



1. This American city is home to the first restaurant opened by *Iron Chef* contestant Masaharu Morimoto. This city's Chestnut Hill neighborhood is bordered by the gorge of Wissahickon Creek. The Reading Terminal Market is located in its Center City district. This city was the terminus of a Main Line of a railroad that built stations in Baltimore and New York. This city lies on the Schuylkill and Delaware Rivers. For 10 points, name this Pennsylvania "city of brotherly love".

ANSWER: **Philadelphia**

232-13-90-05101

2. When found in the interstellar medium, this substance usually contains a methanol component and is amorphous. Lake Vostok was found under a large mass of this substance. Large structures that consist of this substance are created by calving, which can occur to shelves of this substance. The most common form of this substance has a hexagonal lattice due to hydrogen bonding, which makes it less dense than its liquid form. For 10 points, identify this solid form of water.

ANSWER: **ice** [prompt on **water**; prompt on **H₂O**]

066-13-90-05102

3. It's not glaucoma, but the antibody bapineuzumab has been tested as a way to treat this disease. It was named for a German psychiatrist who examined a woman named Auguste D. The amyloid hypothesis proposes that beta-amyloid deposits cause this disease, while the cholinergic hypothesis proposes it is caused by reduced acetylcholine. It has debilitating effects on short-term and long-term memory. For 10 points, name this most common form of dementia that is prevalent among older people.

ANSWER: **Alzheimer's** disease [or **AD**, prompt on **dementia**]

052-13-90-05103

4. One character in this play discusses how copies of the complete works of Shakespeare and the Constitution will go into a time capsule under a new bank before a choir enters singing "Blessed Be the Tie that Binds." In act III of this play, a woman who died in childbirth travels back to her twelfth birthday after talking to her fellow dead spirits in a cemetery. The Stage Manager periodically interrupts the action of this play, which deals with the adolescence and marriage of George Gibbs and Emily Webb. For 10 points, name this Thornton Wilder play about life in Grover's Corners, New Hampshire, the title municipality.

ANSWER: **Our Town**

080-13-90-05104

5. This lawyer won freedom for the slaves who mutinied aboard the *Amistad*. As Secretary of State, this man negotiated the treaty in which the U.S. received Florida from Spain, and was largely responsible for formulating the Monroe Doctrine. This president made Henry Clay his Secretary of State. For 10 points, name this sixth president of the United States, the son of the second president.

ANSWER: John **Quincy Adams** [or **J.Q. Adams**; prompt on **Adams**; do not accept or prompt on "John Adams"]

080-13-90-05105

6. While studying at Ingolstadt, this character is inspired when he sees lightning strike a tree with immense power. This character is rescued, half-frozen, by Captain Robert Walton, whose letters provide the frame narrative of the novel in which he appears. This friend of Henry Clerval is engaged to marry Elizabeth Lavenza, who is killed on their wedding night. For 10 points, identify this title character of a Mary Shelley novel, a scientist who brings his namesake "monster" to life.

ANSWER: Victor **Frankenstein**

233-13-90-05106

7. In September 2013, the government of Hong Kong announced that this item will no longer be served at governmental functions. As of July 2013, the sale or possession of these items is illegal in California, despite claims that the law disproportionately affected Asian-Americans. These items sell for \$350 a pound, and are used in traditional Chinese holiday soups. For 10 points, name these parts of a predatory fish whose harvesting is opposed by environmentalists.

ANSWER: **shark fins** [prompt on partial answer]

019-13-90-05107

8. In this author's first play, Karl Moor kills his lover Amalia after the accusations of his brother Franz force him to live with the title outlaws. This author depicted the last days of Mary, Queen of Scots in *Mary Stuart*. This author of *The Robbers* penned the line "Be embraced, millions!" in a poem addressing its subject as the "daughter of Elysium." He occasionally collaborated with his contemporary, Johann Wolfgang von Goethe. For 10 points, name this German Romantic poet and playwright, the author of "Ode to Joy."

