound changes in the electoral system of Great Britain. For 10 points each:

[10] The act gave greater power to this lower house of the British Parliament, which forms the bicameral parliament along with the House of Lords.

ANSWER: **House of Commons**

[10] Among the advocates of parliamentary reform was this former prime minister. His father of the same name had served as Prime Minister during part of the 1760's.

ANSWER: William **Pitt the Younger** [prompt on **Pitt**]

[10] Among the act's achievement was taking away representative power from these small boroughs that were overrepresented in parliament, including one that was partially underwater.

ANSWER: **rotten** borough

064-10-23-08209

10. This poem states, "I'm truly sorry man's dominion / Has broken Nature's social union." For 10 points out:

[10] Name this poem about a "tim'rous beastie."

ANSWER: "**To a Mouse**"

[10] "To a Mouse" is a work by this Scottish poet of "Tam o' Shanter" and "A Red, Red Rose."

ANSWER: Robert **Burns**

[10] Burns also wrote a poem about a "fond" one of these. The speaker and the addressee perform this action before they "sever."

ANSWER: a **kiss**

082-10-23-08210

11. Name the following about the history of Mangalore, India, for 10 points each.

[10] The Treaty of Mangalore ended the second war between the British and this South Indian state that was led by Hyder Ali.

ANSWER: Kingdom of **Mysore**

[10] Mangalore today has a large population of people practicing this religion due to contact made by the Portuguese during the Age of Exploration.

ANSWER: Roman **Catholicism** [or **Catholics**; prompt on **Christianity**; prompt on **Christians**]

[10] An earlier explorer to the Mangalore area was Ibn Battuta, a Muslim explorer from this modern-day nation that was home to an international incident in 1905 in its port of Tangier.

ANSWER: **Morocco**

026-10-23-08211

12. Misfolding of these molecules can lead to diseases such as Alzheimer's. For 10 points each:

[10] Name these macromolecules made up of multiple amino acids.

ANSWER: **proteins**

[10] This is the process by which a protein's three-dimensional structure is irreversibly altered. It is often caused by heat or chemicals.

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

[10] These proteins, which include the heat shock family, facilitate normal protein folding by preventing unwanted interactions.

ANSWER: **chaperonins** [or **chaperone** protein]

003-10-23-08212

13. In this story, the title query was asked for the first time on May 21, 2061. For 10 points each:
[10] Name this short story, a series of vignettes about the problem of entropy and its possibilities for reversal that ends with "let there be light."

ANSWER: "The **Last Question**"

[10] "The Last Question" was written by this science fiction author of such works as "Nightfall" and *I, Robot*.

ANSWER: Isaac Yudovich **Asimov** [or **Osimov**]

[10] This long series of novels by Isaac Asimov centers on the work of Hari Seldon who predicts the rise and fall of galactic civilizations and attempt to avert an extended dark age.

ANSWER: **Foundation** series

084-10-23-08213

14. Name these keyboard instruments for 10 points each.

[10] Albert Schweitzer and J.S. Bach were both virtuosos of this instrument which has reed, steam, and pipe varieties.

ANSWER: **organs**

[10] This piano precursor had strings that were struck rather than plucked, and was therefore much quieter than most keyboard instruments and often used for practice.

ANSWER: **clavichords**

[10] This keyboard instrument that was invented in Paris in 1886 resembles a small piano but is composed of mallets that strike tuning forks. A note played on it sounds one octave higher than the printed note.

ANSWER: **celesta**

015-10-23-08214

15. The 1905 Revolution in this ruler's country led him to issue the October Manifesto and create the Duma. For 10 points each:

[10] Name this ruler who was still forced to abdicate the throne twelve years later.

ANSWER: **Nicholas II** of Russia [or **Nikolay Aleksandrovich**; prompt on **Nicholas**]

[10] This mystic gained influence inside Nicholas II's family for his supposed ability to help Aleksey's hemophilia, and who proved tough to kill in 1916.

