



1. One American city of this name is the site of Ohio University, and another one, in Alabama, is the site of Browns Ferry nuclear plant. A third American city of this name is the seat of Clarke County and is where Sanford Stadium is found at the University of Georgia campus. A European city by this name is supplied with water from the Marathon reservoir and is the site of the Agora, Erectheum, and Parthenon. For 10 points, name this capital of Greece.

ANSWER: Athens

019-11-44-14101

2. Ebonite is a form of this product that is produced in a process which sees the addition of peroxides and sulfur to increase crosslinking and improve strength. Fritz Hoffman first developed the synthetic form of this product. This product is composed of monomers of isoprene (EYE-soh-preen) and is derived from latex. Its properties are enhanced by vulcanization, a process developed by Charles Goodyear. For 10 points, name this strong polymer commonly used to make tires.

ANSWER: rubber

064-11-44-14102

3. Cu Chulainn had this many toes and this many fingers on each limb. When Ishtar descended to the underworld, she passed through this many gates, leaving an article of clothing behind at each one. Niobe had this many daughters, while another group from Greek myth consisting of this many members included Maia and Merope and were the daughters of Atlas who were placed in the stars; those were the Pleiades. For 10 points, give this number of people that are "against Thebes" in an Aeschylus play.

ANSWER: seven

040-11-44-14103

4. The Chinese knew this man's people as the Hsiung-Nu. This man died of a nose bleed in his sleep after his wedding night with his youngest bride, Ildico. Following this man's father Rugila's death, he ruled jointly with his brother Bleda. This man obtained the Sword of Mars, a sign that he was to conquer the world. This man's advance towards Rome was halted at the Battle of Chalon. For 10 points, name this leader of the Huns.

ANSWER: Atilla the Hun

135-11-44-14104

5. This function can be defined recursively, stating that at zero it is equal to one and at n it is equal to n times this function for n minus one. This function can be generalized with the gamma function and is found in the denominator of the Taylor series expansion and in the definition of a combination and a permutation in probability. For 10 points, name this function which for an integer n is equal to the product of n times all integers smaller than n , denoted with an exclamation point.

ANSWER: factorial

064-11-44-14105

6. This man interfered in the War of Julich Succession by suggesting that the lands be divided between Duke William and Elector Sigismund. During this man's rule, he worked with the duc de Sully to create a canal in the Chateau de Fontainbleu. This man was eventually assassinated by Francois Raviillac, and his widow Marie di Medici served as regent for his son Louis XIII. For 10 points, name this French king who issued the Edict of Nantes and came to power following the War of the Three Henries.

ANSWER: **Henry IV** of France [or **Henry of Navarre**; or **Henry de Navarre**; prompt on **Henry**]

135-11-44-14106

7. This man's second symphony was based on W.H. Auden's poem "The Age of Anxiety". In 1989, this man conducted performances of *Beethoven's 9th Symphony* in East and West Berlin to commemorate the fall of the Berlin Wall. This man composed the music to the film *On the Waterfront* and conducted Young People's Concerts for the New York Philharmonic. One work by this man features songs such as "Maria," "I Feel Pretty," and "A Boy Like That." For 10 points, name this composer of *West Side Story*.

ANSWER: Leonard **Bernstein** [or Louis **Bernstein**]

030-11-44-14107

8. The Conservative Coalition defeated this man's Judicial Procedure Reform Bill, which was this man's attempt to "pack" the Supreme Court. This man wrote the constitution that was imposed on Haiti following the U.S.'s occupation of it. This man hoped to make the U.S. the "Arsenal of Democracy" by providing munitions for the Allies during World War II. This man defeated Herbert Hoover in the 1932 presidential race. For 10 points, name this president paralyzed by polio who created the New Deal to help alleviate the Great Depression.

