



1. **This layer of the atmosphere contains noctilucent clouds. The D layer of the ionosphere is located in this layer of the atmosphere. Its upper boundary lies near the turbopause. Temperature in this layer of the atmosphere (*) decreases with height; its boundary with the layer above it is the coldest part of the atmosphere. For 10 points, identify this atmospheric layer that lies above the stratosphere and below the thermosphere.**

ANSWER: mesosphere

066-13-75-07101

2. **When this river floods, it can feed Lake Faguibine, which is located near where the Bani meets this river to form a namesake "internal delta." Along with the Volta, this river flows into the Gulf of Guinea. Human rights violations have occurred in the exploitation of its (*) oil-rich delta by Royal Dutch Shell. This is the third longest river in Africa, after the Nile and Congo. For 10 points, identify this river in west Africa that gives its name to two countries.**

ANSWER: Niger river

066-13-75-07102

3. **One character in this novel, who is attempting to reach Vulture Peak, was known as Golden Cicada in a past life. Another character in this novel has seventy-two possible transformations. Companions of the protagonist of this novel include Sandy and (*) Pigsy. This novel centers on the travels of the monk Xuanzung to India. For 10 points, name this classical Chinese novel written by Wu Cheng'en that features Sun Wukong, the Monkey King.**

ANSWER: Journey to the West [or Xi You Ji; accept Monkey before it is read]

192-13-75-07103

4. **This religion's founder followed an earlier man who was martyred after forming the Letters of the Living. This religion's calendar has nineteen months, each of which has nineteen days. Its governing institution is the (*) Universal House of Justice in Haifa, Israel. This religion, which was founded in Iran in the nineteenth century, claims Abraham, the Buddha, Jesus, and Mohammed as some of its previous messengers. For 10 points, identify this religion which emphasizes the spiritual unity of humanity and was begun by Baha'ullah (BAh-hah-OO-luh).**

ANSWER: Baha'i

126-13-75-07104

5. **One of these buildings includes an intentional crack on its floor, known as the *Shibboleth*, as well as The Turbine Hall, once home to the power generators of the former Bankside Power Station. Another of them was originally designed by Vasari as a palace for Cosimo de Medici. Yet another structure of this kind has West and East buildings designed by John Russell Pope and (*) I.M. Pei, respectively, as well as a glass pyramid in its opening courtyard. For 10 points, name this type of building exemplified by the Uffizi in Florence and the Louvre in Paris.**

ANSWER: art museums [or art galleries, prompt on museums"]

192-13-75-07105

6. **This country's men's handball team won gold medals at the 2008 and 2012 Summer Olympics. Its national soccer team won the 1998 World Cup and finished second in 2006, when one of its players notably (*) headbutted Marco Materazzi. Tony Parker hails from this nation, which holds an annual race that, prior to the vacating of titles, was won seven consecutive times by Lance Armstrong. For 10 points, name this nation whose soccer clubs include Lyon and Paris Saint-Germain.**

ANSWER: France

192-13-75-07106

7. **This man compared his country acquiring colonies to a poor Polish noble buying a silk sable coat when he really needed a shirt. This man organized the administration of a duchy in the Convention of Gastein, and used that as a pretext for starting the Seven Weeks' War with Austria. Adalbert Falk was responsible for writing the (*) May Laws that helped further this man's battle against the Catholic Church, known as the Kulturkampf. For 10 points, name this "Iron Chancellor" who oversaw the unification of Germany.**

ANSWER: Otto Eduard Leopold von Bismarck

153-13-75-07107

8. **One character in this play compares his current location to Macon County after forgetting about a tree that he almost hanged himself on. The first action of one character in this play is to take off a boot. One character in this play is asked to "Think!" resulting in a stream of nonsense that only ends when his hat is removed. (*) Pozzo is shown to be blind in Act Two of this play. At the end of both acts of this play, a boy tells Vladimir and Estragon that the title character is delaying his appearance. For 10 points, name this absurdist drama by Samuel Beckett.**

