



1. Early in this poem, the speaker expresses his longing for "a draught of vintage" and "a beaker full of the warm South," since with a drink he can then "fade far away." This poem begins with the speaker feeling that his "head aches, and a drowsy numbness pains my sense," and he concludes by asking, "Do I wake or sleep?" The speaker of this poem climatically exclaims, "Thou wast not born for death," addressing the title bird. For 10 points, name this ode by John Keats.

ANSWER: "Ode to a Nightingale"

140-13-97-01101

2. At the start of his political career, this future President joined the KKK and worked in the political machine of boss Thomas Pendergast. This president called the "Turnip Day Session" of Congress and used an executive order to desegregate the Army. He went on the "Whistle Stop Tour of America" to win the last Presidential election in which four candidates each exceeded two percent of the vote. The *Chicago Tribune* claimed that this "Fair Deal" proponent lost to Dewey in the election of 1948. For 10 points, name this successor to FDR, who chose to bomb Nagasaki and Hiroshima.

ANSWER: Harry S. Truman

149-13-97-01102

3. This effect explains the results of the Rossi-Hall experiment, which measured muons reaching the surface of the Earth. By using the transverse Doppler Effect, the Ives-Stilwell experiment confirmed the existence of this effect, which is directly proportional to the Lorentz factor. This effect is the cause of a paradox in which a twin in a near-light speed rocket ship can leave and return to Earth younger than a twin who never left Earth. For 10 points, name this consequence of special relativity that results in clocks "slowing" down at relativistic velocities.

ANSWER: time dilation [prompt on special relativity until it is read]

149-13-97-01103

4. A crucial part of these devices is made by Nichols Electronics. Thomas Campbell and Joe Steele were convicted for their role in a 1980s Glasgow war, where these items were used to transport drugs. Michael Moore reads the PATRIOT Act from one of these things in *Fahrenheit 9/11*. Borat buys one of these conveyances, but then scares some children when his bear sticks its head out the window. They often play songs like *The Entertainer* and *Turkey in the Straw* to attract customers. For 10 points, name these vehicles that sell frozen treats.

ANSWER: ice cream truck [or ice cream van]

001-13-97-01104

5. Crossdating these things is commonly done with a skeleton plot. Portions of these structures that occur early in a season are typically lighter than portions later in a season, allowing for visual identification of their boundaries. These things are the primary object of interest in the field of dendrochronology. Because the width of these things varies mostly as a result of precipitation, they can be used to construct past precipitation records. For 10 points, identify these patterns visible in a cross-section of a tree trunk.

ANSWER: tree growth rings

066-13-97-01105

6. Brenda Patimkin features in a collection by this author that includes the short stories "Defender of the Faith" and "Espstein." In a novel by this author, Amy Willette is confused with Anne Frank. This author of *Goodbye, Columbus* and *The Ghost Writer* wrote a novel in which Coleman Silk is black but pretends to be white and Jewish. Another of his novels is a monologue by a sex-obsessed neurotic. For 10 points, name this author of *The Human Stain* and *Portnoy's Complaint*.

ANSWER: Philip **Roth**

127-13-97-01106

7. A king of this name reigned for forty-five days before being killed by one of his father's concubines in a drunken stupor. Another king of this name attempted to build the Hall of a Hundred Columns and ordered the construction of the Gate of All Nations, and was ultimately betrayed by his minister Artabanus (art-uh-BAA-nus). That king of this name led his forces to defeat in the Battle of Plataea (pluh-TAY-uh) after building a pontoon bridge. For 10 points, give this name of a Persian emperor who led his troops at Thermopylae (thur-MAH-puh-lye).

ANSWER: **Xerxes** (ZERK-seez)

030-13-97-01107

8. These interactions are accounted for by the sixth-power term in the Lennard-Jones potential, and they are the reason lighter halogens are gases and heavier halogens are solids and liquids. These forces are the only ones present in non-polar molecules and become stronger as the sizes of atoms and molecules get larger. They are a subset of the van der Waals (ven-dur-VAHLZ) forces. For 10 points, name these weak intermolecular forces formed between instantaneous induced dipoles, which are named for a German scientist.