ANSWER: Grigory Yefimovich **Rasputin** [or Grigory Yefimovich **Novykh**]

[10] Nicholas II and his family were killed by the Bolsheviks at the Ipatiev House in this town in 1918.

ANSWER: **Yekaterinburg** [or **Ekaterinburg**]

023-10-23-08215

16. This first part of this posthumous work is primarily a critique of its author's earlier thought. For 10 points each:

[10] Name this 1953 work which includes the beetle-in-a-box thought experiment, and discusses language games and the idea of a "private language."

ANSWER: **Philosophical Investigations** [**Philosophische Untersuchungen**]

[10] *Philosophical Investigations* was written by this philosopher who influenced logical positivism with his *Tractatus Logico-Philosophicus*.

ANSWER: Ludwig **Wittgenstein**

[10] The introduction to *Tractatus Logico-Philosophicus* was written by this British philosopher, who critiqued religion in *Why I Am Not A Christian*.

ANSWER: Bertrand **Russell**

082-10-23-08216

17. This novel ends with the shameful suicide of its protagonist Okonkwo. For 10 points each:
[10] Name this work that sees missionaries attempt to convert the Nigerian village of Umuofia.

ANSWER: ***Things Fall Apart***

[10] This son of Okonkwo and close friend of the murdered Ikemefuna adopts the name Isaac after his conversion to Christianity, and is the father of Obi Okonkwo in *No Longer at Ease*.

ANSWER: **Nwoye**

[10] This Nigerian author wrote *Things Fall Apart* and *No Longer at Ease*, in addition to *Arrow of God* and *Anthills of the Savannah*.

ANSWER: Chinua **Achebe**

081-10-23-08217

18. Answer some questions about Islamic science, for 10 points each.

[10] This branch of mathematics takes its name from a work by al-Khwarizmi. It includes the study of groups, rings, and fields, as well as polynomials.

ANSWER: **algebra**

[10] This Persian physician and philosopher wrote *The Book of Healing* and *The Canon of Medicine*.

ANSWER: **Avicenna** [or **Ibn Sina**]

[10] This Franciscan friar, nicknamed "Doctor Mirabilis," was influenced by several Islamic scientists. He pioneered the scientific method.

ANSWER: Roger **Bacon**

024-10-23-08218

19. An opera named for this man includes a chorus of soldiers singing "Glorie immortelle." For 10 points each:

[10] Name this title character of an opera by Charles Gounod. Hector Berlioz wrote an opera named for his "damnation."

ANSWER: **Faust**

[10] Besides Faust, Gounod's other major opera is based on this Shakespeare tragedy about lovers from warring Montague and Capulet families.

ANSWER: ***Romeo and Juliet***

[10] This more comic French opera includes a renowned second act barcarolle. In its epilogue, Nicklausse reveals that he is the Muse of the title author.

ANSWER: *The **Tales of Hoffman*** [or *Les **contes d'Hoffman***]

004-10-23-08219

20. In the operant form of this, reinforcement occurs only after an organism does a predesignated act. For 10 points each:

[10] Name this behavioral process in which a stimulus or reward is used for a desired response.

ANSWER: **conditioning**

[10] This Russian scientist formulated the laws of conditioned reflex and was able to train a dog to salivate at the sound of a bell after conditioning the dog to associate the sound of the bell with food.

ANSWER: Ivan **Pavlov**

[10] This psychologist, a founder of behaviorism, conditioned a child to fear furry animals in the Little Albert experiment.

ANSWER: John **Watson**

030-10-23-08220

21. Most forms of connectionism use this kind of computational model. For 10 points each:

[10] Name this type of model which consists an interconnecting set of units, modeled after the connections in a human brain.

ANSWER: **neural network**

[10] The units of a neural network are often referred to by this name, which also refers to the linked units which make up trees and other data structures.

ANSWER: **nodes**

[10] Binary trees can only have at most this many child nodes.

ANSWER: **two**

024-10-23-08221