ANSWER: Waiting for Godot

140-13-75-07108

9. **This empire took part in what may have been pre-planned battles with their enemies known as "flower wars." This empire came to power after winning as part of a Triple Alliance of cities against the Tepanecs. La Noche Triste was an action by this empire against invaders who held its emperor prisoner before he was killed. That emperor was killed by his own people according to an account written by (*) Bernal Diaz. For 10 points, name this Mesoamerican empire that fell apart after the forces of Hernan Cortes captured Tenochtitlan and defeated its leader Montezuma.**

ANSWER: Aztec Empire

023-13-75-07109

10. **Errors in the pathway that creates this protein cause porphyria. One product of the breakdown of this protein is bilirubin. The more efficient "f" variety of this protein is only found naturally in (*) fetuses and infants. A reduced amount of this protein causes thalassemia, and an abnormal variant of this protein causes sickle cell anemia. For 10 points, name this iron-containing protein found in red blood cells that transports oxygen through the body.**

ANSWER: hemoglobin

105-13-75-07110

11. **An early theorist in this discipline, who distinguished between "gemeinschaft" (geh-MINE-shaft) and "gesellschaft" (geh-SELL-shaft), was Ferdinand Tonnies. Three major frameworks within this discipline are conflict theory, structural functionalism, and symbolic interactionism. Auguste (*) Comte is considered the founder of this discipline, and the rules of its namesake method were laid out by Emile Durkheim. For 10 points, name this social science broadly concerned with the human interactions that compose society.**

ANSWER: sociology

080-13-75-07111

12. Although not the absolute value, this operation is the first one used in the triple product used to calculate the volume of a parallelepiped. The inner product is a generalization of this operation. This operation gives zero when applied to two orthogonal (*) vectors. It is applied to two vectors and equals the product of the vectors's magnitudes and the cosine of the angle between them. For 10 points, name this basic vector operation that returns a scalar.

ANSWER: dot product [or scalar product until "scalar" is read; or inner product until it is read]

014-13-75-07112

13. This poet described a broken lead pipe gushing water as a simile for blood from a self-inflicted stab wound. This poet used elegiac couplets for a half-finished cycle on the months of the calendar, his *Fasti*, before being exiled to the (*) Black Sea by his emperor. This man also wrote three books of poetic love advice and a compendium of myths including Iphis's sex change and Daphne's change into a laurel tree after Apollo's pursuit. For 10 points, name this Latin poet of *Ars Amatoria* who wrote about mythological transformations in his *Metamorphoses*.

ANSWER: Ovid [or Publius Ovidius Naso]

104-13-75-07113

14. In Greek mythology, an angry Zeus turned the king of Arcadia into this form for trying to feed him the flesh of murdered child. Odin habitually throws scraps to two of these animals near his throne named Geri and Freki. At Ragnarok, two of these animals named Skoll and Hati will devour the sun and moon. The magic chain (*) Gleipnir was used to bind one of these creatures who bit Tyr's hand off in revenge. For 10 points, name this type of animal exemplified in Norse myth by the monster Fenrir.

ANSWER: a wolf [prompt on dogs]

080-13-75-07114

15. This composer wrote the twelve-tone piece *Connotations* after being commissioned by Leonard Bernstein to commemorate the opening of Lincoln Center. Another work by this composer was titled after "The Dance," a section from Hart Crane's long poem *The Bridge*. A trip taken with Carlos Chavez led this composer to write the folk tune-inspired *El Salon Mexico*. Another work by this composer was intended to put (*) "Martha Graham to music" and included variations on the Shaker hymn "Simple Gifts." For 10 points, name this American composer of *Appalachian Spring*.

ANSWER: Aaron Copland

023-13-75-07115

16. This leader's country acquired Cabo Juby in the Ifni War. He sent the Blue Division to the Eastern Front in World War II. This man's government was opposed in one region by the formation of the group ETA (AY-tuh). He created a political party that merged the Falange (fall-ON-hay) and the Carlist parties. This leader designated (*) Juan Carlos I as his successor. He took power after a civil war that toppled the Popular Front and included the bombing of Guernica. For 10 points, name this right-wing leader of Spain from 1939 to 1975.