ANSWER: **London** dispersion **forces** [or **van der Waals forces** until "gases" is read; prompt on **dispersion forces**; prompt on **LDFs**]

226-13-97-01108

9. This man championed the "Planning, Programming, and Budgeting System" which brought computer-based systems analysis to the federal government for the first time. He was one of the "Whiz Kids" for Ford before becoming that company's president, and he was later the president of the World Bank from 1968 to 1981. While serving under Lyndon Johnson and John Kennedy, he made decisions that he later expressed regret for in the documentary *The Fog of War*. For 10 points, name this Secretary of Defense during the escalation of the Vietnam War.

ANSWER: Robert Strange **McNamara**

088-13-97-01109

10. These things are divided into monolithic and micro types, the latter of which is exemplified by the as-yet-unfinished GNU Hurd (NEW HERD). Programs request service from these things by executing a system call. A BSD-based example of these things was originally used in OS X. The Tanenbaum-Torvalds debate concerned the implementation of a type of these things for Linux. For 10 points, identify this component of an operating system that serves as an interface between hardware and software applications.

ANSWER: **kernel** [prompt on **operating system**]

081-13-97-01110

11. An opera by this composer combines poetry by Muriel Rukeyser, traditional Tewa songs sung by the housemaid Pasqualita, and an aria based on the poem "Batter my heart, three person'd god." A character nicknamed "Rambo" is one of the antagonists in another of his operas, in which Marilyn's husband sings the "Aria of the falling body" after being killed by hijackers. This composer of *Doctor Atomic* included the number "I am the wife of Mao tse-tung" in another opera. For 10 points, name this American composer of *The Death of Klinghoffer* and *Nixon in China*.

ANSWER: John Coolidge **Adams**

025-13-97-01111

12. A poem of this type states that "the art of losing isn't hard to master," and another poem of this type states, "I wake to sleep, and take my waking slow." This type of poem is exemplified by Elizabeth Bishop's "One Art" and Theodore Roethke's "The Waking." Another poem of this type urges the speaker's father to "rage, rage against the dying of the light." For 10 points, name this highly structured type of nineteen-line poem, exemplified by Dylan Thomas's "Do Not Go Gentle Into That Good Night."

ANSWER: **villanelles**

126-13-97-01112

13. This poet's lines, "Thou mastering me God! giver of breath and bread," open his poem dedicated to nuns lost in the sinking of a ship. He wrote, "There lives the dearest freshness deep down things," in another poem. Much of this poet's characteristic style imitates the alliterative-accentual verse of Old English, which he termed "sprung rhythm," as seen in "The Wreck of the Deutschland." For 10 points, name this Jesuit poet of "God's Grandeur" and "The Windhover."

ANSWER: Gerard Manley **Hopkins**

121-13-97-01113

14. A location of this type features statues of Charity, Prudence, Justice, and Truth, the latter of which rests her foot on the location of England on a globe. Another location of this type was initially intended to be located in St. Peter's Basilica, but came to be placed in the church of San Pietro in Vincoli. Several of these monuments were situated in a namesake crypt in the Catacomb of Callixtus, which is one of the Catacombs of Rome. For 10 points, identify these monuments, two of which were sculpted by Bernini and Michelangelo, for Alexander VII and Julius II.

ANSWER: **tombs** of **Popes** [or equivalents; prompt on partial answer]

189-13-97-01114

15. Father Fish and Hobe Gilium appear in this author's novel *The Morning Watch*. He wrote a prose poem set to music by Samuel Barber entitled *Knoxville: Summer of 1915*. In his most famous autobiographical novel, Rufus Follet deals with his father's death in a car crash. This author collaborated with the photographer Walker Evans to document the lives of sharecroppers in *Let Us Now Praise Famous Men*. For 10 points, name this author of *A Death in the Family*.

