



1. **This term can be applied to the title location of a novel consisting of a fictional manuscript by Avis Everhard in which most workers live in the city of Asgard. That novel is Jack London's *The Iron Heel*. In a novel set in one of these societies, Captain Beatty is the superior of the increasingly rebellious (*) Guy Montag. The United States in Ray Bradbury's *Fahrenheit 451* is one of these places, because books are outlawed by the government. For 10 points, give this term for a usually futuristic society that is highly undesirable, the opposite of a utopia.**

ANSWER: **dystopia** [or **dystopian**; prompt on **dictatorship**; prompt on **oligarchy**]

052-14-102-09101

BONUS: What conic section is obtained by intersecting a plane in any orientation with both halves of a double cone?

ANSWER: **hyperbola**

014-14-102-0910-11

2. **This statement can be derived by applying Gauss's law to a spherical surface. One constant in this law is often rewritten as one over four pi times the permittivity of free space, and dividing it by charge gives the electric field of a point charge. The constant of proportionality for this statement is symbolized (*) k, and its value is equal to nine times ten to the nine. It states that force is proportional to the inverse-square of distance. For 10 points, name this statement that gives the electrostatic force between two charges.**

ANSWER: **Coulomb's law**

226-14-102-09102

BONUS: What radical leader of the Committee of Public Safety during the French Revolution was killed during the Thermidorian Reaction?

ANSWER: Maximilien de **Robespierre**

015-14-102-0910-11

3. **This conflict saw the last sitting British monarch lead an army in battle, which occurred at Dettingen. The first major clash in this conflict occurred at the battle of Mollwitz. Frederick the Great had promised one side in this war neutrality if part of (*) Silesia was given to Prussia, but that solution was rejected by a Hapsburg monarch. This war ended in 1748 with the treaty of Aix-la-Chapelle (EYE-lah-shuh-PELL). For 10 points, name this war sparked by the Pragmatic Sanction's elevation of Maria Theresa to the throne.**

ANSWER: War of the **Austrian Succession**

230-14-102-09103

BONUS: The servant Face teams up with the prostitute Dol Common and the con artist Subtle to defraud customers with the promise of the philosopher's stone in what author's play *The Alchemist*?

ANSWER: Ben **Jonson**

014-14-102-0910-11

4. In a play by this man, the title character uses Bajazeth (BAH-juh-zeth) as a footstool and woos Zenocrate (zee-NAH-kruh-tay). This playwright wrote a prologue spoken by Machiavel in a play where the title character has his servant Ithamore deliver poisoned porridge to his daughter Abigail's convent. This author of (*) *Tamburlaine the Great* wrote an influential play about a scholar who sells his soul to Mephistophilis. For 10 points, name this Elizabethan playwright of *The Jew of Malta* and *Doctor Faustus*.

ANSWER: Christopher **Marlowe**

186-14-102-09104

BONUS: What lauded college football coach's team lost a 2013 game when Chris Davis ran a missed field goal attempt back for a touchdown at the end of the Iron Bowl?

ANSWER: Nicholas "Nick" **Saban**

052-14-102-0910-11

5. On New Year's Day 2014, this country's ex-spy chief Patrick Karegeya (cah-ruh-GAY-uh) was found dead in a Sandton hotel. Along with Uganda, this home of controversial "gacaca" (gah-CAH-cah) courts supplies recruits to a different country's M23 forces. In 2012, the United States cut off aid to this country for training rebels in the (*) Democratic Republic of the Congo. This country's president, Paul Kagame (kah-GAH-may), came to power after leading the RPF to victory against its Hutu people. For 10 points, name this African country where the Hutus targeted the Tutsi people in a 1994 genocide.

ANSWER: **Rwanda**

080-14-102-09105

BONUS: The firm of Shreve Lamb and Harmon originally designed what building, whose construction was supervised by Al Smith, to have a docking site for zeppelins?

ANSWER: **Empire State Building**

015-14-102-0910-11

6. Kenneth Spence worked within this theory, and wrote on "discrimination learning" in its framework. Edward Tolman developed a "purposive" form of this school of thought, which was extensively applied to learning by Clark Hull. A psychologist from this school conditioned (*) "Little Albert" to fear white rats, and another member of this school used operant conditioning to train pigeons to play table tennis. For 10 points, name this school to which John Watson and B.F. Skinner belonged, which denies the role of free will in its namesake phenomenon.

ANSWER: **behaviorism** [or **behaviorist** psychology, etc.]

019-14-102-09106

BONUS: What city's Potala Palace was the home of the Dalai Lama before he fled to India?

ANSWER: **Lhasa**

014-14-102-0910-11

7. This crop fed the most beautiful prostitutes of the U.K., according to Adam Smith's *Wealth of Nations*. Frederick the Great's planting of it gave an alternate name to the War of the Bavarian Succession. This crop of South American origin caused millions to flee on (*) "coffin ships" after the *Phytophthora infestans* (FEYE-tof-THOR-uh in-FES-tanz) fungus afflicted it with blight in the 1840s. For 10 points, name this tuberous staple crop whose failure caused famine in Ireland.