ANSWER: Francisco Paulino Hermenegildo Teodulo Franco Bahamonde

052-13-75-07116

17. One work by this author, which is set in Acadie, concerns the daughter of Benedict Bellafontaine, who is loved by Gabriel Lajuenesse. He wrote of a "spreading chestnut tree" and a man with "large and sinewy hands" in his "The Village Blacksmith," and he wrote of Priscilla Mullins and the title Puritan captain in his *The Courtship of (*) Miles Standish*. This man wrote about the husband of Minnehaha, and he wrote of "the belfry arch of the North Church tower" in another poem. For 10 points, identify this author of *The Song of Hiawatha* and "Paul Revere's Ride."

ANSWER: Henry Wadsworth Longfellow

189-13-75-07117

18. Pablo Picasso painted 58 reinterpretations of this work. Francisco Goya's portrait of Charles IV and his family borrowed many elements from this work. This painting's artist appears bearing a red cross on his chest, standing behind a canvas, and looking out at the viewer. On the right side of this painting sits a dog and two (*) dwarfs. In the background, a mirror shows the faint reflection of the parents of the central figure. For 10 points, name this Diego Velázquez painting of the Infanta Margarita and her servants.

ANSWER: *Las Meninas* [or *The Maids of Honor*]

121-13-75-07118

19. This man's son was sent to deal with an invasion of Friuli carried out by the Avars. This man studied with Alcuin of York, whom he also used to propagate learning in his kingdom. This leader once defeated his former father-in-law, Desiderius, and his biographer was Einhard. This man's rearguard was defeated by the Basques at the Battle of (*) Roncevaux Pass. He was crowned in Rome by Pope Leo III on Christmas Day in 800 CE. For 10 points, name this Frankish leader who served as the Holy Roman Emperor.

ANSWER: Charlemagne [or Charles the Great; or Charles I; or Charles le Grand; or Carolus Magnus; or Karl der Grosse; prompt on Charles]

189-13-75-07119

20. At high pressures, this element forms an allotrope that is hexagonal close packed, denoted as epsilon. Prussian blue is a pigment containing this metal element. This element is bonded to sulfur in pyrite. Coke is used in blast furnaces to (*) smelt compounds with this element, which produces a high-carbon product known as the pig type of this element. In the presence of water, this metal's oxides form rust. For 10 points, name this ferromagnetic transition metal that is often used to make steel.

ANSWER: iron

140-13-75-07120

21. For an object in a fluid, this quantity is given by the density times the acceleration of gravity times the height of the fluid above the object. A fluid whose density is only a function of this quantity is known as (*) barotropic. If this quantity is increased at any point in a confined fluid, there is an equal increase at every other point in the container according to Pascal's law; Pascal also names the SI unit for this quantity. For 10 points, identify this quantity defined as force per unit area.

ANSWER: pressure

066-13-75-07121

22. This leader's government had a National Energy Program unpopular in the western half of his country. This leader with a namesake "mania" resigned after a long "walk in the snow." He added the Charter of Rights and Freedoms while repatriating one document. He said, "Just watch me," after using the War Measures Act against the (*) FLQ during the October Crisis. For 10 points, name this prime minister who was in office when Britain relinquished constitutional control of his country in 1982, and who worked against Quebec separatism.

ANSWER: Pierre Elliott Trudeau

153-13-75-07122

23. One protagonist created by this author helps Louisa Musgrove after she suffers a concussion, impressing Frederick Wentworth. Another of this writer's characters is carried home in the rain by John Willoughby. In other works, this author wrote about Miss (*) Woodhouse's attempts to play matchmaker for her friends, and about the gradual development of romance between Mr. Darcy Elizabeth Bennet. For 10 points, name this female British novelist of *Emma* and *Pride and Prejudice*.

ANSWER: Jane Austen

192-13-75-07123



1. This character delays her execution by telling stories to her husband each night, allowing her to be spared and eventually become the queen. For 10 points each:

[10] Name the wife of Shahryar, who tells stories such as "The Fisherman and the Jinni" in a frame story.

ANSWER: Scheherazade

[10] Scheherazade is a character from this collection of stories from the Middle East. Notable stories in this collection include "Ali Baba and the Forty Thieves."

ANSWER: One Thousand and One Nights [or Arabian Nights; or The Arabian Nights' Entertainment]

[10] In the story of Sinbad the Sailor, Sinbad encounters one of these giant mythical birds, which supposedly could carry off elephants.

ANSWER: rocs

140-13-75-07201

2. For 10 points each, answer these questions about American photography.

[10] This American nature photographer captured a moonrise at Hernandez, New Mexico and made pioneering black-and-white photographs of Yosemite National Park.