ANSWER: James **Agee**

127-13-97-01115



1A. What longest river in Poland flows through Gdansk (guh-DONSK) and Warsaw?

ANSWER: **Vistula** River

1B. What English king was forced to sign the Magna Carta by his barons in 1215?

ANSWER: King **John** Lackland

2A. What first Guru founded the religion of Sikhism?

ANSWER: Guru **Nanak**

2B. The Portuguese "President-King" Sidónio Pais (pai-EES) promoted an ideology named for what month, also the month of 1825 in which liberal Russian nobles protested for "Constantine and constitution" against the ascent of Nicholas I?

ANSWER: **December**

3A. This is a 20-second calculation question. I have a perfectly spherical scoop of ice cream, with radius 1 unit, that will be slowly melting into an ice cream cone, also with radius 1 unit. If the cone can contain the entire volume of melted ice cream, what is the minimum height of the cone?

ANSWER: **4** units

3B. This is a 20-second calculation question. If I draw two letters at random from the alphabet with replacement, what is the probability that I draw the same letter twice?

ANSWER: **1/26**

4A. The Red Brigades were a terrorist group active in what European country during the "Years of Lead"?

ANSWER: **Italy** [or **Italian Republic**]

4B. What centrist candidate defeated Mohammad Bagher Ghalibaf (GAH-lee-boff) to win Iran's 2013 presidential election?

ANSWER: Hasan **Rouhani**

5A. What American economist and proponent of monetarism wrote *Capitalism and Freedom*?

ANSWER: Milton **Friedman**

5B. What American general developed the Union's "anaconda plan" during the Civil War after leading troops in the War of 1812 and the Mexican-American War?

ANSWER: Winfield **Scott**

6A. What U.S. Secretary of State gave a seemingly unscripted proposal that temporarily ended a tense standoff over Syrian chemical weapons in 2013?

ANSWER: John **Kerry**

6B. What title character of a Voltaire novel is mentored by Dr. Pangloss?

ANSWER: **Candide**

7A. What son of Odysseus sought help from Menelaus (MEN-uh-LAY-us) and helped his father massacre Penelope's suitors?

ANSWER: **Telemachus**

7B. What Danish Christian philosopher wrote at length about Abraham's sacrifice of Isaac in *Fear and Trembling*?

ANSWER: Søren Aabye **Kierkegaard** [or Johannes de **Silentio**; or Victor **Eremita**; or William **Afham**; or Frater **Taciturnus**; or Constantine **Constantius**; or Vigilius **Haufniensis**; or Nicolaus **Notabene**; or A.B.C.D.E.F. **Godthaab**; or A.B.C.D.E.F. **Rosenblad**; or **Inter et Inter**; or **Procul**; or Captain **Scipio**; or **Judge William**; or **A.F.**; or Hilarius **Bookbinder**; or Johannes **Climacus**; or **H.H.**; or **Anti-Climacus**; prompt on **A**; prompt on **B**]

8A. What English mathematician formulated a "law of cooling" and developed calculus in his *Principia Mathematica*?

ANSWER: Isaac **Newton**

8B. What ABC thriller created by Shonda Rhimes stars Kerry Washington as political fixer Olivia Pope?

ANSWER: **Scandal**

9A. This is a 30-second calculation question. In alternate-universe Scholastic Bowl, tossups are worth 14 points and directed round questions are worth 8 points. If your team answered 20 total questions correctly and scored 232 points, how many tossups did your team answer?

ANSWER: **12** tossups

9B. This is a 30-second calculation question. What is the domain of the function $f(x) = \frac{x^2 + 4x + 3}{x^2 - 6x - 7}$?

ANSWER: x equals all **numbers other than -1 and 7** [do not accept any domain that just excludes 7]

10A. What Nigerian playwright wrote *The Lion and the Jewel* and *Death and the King's Horseman*?