ANSWER: Friedrich **Schiller**

080-13-90-05108

9. In this novel, Marcela defends her decision to refuse to marry after it results in the death-by-heartbreak of the student Chrysostom. This novel's protagonist starts a brawl at an inn by insisting that a basin is the mythical Helmet of Mambrino. The protagonist of this novel sallies out on the nag Rocinante with his down-to-earth companion Sancho Panza, who pleads with him not to attack a group of windmills. For 10 points, name this comic novel by Miguel de Cervantes about a Spanish nobleman who thinks he is a chivalric hero.

ANSWER: **Don Quixote de La Mancha**

080-13-90-05109

10. The record for the most of this type of stat earned in an NHL season is held by George Hainsworth, and Alec Connell's streak of nearly eight games of keeping up this stat is the record for the longest streak. In the modern era, the longest streak of this type lasted over five games for Brian Boucher. The 121 career games of this type are a record held by Martin Brodeur. For 10 points, name this type of hockey game that is achieved when a goalie manages to hold an opponent scoreless.

ANSWER: ice hockey **shutouts** [accept equivalent answers such as **holding an opponent scoreless** before read]

023-13-90-05110

11. This value divided by the square root of the sample size appears in the denominator of the t-value. When it is known for a population, the z-score is calculated by subtracting the mean and then dividing by this value. For a normal distribution, about 68% of observations are within the range of the mean plus or minus this value. It is the square root of the variance. For 10 points, name this value which summarizes the dispersion of values in a sample.

ANSWER: **standard deviation**

121-13-90-05111

12. Chicago is home to this man's sculpture of Philip Sheridan atop his horse. To commemorate James McConnell, this man created a winged bronze nude titled *The Aviator*. The KKK helped pay for the commission of this man's work of art at the site of their refounding. This carver of Stone Mountain is best-known for his depiction of the heads of Teddy Roosevelt, Lincoln, Jefferson, and Washington on a cliff face in South Dakota. For 10 points, identify this sculptor responsible for Mount Rushmore.

ANSWER: Gutzon **Borglum**

233-13-90-05112

13. This period traditionally begins with the victory of Pelagius at the Battle of Covadonga. A battle during this period led to the downfall of the Almohads, who were defeated by Alfonso VIII at Las Navas de Tolosa. This period, which resulted in the continuous shrinking of Al-Andalus, ended in 1492 with Isabella and Ferdinand's capture of Granada. For 10 points, name this several centuries long period during which Christian states took back the Iberian Peninsula from Muslim states.

ANSWER: La **Reconquista** [or The **Reconquest**]

149-13-90-05113

14. This author collected Floridian folktales that would be used in a play written with Langston Hughes titled *Mule Bone*. This writer set many literary works in Eatonville, where one character discovers love by watching bees pollinate a pear tree. That character escapes from Logan Killicks and Jody Starks. This author wrote about Tea Cake dying of rabies during the Okeechobee hurricane in her novel about Janie Crawford. For 10 points, name this author of *Their Eyes Were Watching God*.

ANSWER: Zora Neale **Hurston**

232-13-90-05114

15. Radomiro Tomic was a leader of a faction of this country's Christian Democratic party who supported its nationalization of copper. The Christian Democrat's split in 1970 helped the socialist candidate win the presidency. The "Chicago Boys" were American trained economists who advised one of its leaders, a man whose coup overthrew Salvador Allende (eye-EN-day). For 10 points, name this South American country at one time run by Augusto Pinochet.

ANSWER: **Chile**

121-13-90-05115



1A. Psychologist Martin Seligman tested "learned helplessness" by issuing electrical shocks to what type of animal?

ANSWER: dog

1B. Tritium and deuterium are both what forms of hydrogen that have the same number of protons but a different number of neutrons?

ANSWER: isotopes

2A. What gas law describes how the pressure of a gas decreases as the volume increases?

ANSWER: Boyle's law [or Boyle-Mariotte law]

2B. Which last-in, first-out data structures, which can sometimes overflow, are push and pop applied to?

ANSWER: stack

3A. This is a 20-second calculation question. If the area of a trapezoid is 40 square units and the bases have length 6 and 10, what is the height?

ANSWER: 5 units

3B. This is a 20-second calculation question. If secant x equals four, what is cosine x?