ANSWER: Ansel Adams

[10] Adams founded a photography group named for the widest of these measurements of camera aperture size. As this number increases, the resulting photograph's depth of field increases.

ANSWER: f-stops [or focal ratios; or f-ratios; prompt "f"; do not accept "f/64"]

[10] This other American photographer depicted another woman surrounded by her starving Depression-era children in *Migrant Mother*.

ANSWER: Dorothea Lange

104-13-75-07202

3. These people were allowed to freely take a quarter of the land they cultivated as a "pauper's allotment" due to one reform. For 10 points each:

[10] Name this class of peasants that was emancipated in 1861 in Russia.

ANSWER: serfs [or krepostnoi]

[10] This tsar was responsible for emancipating the serfs, but he was assassinated in 1881.

ANSWER: Alexander II of Russia [or Aleksandr Nikolayevich; prompt on Alexander]

[10] Alexander II was assassinated by members of this group, which grew out of the earlier Land and Freedom party.

ANSWER: People's Will [or People's Freedom; or Narodnaya Volya]

023-13-75-07203

4. This term comes from the name of the Persian polymath Al-Khwarizmi. For 10 points each:

[10] Identify this term for a step-by-step procedure to evaluating a problem.

ANSWER: algorithms

[10] The set of all problems solvable by a machine named for this English computer scientist are solvable by an algorithm.

ANSWER: Alan Turing

[10] The thesis that proved that all problems solvable by a Turing machine are solvable by an algorithm is due to Turing and this American computer scientist.

ANSWER: Alonzo Church

066-13-75-07204

5. This figure killed Thersites for making fun of his weeping for the Amazon Penthesilea. For 10 points each:

[10] Name this greatest Greek warrior during the Trojan War, who was slain when Paris hit him in the ankle with an arrow.

ANSWER: **Achilles**

[10] Book I of the *Iliad* opens with Achilles' rage at being forced by Agamemnon to give up this concubine.

ANSWER: **Briseis**

[10] Achilles was the son of Thetis and this brother of Telamon.

ANSWER: **Peleus**

186-13-75-07205

6. The Conway Cabal attempted to remove this leader from power. For 10 points each:

[10] Name this President whose "farewell address" warned Americans about political parties. He was succeeded by John Adams.

ANSWER: George **Washington**

[10] This other president's farewell address predicted the growth of the "military-industrial complex."

Events during his term include the Soviet launching of *Sputnik* and the government intervention on behalf of the Little Rock Nine.

ANSWER: Dwight David **Eisenhower**

[10] This military leader gave a farewell speech in which he stated "old soldiers never die, they only fade away." He presided over the allied occupation of Japan.

ANSWER: Douglas **MacArthur**

192-13-75-07206

7. The units for this quantity can be written as Joules per Coulomb. For 10 points each:

[10] Name this quantity, which is also known as the electric potential difference. It is the amount of work needed to move a charge against an electric field.

ANSWER: **voltage**

[10] Voltage produced by a battery or other power source, as well as by a magnetic field, is known by this term.

ANSWER: **electromotive force** [or **emf**]

[10] One device that creates an electromotive force is this popular demonstration tool, which causes one's hair to stand on end when touching it.

ANSWER: **Van de Graaff** generator

140-13-75-07207

8. In this play, Haemon commits suicide after discovering the body of the title character in a cave. For 10 points each:

[10] Name this play, where the sister of Ismene and daughter of Oedipus buries the body of her brother Polynices against the decree of Creon.

ANSWER: **Antigone**

[10] *Antigone* is the last play in the Theban cycle by this playwright, who wrote about Oedipus as "The King" and "At Colonus."

ANSWER: **Sophocles**

[10] This wife of Creon becomes mad with grief and dies after Haemon's suicide.

ANSWER: **Eurydice**

186-13-75-07208

9. A buildup of disadvantageous mutations engaging in this process is called Muller's ratchet. For 10 points each:

[10] Name this process which is used by organisms such as bacteria and protists, in which organisms produce offspring without the fusion of gametes or fertilization.

ANSWER: **asexual reproduction**

[10] One example of asexual reproduction demonstrated by hydra and baker's yeast is this one, in which a new organism develops from a split-off portion of another.