ANSWER: Wole **Soyinka**

10B. What Greco-Roman resident of Alexandria created a complicated geocentric model of the universe using "epicycles"?

ANSWER: **Ptolemy** (TAH-luh-mee)



1. Reversible expansions and compressions that have this property constitute two stages of the Carnot cycle. In this type of reversible expansion, the work done equals RT times the log of the ratio of the volumes. For ideal gases undergoing this type of process, work is equal to the negative of heat, as these processes proceed with no change in internal energy or enthalpy, and pressure times volume is constant. For 10 points, name this property possessed by phase transitions, which occur with no change in temperature.

ANSWER: **isothermal** processes [or **constant-temperature** processes until "temperature" is read; prompt on **phase transitions**; do not accept "adiabatic processes"]

190-13-97-01117

2. In this play, the maid rebukes Valere (VAL-air) and his fiancée for arguing over whether they truly love one another. Damis (dah-MEE) is thrown out for refusing to apologize to the title character of this play, who is admired by the unfriendly Madame Pernelle. Cleante (CLEE-ont) serves as the voice of reason in this play, in which Elmire (IL-meer) stations her husband under a table in order to prove to him that the title character desires her. At the end of this play, the king saves Orgon from his mistake. For 10 points, name this Molière play about the title religious hypocrite.

ANSWER: ***Tartuffe***

105-13-97-01118

3. A type of silicon prefixed by this term is a common gate material for MOSFETs (MOSS-fets). Materials whose name contains this prefix can be connected with cross-linking, and their size can be described by their "molecular weight," which is proportional to the amount of repeating subunits. The "tail" of adenine (AA-deh-noon) nucleotides added to mRNA is prefixed by this term. In math, a term with this prefix denotes linear combinations of variables raised to non-negative integer powers, examples of which include cubic and quartic ones. For 10 points, what is this Greek prefix meaning "many?"

ANSWER: **poly**

233-13-97-01119

4. This author wrote a short story in which Lady Carlotta is mistaken for a governess and decides to teach the children with the "Schartz-Metterklume Method." Another of this author's short stories follows Georg and Ulrich, who are hunting in the woods, and whose calls for their men's aid eventually attract wolves. This author of "The Interlopers" wrote a short story that ends with the line "Romance at short notice was her specialty." For 10 points, identify this British short story writer of "The Open Window."

ANSWER: **Saki** [or Hector Hugh **Munro**]

126-13-97-01120

5. Symbols in this writing system that have developed native meanings are known as "Kokku" (COH-koo). The two ways to read this system's normal symbols are called "on-yomi" (AHN-yoh-mee) and "kun-yomi" (KUN-yoh-mee). This system is ideogrammatic, rather than representing words or syllables, and its name literally means "Han characters," reflecting its origin. This one of at least three writing systems for Japanese consists of symbols based on Chinese characters. For 10 points, identify this writing system that is not hiragana (HEER-uh-gah-nuh) or katakana (KAH-tuh-kah-nuh).

ANSWER: **Kanji** [prompt on **Japanese** until "on-yomi" is read]

147-13-97-01121

6. The main character in this novel thinks that his infatuation with Luba Luft might be mistaken for his love of *The Magic Flute*. This novel ends with Iran, the protagonist's wife, ordering mechanical flies for a synthetic toad that the protagonist found during his sojourn into the Oregon desert to meditate. The protagonist of this novel is disappointed that Iran misuses her mood organ, and he lusts after Rachel Rosen. For 10 points, name this novel about bounty hunter Rick Deckard, loosely adapted into the film *Blade Runner* and written by Philip K. Dick.