ANSWER: **Franklin Delano Roosevelt** [or **FDR**; prompt on **Roosevelt**]

135-11-44-14108

9. In this film, one character declares the location of Paradise Falls to be in a place "like America, but south." Another character is able to make statements like "I was hiding under your porch because I love you" due to a translation collar; that character, Dug, is a member of the dog pack loyal to adventurer Charles Muntz. For 10 points, name this Pixar film about Carl Frederickson and his adventures around the world in his house which floats due to a massive collection of balloons.

ANSWER: **Up**

088-11-44-14109

10. The Seventh Day Adventists emerged as a religious group following the second one of these events. Unlike the second of these, the first one of these events was targeted primarily at those that were already religious. In a speech delivered in the first one of these, it was told that "your righteousness...would have no more influence to...keep you out of hell, than a spider's web would have to stop falling rock." For 10 points, name these religious revivals in American history, the first of which was led by Jonathan Edwards and George Whitefield.

ANSWER: **Great Awakenings** [or First **Great Awakening**; or Second **Great Awakening**]

135-11-44-14110

11. The Parker Spiral is the shape of this object's magnetic field. The prolonged lack of a certain feature of this astronomical body is known as the Maunder Minimum. That feature varies over an eleven year cycle and are this body's namesake spots. The distance between this object and the Earth provides the definition of an astronomical unit. The outermost layer of this body is the corona, which can be seen when it is eclipsed by the moon. For 10 points, name this body found at the center of the solar system.

ANSWER: the **sun**

066-11-44-14111

12. The memorial to this event includes a dome designed by Jan Letzel. It was carried out by the 509th composite group, which included George Marquardt and Charles Sweeny. The *Straight Flush* signaled to Colonel William Tibbits during this event. It was carried out by the *Enola Gay* and used a device called "Little Boy." For 10 points, identify this August 6, 1945, event that saw the atomic bombing of a city in Japan 3 days before a similar event at Nagasaki.

ANSWER: Bombing of **Hiroshima** [or equivalent answers]

048-11-44-14112

13. This process is energetically favored to the left of the maximum of the binding energy per nucleon; that is, for elements lighter than iron. One type of this process takes place via the CNO cycle and can be followed by the triple alpha process, which is also a form of this reaction. This process provides the energy released in a hydrogen bomb, as well as that generated inside a star. For 10 points, name this process in which two atomic nuclei combine to make a larger one, the opposite of fission.

ANSWER: nuclear **fusion**

132-11-44-14113

14. This poem's speaker recalls how "on the haunting flares we turned our backs and towards our distant rest began to trudge." The speaker recounts an event in which he sees another man "dim, through the misty panes and thick green light...guttering, choking, drowning." Opening with the line, "Bent double, like old beggars under sacks," this poem describes a gas attack during World War I. For 10 points, name this poem by Wilfred Owen which takes its title from a Latin phrase of Horace.

ANSWER: "**Dulce et Decorum Est**"

014-11-44-14114

15. Charge carriers in this substance can screen out electric fields at the Debye length. It is believed that one type of it composed of quarks and gluons existed soon after the Big Bang. St. Elmo's fire and coronal discharge both produce this substance. It can be created when sources of high temperature, such as stars and lightning, strip electrons from atomic nuclei, leaving a soup of charged particles. For 10 points, name this ionized substance that is often called a fourth state of matter.

ANSWER: **plasma**

132-11-44-14115



1A. Louis, Mary, and Richard are members of what prominent family of anthropologists, who discovered several important human ancestor fossils in Kenya?

ANSWER: **Leakey** family [or the **Leakeys**]

1B. The Catatumbo River flows into what inlet of the Caribbean Sea, an oil-rich indentation onto the northern coast of Venezuela?

ANSWER: Lake **Maracaibo** [or Lago de **Maracaibo**]

2A. This is a 10-second calculation question. What is the slope of the line passing through the points (1, 9) and (8, 16)?

ANSWER: $m = \underline{1}$

2B. This is a 10-second computation question. Find both roots of the equation $x^2 - 5x + 4$.

ANSWER: **1** and **4**

3A. What Art Deco skyscraper in New York, which features gargoyles styled in the shape of hood ornaments, was the tallest building in the world for eleven months before being surpassed by the Empire State Building?