ANSWER: **potatoes** [or *Solanum tuberosum*]

104-14-102-09107

BONUS: What silent-era actor and director created such films as *Modern Times* and *City Lights*?

ANSWER: Charlie **Chaplin**

014-14-102-0910-11

8. Irving Langmuir was the inspiration for a character created by this author, who invents a way to instantaneously harden mud to aid soldiers. This author provided his own illustrations for a novel in which the protagonist goes on a berserk killing rampage because he believes that everyone else alive is a robot. In his best-known novel, an (*) optometrist predicts exactly how he will die, since he's been jumping forwards and backwards through time ever since the fire-bombings of Dresden. For 10 points, name this author of *Cat's Cradle* and *Slaughterhouse-Five*.

ANSWER: Kurt **Vonnegut**

190-14-102-09108

BONUS: One histidine and four pyrrole (PEER-ohl) nitrogens coordinate the iron at what protein's center?

ANSWER: **hemoglobin** [or **Hb**]

190-14-102-0910-11



SET A:

1. BONUS: This is a calculation question. If you choose a number between 1 and 1000 inclusive, what is the probability that the number is divisible by 2 and 4 but not 8?

ANSWER: **1/8** [or **0.125**; or **12.5%**]

190-14-102-0910-12

2. BONUS: What woman known as "The Maid of Orleans" was burned at the stake in 1431?

ANSWER: **Joan of Arc** [or **Jeanne d'Arc**; or **Saint Joan**; prompt on partial answer]

015-14-102-0910-12

3. BONUS: Name the organelle that has a type used to detoxify metabolites and a type with ribosomes on its surface.

ANSWER: **endoplasmic reticulum** [or **ER**]

048-14-102-0910-12

4. BONUS: Which Pauline epistle, the longest, declares that "Death is the wages of sin?"

ANSWER: Epistle to the **Romans**

014-14-102-0910-12

SET B:

1. BONUS: This is a 30-second calculation question. An isosceles trapezoid has one base 8 centimeters long and the other 14 centimeters long. If the other two sides are each 5 centimeters long, what is the area of the trapezoid?

ANSWER: **44** square centimeters

003-14-102-0910-12

2. BONUS: What Swiss psychiatrist speculated about the existence of universal archetypes in what he called the "collective unconscious?"

ANSWER: Carl **Jung**

014-14-102-0910-12

3. BONUS: What astronomer names a constant describing the rate of expansion of the universe?

ANSWER: Edwin **Hubble**

014-14-102-0910-12

4. BONUS: "Die Lorelei" is a famous lyric by what German Romantic poet?

ANSWER: Heinrich **Heine**

014-14-102-0910-12



9. In a scene in this film, the protagonist is punched in the face by Mr. Welch, the husband of a teacher. In the last scene, the main character finds a copy of *The Adventures of Tom Sawyer*. The protagonist of this film is excited to discover his daughter (*) Zuzu's petals in his pocket, which means that he is back in Bedford Falls and not the hellish Pottersville. In this movie, Clarence Odbody is an angel who wants to obtain his "wings." For 10 points, name this Frank Capra film about George Bailey, a man who wishes he had never been born.

ANSWER: *It's a Wonderful Life*

052-14-102-09109

BONUS: What assassin was lurking in a Book Depository when he wounded Governor John Connally?

ANSWER: Lee Harvey Oswald

052-14-102-0910-11

10. This five-word question titles a children's book illustrated by Svein Nyhus. According to ethologists, correct answers to this question include a rattling noise known as "gekkering," a "trisyllabic greeting warble," and a "ululating siren-like shriek." Less scientific answers posited for this question include (*) "Ring-ding-ding-ding-dingeringeding," "Wa-pa-pa-pa-pa-pa-pow," and "Joff-tchoff- tchoff-tchoffo-tchoffo-tchoff." For 10 points, what is this question about animal vocalization which introduces the chorus of a 2013 YouTube hit from satirical electronic band Ylvis (ILL-viss)?

ANSWER: "What does the fox say?"

019-14-102-09110

BONUS: J. Robert Oppenheimer was a part of what secret U.S. government project that developed the atomic bomb during World War II?

ANSWER: Manhattan Project

015-14-102-0910-11

11. The value for the glass transition in polymers is often found using a differential scanning variety of these devices. A sample is placed in a combustion crucible and ignited in the most common type of these devices found in labs, the bomb. A simple example of these devices can be created by nesting two (*) styrofoam cups and capping them with a lid that has two holes, for a thermometer and stirrer. For 10 points, identify these devices that are used to measure the heat of a reaction and heat capacity of materials.