ANSWER: *Do Androids Dream of Electric Sheep?* [prompt on *Blade Runner* until it is read]

020-13-97-01122

7. A composer for this instrument collected fifty-six pieces in *The Rhetoric of the Gods*. A famous piece for this instrument was accompanied by the lyrics "Happy, happy, they that in hell, Know not the world's despite." This instrument developed out of an Arab instrument called the "Ud" introduced in the conquest of Spain. An English composer for this instrument wrote the song "Flow My Tears" and had music described as "Semper Dolens," a pun on his name, John Dowland. For 10 points, name this popular Renaissance instrument that was replaced by the guitar.

ANSWER: lutes

080-13-97-01123

8. Scott Sakaluk studied the chase-away form of this process, whose runaway form was proposed by Fisher, and confirmed by Kirkpatrick and Lande, when high genetic covariance was present. Bateman's principle states that it is dependent on gamete investment. Bowerbirds build elaborate structures in this process, which is prevalent in polygynous (pall-IDGE-in-iss) societies. Male-male competition and female choice are the two main forms of this process. For 10 points, name this process in which organisms compete for and choose mates, which can be thought of as a special case of natural selection.

ANSWER: sexual selection [prompt on natural selection]

124-13-97-01124

9. This mountain was first climbed by Edwin James, who described seeing the blue columbine during the climb. Its namesake was killed in the Battle of York during the War of 1812 and had previously explored the west on orders of James Wilkinson. Katharine Lee Bates wrote the song "America the Beautiful" after admiring the view from this mountaintop. During the "Fifty-Niner Gold Rush," miners used a slogan advocating this mountain "or bust." For 10 points, name this peak in the Rocky Mountains, which is named for an explorer whose first name was Zebulon.

ANSWER: Pike's Peak

052-13-97-01125

10. This value can be found by subtracting the initial state from the maximum of the transition state on some diagrams. An equation that sets this value equal to negative R-T times the natural log of the ratio between the equilibrium constant and the frequency factor is named for a Swedish chemist Svante Arrhenius (SUH-vahn-tuh uh-REE-nee-us). Catalysts lower this value for chemical reactions. It is usually represented as "E sub a." For 10 points, name this value defined as the minimum energy required for a chemical reaction to occur.

ANSWER: activation energy [or E sub a until it is read]

084-13-97-01126

11. This man became a starting player in college after injuries to future Colorado Rockies star Todd Helton. After he threw four interceptions in a game, his coach, Jim Mora, told the media "Don't talk about playoffs." In 2003, this player referred to a teammate as "our idiot kicker who got liquored up and ran his mouth off." This man attracted attention for saying "Omaha" numerous times before snaps in the most recent NFL playoffs. He threw for a record fifty-five touchdown passes in the 2013 season. For 10 points, name this quarterback of the Denver Broncos.

ANSWER: Peyton Manning [prompt on Manning]

052-13-97-01127

12. In 1944, the plan for this non-American structure was proposed by John Lucian Savage. In 1992, 177 members of the National People's Congress voted against its construction. A monument near it features the poem "Swimming," composed by a leader who endorsed this project but never completed it thanks to the Great Leap Forward. Its construction threatened the endangered Siberian Crane and the Baiji river dolphin, and it resulted in sediment build-up near towns in the Hubei province. For 10 points, name this hydroelectric dam that spans the Yangtze River.

ANSWER: Three Gorges Dam

052-13-97-01128

13. A specialized type of this organelle found in plants is the site of the glyoxylate (glai-OCK-sul-ate) cycle. Acatalsia (UH-cat-uh-LAHZ-ee-uh) results when this organelle lacks a key enzyme. Most disorders involving this organelle, such as infantile Refsum disease, result from mutations in PEX genes. A sharp reduction in the number of this organelle is observed in patients with Zellweger syndrome. This organelle contains the enzyme catalase (CAT-uh-layz). For 10 points, name this organelle that decomposes its namesake compound into oxygen and water.