ANSWER: 1/4

4A. What kind of minor scale raises both the sixth and seventh notes on the way up, but not the way down?

ANSWER: melodic minor scale

4B. "Hollywood" for the film industry or "the White House" for the president's office are examples of what figure of speech, where an object or concept is identified by a characteristic of it?

ANSWER: metonymy

5A. What type of lakes are formed when the neck of a river's meander is cut off?

ANSWER: oxbow lakes

5B. What lake near St. Petersburg is the largest lake in Europe?

ANSWER: Lake Ladoga

6A. What elementary particle is sought by the Large Hadron Collider and was tentatively confirmed to exist in March 2013?

ANSWER: Higgs boson

6B. Which artist featured a bunch of upside-down houses and a giant green-skinned man staring at a goat in *I and the Village*?

ANSWER: Marc Zaharovich Chagall

7A. What TV show aired its final episode in September 2013, in which Fry accidentally stopped time by breaking Professor Farnsworth's device?

ANSWER: Futurama

7B. What right-wing French politician preceded Nicolas Sarkozy as President?

ANSWER: Jacques Chirac

8A. What Augustinian monk formulated two laws of inheritance from his study of pea plants?

ANSWER: Gregor Johann Mendel

8B. Founded by Zeno of Citium in the third century BCE, what school of philosophy counted among its members Chrysippus, Seneca and Marcus Aurelius?

ANSWER: **Stoicism**

9A. This is a 30-second calculation question. It costs \$8.50 to buy two hamburgers and a soda. It costs \$16.50 to buy three hamburgers and three sodas. What is the price of a hamburger?

ANSWER: **\$3.00** [or **three dollars**]

9B. This is a 30-second calculation question. The probability of you getting an A as your final grade in a class is 80% if you pass the exam and 30% if you do not. If the probability of you getting an A as your final grade is exactly 50%, what is the probability of you passing the exam?

ANSWER: **40%** [or **0.4**; or **2/5**; or equivalent fractions that simplify to **2/5**]

10A. What East Asian language uses the Hangul alphabet, which, in one country, is known as "Choson mun"?

ANSWER: **Korean**

10B. What figure from Greek myth was given a cursed necklace, which caused problems for her, Cadmus, Jocasta, and others?

ANSWER: **Harmonia**



1. Chinese examples of these people founded a Daoist temple in Weaverville in Trinity County. Samuel Brannan made a fortune selling products to these people, as did Levi Strauss, who first began making blue jeans for these people. These people were motivated by a discovery made by James W. Marshall at Sutter's Mill. Influx of these people led to the settlement of San Francisco. For 10 points, name these miners in the California Gold Rush from a namesake year.

ANSWER: **forty-niners** [or gold **miner**s until it is read]

190-13-90-05117

2. Dicyanoacetylene and cyanogen are known for producing an extreme form of this substance. In zero gravity, this substance has a spherical front because convection does not work. Sodium ions can be distinguished from potassium ones by using a test named for this substance, which is produced by a common laboratory apparatus named for Robert Bunsen. This substance sometimes consists of plasma formed from ionized gases, and it is the visible manifestation of combustion reactions. For 10 points, name this substance that requires oxygen, heat, and fuel to appear.

ANSWER: **fire** [or **flame**]

020-13-90-05118

3. A fight this musician had with Kathy Etchingham the lyric "somewhere a king has no wife." Another song by this artist of "The Wind Cries Mary" appears with "Hey Joe" on his album *Are You Experienced?* and features the often misheard lyric "Excuse me while I kiss the sky." He covered Bob Dylan's "All Along the Watchtower" for his album *Electric Ladyland*. For 10 points, name this electric guitarist who performed the final set at the Woodstock Music Festival and recorded "Purple Haze."

ANSWER: Jimi **Hendrix**

080-13-90-05119

4. The net electric flux through a surface is proportional to this quantity according to Gauss's law. It was determined to be quantized by an experiment that balanced the buoyant and electric forces. The force exerted on a particle by a magnetic field is equal to this quantity times velocity cross the field strength, and current is equal to its negative time derivative. For 10 points, name this quantity measured in coulombs, which for an electron is negative.