ANSWER: calorimeters

066-14-102-09111

BONUS: What principle states that electrons are added to lower energy levels before being added to higher ones?

ANSWER: Aufbau principle [or the building-up principle]

048-14-102-0910-11

12. In the Cori cycle, this compound is formed in the liver. GLUT1 transports it into cells. This pyranose (PIE-rah-nose) is phosphorylated by hexokinase in the first step of the EMP pathway. Maltose consists of two monomers of it. This compound, which has only equatorial hydroxyl groups in its (*) cyclic form, is modified to make the monomer of chitin (KITE-in). Glycogen acts as storage for this compound. Insulin responds to high blood levels of it. This compound is metabolized into two pyruvates, producing 2 ATP and 2 NADH, during glycolysis. For 10 points, name this six-carbon sugar.

ANSWER: glucose [or dextrose; or C 6-H 12-O 6]

190-14-102-09112

[10 What creator of the Incandenza family, who left his novel *The Pale King* unfinished when he committed suicide in 2008, wrote *Infinite Jest*?

ANSWER: David Foster Wallace

014-14-102-0910-11

13. Dennis Macdonald holds that the story of this man is an imitation of the episode in which Odysseus defeats the suitors. In John 18, this character is called by the word "lestes," (LESS-teez) meaning "bandit" or "revolutionary." In Mark and Luke, he is said to have been involved in the (*) riot against the plan to plant Roman standards on the Temple Mount, and in Matthew, he is simply called a "notorious prisoner." The chant of a crowd to "give us" this man is the origin of the "Jewish deicide" (DAY-uh-side) belief. For 10 points, name this criminal released instead of Jesus.

ANSWER: Barabbas

019-14-102-09113

BONUS: What college basketball coach won a national championship with Kentucky in 2012?

ANSWER: John Calipari

015-14-102-0910-11

14. This document mandated that all foreign relations be conducted under the "Model Treaty," a template for bilateral agreements that focused on free trade and defined lists of contraband. This document created an executive body called the (*) Committee of the States, and the government organized under it passed the Northwest Ordinance. The 1787 Shays Rebellion highlighted the weakness in this document. For 10 points, name this ineffectual early U.S. governing charter that was abolished in the Constitutional Convention.

ANSWER: Articles of Confederation and Perpetual Union

064-14-102-09114

BONUS: The phrase "with up so floating many bells down" follows the first line of "anyone lived in a pretty how town," by what poet?

ANSWER: E. E. Cummings

190-14-102-0910-11

15. A large population of albino people lives on this lake's largest island, Ukerewe (OO-kay-RAY-way) Island. The Winam Gulf of this lake is the site of Homa Bay and the port city of Kisumu (kiss-OO-moo). James Ogwang brought South American weevils to combat this lake's problem with the invasive (*) water hyacinth. This lake receives the Kagera (kah-GAIR-uh) River to its west, and is the source of the White Nile. For 10 points, name this East African lake that is the second largest freshwater lake in the world and the largest overall in Africa.

ANSWER: Lake Victoria

023-14-102-09115

BONUS: In what Nathaniel Hawthorne short story does the title character see his wife Faith at a Witches' Sabbath?

ANSWER: "Young Goodman Brown"

014-14-102-0910-11

16. During this battle, the Ninth Corps took three hours to get across the Lower Bridge, which was subsequently called the Burnside Bridge. This battle was shortly preceded by both the Battle of South Mountain and Stonewall Jackson's capture of Harpers Ferry. The outcome of this battle allowed for the issuing of the (*) Emancipation Proclamation and stopped the advance of the Confederate army into Maryland. For 10 points, name this 1862 Civil War battle that was a Union victory and the single bloodiest day of the war.

ANSWER: Battle of Antietam [or Battle of Sharpsburg]

023-14-102-09116

BONUS: This is a 20-second calculation question. What number is in the top-left corner of the inverse of the matrix whose first row is [4 5] and whose second row is [2 3]?

ANSWER: 1.5 [or 3/2; or 1 1/2]

190-14-102-0910-11



17. **Objects that undergo this process under similar conditions are grouped into "facies" (FAH-sheez). George Barrow defined the chlorite and sillimanite zones at opposite ends of a grading system for this process. Black smokers trigger the hydrothermal variety of this process on the (*) ocean floor. Contact and regional are more common types of this process, which results in gneiss (NICE), schist (SHIST), and slate, when shale, clays, and muds are subject to high temperature and pressure. For 10 points, name this process that transforms limestone, a sedimentary rock, into marble.**

ANSWER: **metamorphism** [or word forms]

020-14-102-09117

BONUS: After finding wild grapes on an expedition, what explorer coined the name "Vinland" for what is now Nova Scotia?

ANSWER: **Leif** Eriksson the Lucky [prompt on **Eriksson**]

019-14-102-0910-11