ANSWER: the **Chrysler** Building

3B. What spider-god from African folklore managed to obtain all of the world's stories from the sky-god Nyame?

ANSWER: **Anansi**

4A. In 2011, what British tabloid ceased publication after 168 years in the wake of a phone-hacking scandal?

ANSWER: the **News of the World**

4B. The red sky in this painting is thought to have been inspired by the eruption of Krakatoa. Name this Edvard Munch (MOONK) painting depicting an agonized man on a bridge.

ANSWER: *The **Scream*** [or **Skrik**; or *Der **Schrei** der Natur*; or *The **Scream** of Nature*]

5A. Which subgroup of the Indo-European languages includes Breton, Welsh, and the three Gaelic languages Scots, Irish, and Manx?

ANSWER: **Celtic** languages

5B. *The Lion and the Jewel* and *Kongi's Harvest* are plays written by what Nigerian author of *Death and the King's Horseman*?

ANSWER: Wole **Soyinka**

6A. This is a 20-second computation question. Find the acute angle theta at which sin theta and cosine theta are equal.

ANSWER: **45 degrees** or **pi/2 radians**

6B. This is a 20-second calculation question. In simplest form, what is the eccentricity of the ellipse given by $x^2/24 + y^2/18 = 1$?

ANSWER: **1/2** [or **0.5**]

7A. Which Athenian statesman, the deliverer of a notable funeral oration, died of the plague and led his city through much of the Peloponnesian War?

ANSWER: **Pericles**

7B. What operation returns true if and only if exactly one of the two inputs is true?

ANSWER: **XOR**

8A. What 42nd U.S. President had Al Gore serve as his Vice President from 1993-2001?

ANSWER: Bill **Clinton** [or William Jefferson **Clinton**; or William Jefferson **Blythe** III]

8B. Abraham Lincoln was called a "damned long armed Ape" by Edwin Stanton after this man sued John Henry Manny. Identify this supposed inventor of the mechanical reaper.

ANSWER: Cyrus **McCormick**

9A. What baseball team featuring Yovani Gallardo, Nyjer Morgan, and Prince Fielder lost to the St. Louis Cardinals in the 2011 NLCS?

ANSWER: **Milwaukee** Brewers [or **Milwaukee** Brewers]

9B. What acid is created in the Ostwald process and has formula HNO_3 .

ANSWER: **nitric** acid

10A. This is a 30-second calculation question. What is the volume of a sphere with a surface area of 900π square units?

ANSWER: **4500 pi** cubic units

10B. This is a 30-second computation question. Find the length of the hypotenuse of a right triangle whose smaller leg has length 7 and whose longer leg has length one less than the hypotenuse?

ANSWER: **25**



1. One character in this play justifies his practices by citing how Jacob obtained sheep from his uncle Laban, and he later delivers a speech asking, "If you prick us, do we not bleed?" Another character correctly chooses a lead casket to win the right to marry Portia, who impersonates the lawyer Bellario at a trial over the payment of a "pound of flesh." For 10 points, name this play in which Antonio is saved from the vengeance of the Jewish moneylender Shylock, a comedy by William Shakespeare.

ANSWER: *The Merchant of Venice*

014-11-44-14117

2. In Operation Blue Bat, the US sent marines to this country to support president Camille Chamoun. A long civil war in this country was ended by the Taif agreement. Bachir Gemayel was assassinated during one conflict in this nation, during which the IDF did not intervene to stop Christian Phalangists from carrying out the Sabra and Shatilla Massacre. The assassination of Rafik Hariri triggered the Cedar Revolution in this nation, which removed Syrian troops. For 10 points, name this country where Hezbollah is located that has its capital at Beirut.