ANSWER: **budding**

[10] This form of asexual reproduction, which was studied by Charles Bonnet and Jacques Loeb, involves an ovum developing into another organism without fertilization. In bees, it produces drones.

ANSWER: **parthenogenesis**

189-13-75-07209

10. One of these works written by Benjamin Franklin chronicles its author's publication of *Poor Richard's Almanac*. For 10 points each:

[10] Name this genre similar to memoirs in which the author writes about his or her life.

ANSWER: **autobiography**

[10] This poet who read "On the Pulse of Morning" at Bill Clinton's inauguration wrote about growing up in Stamps, Arkansas in her autobiography *I Know Why the Caged Bird Sings*.

ANSWER: Maya **Angelou** [or Marguerite **Johnson**]

[10] This other American recounted his time in Baltimore and his fight with Mr. Covey in his autobiography.

ANSWER: Frederick **Douglass**

015-13-75-07210

11. Charles Gounod wrote one of these pieces "for a Marionette." For 10 points each:

[10] Name this type of composition, which is usually slow-paced and depicts a certain event after one's death. A famous one in B flat minor was written by Chopin.

ANSWER: **funeral marches** [prompt on **marches**]

[10] This composer opened his fifth symphony with a funeral march. He may be better known for his eighth symphony, *Symphony of a Thousand*.

ANSWER: Gustav **Mahler**

[10] The third movement of Mahler's "Titan" symphony is considered a funeral march, whose theme is taken from this French children's song. Lyrics from it include "Dormez-vous?" (door MAY VOO)

ANSWER: "**Frere Jacques**" [or "**Brother John**"; or "**Brother Jacques**"]

140-13-75-07211

12. This writer captured the anxiety of the nuclear era some thirty years before it actually began with his 1922 novel *Krakatit*. For 10 points each:

[10] Name this Czech writer who drew on a word for serf labor to coin the term "robot" for the protagonists of his play *R.U.R.*.

ANSWER: Karel **Capek**

[10] Capek also wrote this satirical novel about the title uprising against humanity of an intelligent race of aquatic creatures.

ANSWER: **War with the Newts** [or **War with the Salamanders**; or **Valka s Mloky**]

[10] Both *R. U. R.* and *War with the Newts* fall under this literary genre, whose grandmaster was the Russian-born emigree Isaac Asimov.

ANSWER: **science fiction** [or **sci-fi**]

020-13-75-07212

13. Answer these questions about ancient Persia's military encounters with other nations, for 10 points each.

[10] At this 490 BCE battle, the Greeks repelled Darius's Persian invasion. A herald with news of victory from this battle proverbially died after running 26 miles to Athens.

ANSWER: Battle of **Marathon**

[10] This Greek "father of history" made Greco-Persian relations central to his nine-book *Histories*, which include the Thermopylae story amid more fanciful accounts.

ANSWER: **Herodotus**

[10] According to Herodotus, Persia subdued this Anatolian empire during the rule of its rich king Croesus. It used a gold-silver alloy to mint the first coins.

ANSWER: **Lydian** empire

104-13-75-07213

14. Answer some questions relating to the features of a certain planet, for 10 points each:

[10] This feature of the eighth planet of the sun, which was first observed in 1989 by NASA's Voyager 2 probe, is similar in appearance to a certain feature of Jupiter.

ANSWER: **Great Dark Spot** [or **GDS-89**]

[10] This is the largest moon of the planet which includes the Great Dark Spot. It is the coldest body in the solar system and its geysers eject frozen nitrogen.

ANSWER: **Triton**

[10] Triton is the largest moon of this outermost gas giant of the solar system, which is the eighth planet from the sun. It is also home to the moons Nereid and Galatea.

ANSWER: **Neptune**

189-13-75-07214

15. This man used the analogy of the *bricoleur*, a man who builds by tinkering with the materials at hand, to explain the creation of myths. For 10 points each:

[10] Name this French anthropologist, the author of *The Savage Mind*.

ANSWER: Claude **Lévi-Strauss**

[10] Lévi-Strauss belonged to this school of thought in anthropology. This school of thought, often opposed to functionalism, emphasized binary relationships within cultures and was adopted from work done in a different field by Ferdinand de Saussure.