ANSWER: peroxisome

127-13-97-01129

14. This artist used a cast of the *Apollo Belvedere* as the basis for the folded arms of a Scotsman on an icy pond. This artist painted *The Skater* while he was still Benjamin West's protege. One of his paintings includes an ornamented table leg shaped like the Roman fasces (FAH-shayz), and captures its puffy-cheeked subject just after he had put his false teeth in. His most famous painting is an unfinished canvas known as the *Athenaeum* (AA-thuh-NAY-um). For 10 points, name this artist who painted the *Lansdowne* and one-dollar bill likenesses of George Washington.

ANSWER: Gilbert Charles Stuart

020-13-97-01130

15. In Ray Bradbury's novel *Dandelion Wine*, Colonel Freeleigh dreams of being one of these objects. A substance made from these objects is thrown at Edgar by Heathcliff in *Wuthering Heights*. John Steinbeck's novel *In Dubious Battle* involves a strike of workers who procure these objects. Several of these objects are thrown at Gregor Samsa by his father in Franz Kafka's *The Metamorphosis*. For 10 points, name this type of fruit that is tragically eaten by Adam and Eve in *Paradise Lost*.

ANSWER: apples

030-13-97-01131



1. Apomixis (EY-poh-MIKE-sis), also known as a clonal version of this process, can occur in species that utilize the ZW sex-determination system. Automixis (AWE-toh-MIKE-sis) occurs when the eggs in this process do undergo meiosis. This process occurs naturally in invertebrates such as aphids, rotifers and nematodes (NEE-muh-tohdz). This form of reproduction has been observed in vertebrate species such as hammerhead sharks and Komodo dragons. For 10 points, identify this form of asexual reproduction, named from the Greek for "virgin birth," in which an unfertilized egg becomes a new organism.

ANSWER: **parthenogenesis** [prompt on asexual **reproduction**]

084-13-97-01132

2. The derivative with respect to particle number of a quantity named for this scientist gives the chemical potential. A law named for this scientist states that the number of constituents minus the number of phases plus two equals the degrees of freedom. For spontaneous reactions, the change in his namesake quantity is negative; that namesake quantity is calculated as enthalpy minus quantity temperature times entropy. For 10 points, identify this American chemist who lends his name to a type of free energy.

ANSWER: Josiah Willard **Gibbs**

127-13-97-01133

3. A document central to this case contained part of the Thirteenth Amendment and implored the reader to "Assert your rights." This case's holding was replaced by *Whitney v. California*'s "bad tendency" test and *Brandenburg v. Ohio*'s "imminent lawless action" test. The defendant in this case was arrested for mailing leaflets against the draft, and Oliver Wendell Holmes's holding in this case created the "clear and present danger" test. For 10 points, name this Supreme Court case which stated that there is no right to actions such as "shouting fire in a crowded theatre."

ANSWER: **Schenck v. U.S.**

048-13-97-01134

4. For Raman scattering, this person names the lines caused by the positive and negative wavelength shifts. A law named for this scientist states that the drag force on a particle in a fluid is proportional to six pi times the velocity. He is the second namesake of a set of very difficult to solve partial differential equations that describe fluid flow, which he names with Navier (NAH-vee-ey). For 10 points, name this British physicist who generalized Green's theorem to relate surface integrals and volume integrals.

ANSWER: George Gabriel **Stokes**

048-13-97-01135

5. This novel opens by describing a rosebush outside a prison door, which another character claims she was plucked from when asked about her origins. The protagonist of this novel is married to the crippled doctor Roger Chillingworth and has an illegitimate child named Pearl. The protagonist of this novel has an affair with the minister Dimmesdale and is forced to wear an article of clothing. For 10 points, name this novel about Hester Prynne, written by Nathaniel Hawthorne.

ANSWER: *The **Scarlet Letter***

015-13-97-01136

This is a calculation question. How many unique, real roots satisfy the equation $x^2 - 7x + 13 = 0$?

ANSWER: **zero**

In statistics, the standard deviation is the square root of what quantity?

ANSWER: **variance**