ANSWER: electric **charge**

226-13-90-05120

5. In this musical, one married couple sings "most of them are goners so they won't miss much" in the song "One Day More." Another song in this musical contains the lyrics "singing the song of angry men"; that song, "Do you hear the people sing?" is reprised after the protagonist dies in the arms of the newlywed couple Marius and Cosette. For 10 points, name this musical based on a novel about Jean Valjean written by Victor Hugo.

ANSWER: **Les Misérables**

153-13-90-05121

6. At the end of a poem by this man, the speaker blows a slug-horn after arriving at the “round squat turret” he was seeking. This author of dramatic monologues like “Childe Roland to the Dark Tower Came” described a painting by Frà Pandolf of a woman who had “A heart-how shall I say?--too soon made glad.” That woman was the speaker's wife until he “gave commands; Then all smiles stopped together.” For 10 points, name this author of “My Last Duchess” and husband to Elizabeth.

ANSWER: **Robert Browning**

121-13-90-05122

7. One poem in this collection describes a scientist whose "charts and diagrams" made the speaker "tired and sick" until he "look'd up in perfect silence at the stars." The speaker of a poem in this collection asks, "Do I contradict myself?" and sounds his "barbaric yawp over the roofs of the world." This collection includes "When I Heard the Learn'd Astronomer," "Song of Myself," and an elegy for Abraham Lincoln, "O Captain! my Captain!" For 10 points, name this poetry collection by Walt Whitman.

ANSWER: **Leaves of Grass**

080-13-90-05123

8. This quantity is measured by calculating the torque required to completely revolve a submerged spindle in a rheometer. For a plate atop a fluid, this quantity is the proportionality constant between the shear stress and the shear velocity. Water has a value of 1.002 centipoise for this quantity, which can be dynamic or kinematic, and which goes to zero in a superfluid. For 10 points, name this internal resistance of a fluid to flow, which is very high for honey.

ANSWER: **viscosity** [or **dynamic viscosity**; or **kinematic viscosity**]

190-13-90-05124

9. One poem by this man describes, “All nations striving strong to make/Red war yet redder.” Another poem by this man is subtitled “Lines on the loss of the ‘Titanic.’” In addition to “Channel Firing” and “Convergence of the Twain,” this man wrote a novel in which Michael Henchard drunkenly sells his wife and child to a sailor. In another of his novels, a stonecutter falls in love with Sue Bridehead. For 10 points, name this British author of *The Mayor of Casterbridge* and *Jude the Obscure*.

ANSWER: Thomas **Hardy**

030-13-90-05125

10. A defect in part of this organelle can result in the disease progeria, in which people seem to age prematurely. They contain irregularly shaped structures called paraspeckles and sub-organelles called “Cajal bodies.” It was the first organelle to be discovered and was once known as the “cytoblast.” These organelles consist of chromatin and contain a sub-structure which helps to make ribosomes. It is not found in prokaryotic cells and is surrounded by a membrane. For 10 points, name this organelle which contains the cell's genetic material and is the control center.

ANSWER: **nucleus** [accept **cytoblast** until mentioned]

052-13-90-05126

11. One poem of this name was published under the pen name of Glirastes by Horace Smith a month after the more well known poem of this name was published. Both poems of this name were inspired by accounts of the Roman historian Diodorus Siculus. The more well known poem of this name states, “Nothing beside remains” and describes, “Half sunk, a shattered visage.” For 10 points, name this poem that begins with the line, “I met a traveller from an antique land,” a work about a king who states, “Look on my works ye mighty and despair,” by Percy Bysshe Shelley.

ANSWER: **Ozymandias**

030-13-90-05127

12. This country's cities of Chumphon and Kra Buri are located at the narrowest part of the Isthmus of Kra. The Chi and Mnu rivers drain the Khorat Plateau in the northeastern part of this country. The headwaters of this country's principal river include the Ping, Wang, and Yom, and that principal river of this country is the Chao Phraya. For 10 points, name this Southeast Asian country with its capital at Bangkok.