ANSWER: **structuralism** [or **structural** anthropology]

[10] Saussure worked in this social science. Noam Chomsky is an academic in this field, whose subfields include semantics and etymology.

ANSWER: **linguistics**

121-13-75-07215

16. This peg-legged quartermaster carries a parrot named Captain Flint. For 10 points each:

[10] Name this man who instigates a mutiny on the *Hispaniola*.

ANSWER: Long John **Silver** [or **Long John** Silver]

[10] Long John Silver appears with Jim Hawkins and Billy Bones in this Robert Louis Stevenson adventure novel.

ANSWER: **Treasure Island**

[10] In *Treasure Island*, this former pirate in Captain Flint's crew is marooned on the island. He brings the heroes to its location after Dr. Livesey gives him cheese.

ANSWER: Benjamin **Gunn** [or **Benjamin Gunn**]

015-13-75-07216

17. This work's artist painted *After the Hurricane* as a sort of sequel to it. For 10 points each:

[10] Name this work in which a black man is in a boat surrounded by sharks as a water spout looms in the background.

ANSWER: *The Gulf Stream*

[10] This artist of *The Gulf Stream* depicted an elderly white ex-plantation owner meeting her three ex-slaves in *A Visit from the Old Mistress*.

ANSWER: Winslow Homer

[10] Winslow Homer specialized in these kinds of paintings, which focuses mainly on the natural scenery of its setting, rather than individual figures.

ANSWER: landscapes

149-13-75-07217

18. Answer the following about early figures in analytic philosophy, for 10 points each.

[10] This British atheist helped start analytic philosophy with Alfred Whitehead by using rigorous logic in his *Principia Mathematica*.

ANSWER: Bertrand Russell

[10] Analytic philosophers often deal with the "ideal" or "ordinary" types of this human ability, whose vagueness leads to the problems of reference, context, and meaning.

ANSWER: language [or speech; or utterances; or uttering words; prompt on communication]

[10] This British common-sense philosopher inspired Wittgenstein with his "here is a hand" argument, and rejected definitions of the good in *Principia Ethica*.

ANSWER: George Edward Moore

104-13-75-07218

19. During this war, Thomas Truxton captured the *L'Insurgente* and *La Vengeance*. For 10 points each:

[10] Name this unofficial war between the United States and France during John Adam's presidency.

ANSWER: Quasi-War

[10] This man was second-in-command of the American army during the Quasi-War. He served as the first Treasury Secretary and was later killed by Aaron Burr in a duel.

ANSWER: Alexander Hamilton

[10] This French foreign minister nearly caused war with the United States by asking for a bribe from an American commission in the XYZ Affair.

ANSWER: Charles Maurice de Talleyrand-Perigord

186-13-75-07219

20. For 10 points each, name these places in the Pacific where archaeological work was done.

[10] Hoana, Hamosa, and Moru are the three cultural phases proposed for civilizations on Guadalcanal, the largest island in this chain. Buka and Bougainville are part of it geographically.

ANSWER: Solomon Islands [or the Solomons]

[10] Though José Garanger did most of his field work on Efate, his best-known discovery in this country was the burial site of legendary chief Roy Mata. The creole Bislama is an official language here.

ANSWER: Republic of Vanuatu [or Ripablik blong Vanuatu; prompt on New Hebrides]

[10] Excavations on this island have revealed the presence of quarries at which giant stone heads known as moai were created, helping discredit the fringe theory that aliens helped its inhabitants.

ANSWER: Easter Island [or Rapa Nui; or Te Pito te Henua; or Isla de Pascua]

003-13-75-07220

21. A solution of chromic acid is added to ethanol. For 10 points each:

[10] The reaction that occurs will produce this two-carbon carboxylic acid, which is present in vinegar.

ANSWER: acetic acid [or ethanoic acid]

[10] Chromic acid will cause the ethanol to undergo this type of reaction. In these reactions, compounds lose electrons. They occur at the anode of voltaic cells.

ANSWER: oxidations

[10] Chromic acid contains chromium ions in this oxidation state. During the reaction, the ions will be reduced to a plus-3 oxidation state and change in color from orange to green.

ANSWER: +6 [or positive 6]

190-13-75-07221