ANSWER: **Thailand**

030-13-90-05128

13. Kiesselbach's plexus is within this body part, which is the subject of a procedure called "turbineotomy". If it begins to bleed, epistaxis results. Impact trauma can lead to a deviation of the septum of this body part. Afrin is a product that is used on this body part. This is the central body part within the olfactory system, and rhinoplasty is corrective surgery applied to it. For 10 points, name this human body part responsible for smelling.

ANSWER: **nose**

052-13-90-05129

14. Two officials of this city were convicted of conspiracy and bribery in the Synagro Sludge scandal. A former mayor of this city took an early hit to his public reputation when exotic dancer Tamara Greene was murdered after performing at a wild party held at Manoogian Mansion. Kevyn Orr's failure to negotiate a "haircut" led this city's current mayor, Dave Byng, to file for Chapter 9 bankruptcy in 2013. For 10 points, Kwame Kilpatrick led what Midwestern city with a bailed-out auto industry?

ANSWER: **Detroit**

020-13-90-05130

15. John, the Duke of Berry, was the probable patron of a golden reliquary that housed a piece of this object. Louis IX bought a replica of this object from Baldwin II. This object was given along with a purple robe, after which its wearer was presented to a crowd with the words "ecce homo!" Theorized to have been made from acanthus, this object was given to a man who was flagellated by the command of Pontius Pilate. For 10 points, name this object that Christ wore on his head during the Crucifixion.

ANSWER: **crown of thorns** [prompt on **crown**]

020-13-90-05131



1. This metal and fluorine were used to synthesize one of the first xenon compounds, and its oxide is known as Adams' catalyst. This metal is bonded to chlorine and ammonia ligands in a potent chemotherapy drug. Though it is not gold, this metal dissolves in hot aqua regia, and with iridium, another metal in its namesake group, it forms the alloy for the International Prototype Kilogram. This element is commonly used as an electrode on account of its unreactivity. For 10 points, identify this precious, heavy metal often more valuable than gold whose name is Spanish for "little silver."

ANSWER: platinum [or Pt]

234-13-90-05132

2. The Second Great Awakening was bolstered by this state's Cane Ridge Revival. Leonidas Polk's occupation of this state led it to break its neutrality in the Civil War. Richard Henderson founded the Transylvania Colony in this state with the help of a trail blazed by Daniel Boone. A politician from here created the "American System" to promote industrial development. For 10 points, name this state, home to Henry Clay.

ANSWER: Kentucky

232-13-90-05133

3. This man was the first to represent complex numbers as points on a plane, and complex numbers whose real and imaginary parts are both integers are named for him. Ten thousand of a unit named for him equals one tesla, which measures magnetic field strength. He discovered a way to construct a seventeen-sided regular polygon with compass-and-straightedge, and allegedly discovered a quick way to add the first hundred numbers while a child. For 10 points, name this mathematician whose name is sometimes given to the normal distribution.

ANSWER: Carl Friedrich Gauss

121-13-90-05134

4. This was the only city outside Pennsylvania where the Second Continental Congress met. A doctor in this city, George Gey, harvested Henrietta Lacks's cancer cells to create the immortal HeLa line. The U.S.'s first common carrier railroad was named for this city and Ohio. This city was named for Cecilius Calvert and was the site of the Battle of Fort Mifflin. For 10 points, name this city where Francis Scott Key wrote the "Star-Spangled Banner".

ANSWER: Baltimore

190-13-90-05135

5. This author fictionalized the rise of Hitler in the novel *Dragon's Teeth*, part of his Lanny Budd series. A character created by him is imprisoned for attacking Phil Connor, who rapes that character's wife Ona. The Teapot Dome scandal inspired his novel *Oil!*, and in another book the cry "Chicago will be ours!" ends a speech attended by Lithuanian immigrant Jurgis Rudkus. For 10 points, name this man who depicted the Chicago meatpacking industry in his novel *The Jungle*.

ANSWER: Upton Sinclair

232-13-90-05136

This is a calculation question. What is the median of the following set of numbers: 6, -2, 8, 1, 5, 6, -3?

ANSWER: 5

What Russian tsar was killed by the People's Will group as part of their "propaganda by deed" tactics?

ANSWER: Alexander II [prompt on Alexander]