ANSWER: Lebanon [or Lebanese Republic; or Al Jumhuriyah al Lubnaniyah]

048-11-44-14118

3. This poet described a "new angel mine, unhoped for in the world" in a poem beginning, "My future will not copy fair my past." This author of the verse novel *Aurora Leigh* also wrote a poem in which the speaker claims to perform a certain action "to the level of everyday's most quiet need" and "to the depth and breadth and height my soul can reach." For 10 points, name this poet of *Sonnets from the Portuguese*, which include one beginning "How do I love thee?"

ANSWER: Elizabeth Barrett Browning [or Elizabeth Barrett Browning; prompt on Browning]

014-11-44-14119

4. This procedure is performed on synovial fluid after tapping a joint. An alternative to this procedure using carbol fuschin and methylene blue is used to visualize *Nocardia*, *Actinomyces*, and *Mycobacterium* species, and is known as the acid-fast stain. This procedure's final step uses safranin, and in this procedure iodine is used as a trapping agent. For 10 points, name this stain that attaches to peptidoglycan, which sorts bacteria into positive and negative categories.

ANSWER: gram stain

048-11-44-14120

5. In one work by this man, Parritt commits suicide after being hounded by Larry Slade about turning his own mother in to the police. Hickey admits to killing his wife in that play set in Harry Hope's saloon. This author of *The Iceman Cometh* also wrote a play about a family including the tubercular son Edmund and the morphine-addicted matriarch Mary. For 10 points, name this American playwright who wrote about the Tyrone family in *Long Day's Journey into Night*.

ANSWER: Eugene O'Neill

105-11-44-14121

6. Along with semaphorine F and delta-catenin, an enzyme that acts on these structures is deleted in Cri-du-chat syndrome. The shelterin complex localizes to these structures, which can form G-quadruplexes. The length of these structures is a measure of the Hayflick limit, and they consist of the repeated unit TTAGGG. These structures solve the end-replication problem and get a little shorter with each cell division. For 10 points, name these ends of chromosomes.

ANSWER: **telomeres**

048-11-44-14122

7. This author wrote about Catharine Holly telling the story of her cousin Sebastian being cannibalized in Spain in the play *Suddenly, Last Summer*. In one play by this author, the money meant for the central family's electric bill is instead sent to the Union of Merchant Seamen by Tom Wingfield. In another play written by this man, Blanche DuBois is committed after she is raped by her brother-in-law, Stanley Kowalski. For 10 points, name this American playwright of *The Glass Menagerie* and *A Streetcar Named Desire*.

ANSWER: Tennessee **Williams** [or Thomas Lanier **Williams III**]

088-11-44-14123

8. One method of imaging the concentration of this ion is observing the oxidation of coelenterazine in aequorin, and its binding to synaptotagmin causes synaptic vesicle release. Phospholamban inhibits the SERCA pump, which helps sequester this ion into the sarcoplasmic reticulum. Its binding to troponin C is responsible for initiating muscle contraction, and this ion is responsible for activating protein kinase C. For 10 points, name this biologically important ion symbolized Ca.

ANSWER: **calcium** ion [or **Ca²⁺** before mention]

048-11-44-14124

9. This man described a bus ride from Lincoln, Nebraska to the title city in his poem "Wichita Vortex Sutra." This man wrote about his mother's insanity in his poem "Kaddish." One work by this man states "I'm with you in Rockland" while addressing mental patient Carl Solomon. That poem begins, "I saw the best minds of my generation destroyed by madness." For 10 points, name this poet of the Beat movement who wrote "Howl."

ANSWER: Allen **Ginsberg**

030-11-44-14125

10. In the past year, this man's son Mark has killed himself, and his wife Ruth has alleged that he attempted suicide by overdose on Ambien the night before he was arrested. In October 2011, a judge ruled that this man's family can keep certain profits from being claimed by the bankruptcy trustees of the New York Mets. Several Jewish hospitals closed and over eighteen billion total investor dollars were lost in, for 10 points, the Ponzi scheme run by what convicted securities fraudster?

ANSWER: Bernard "Bernie" **Madoff**

019-11-44-14126

11. One of this man's novels concerns Ishmael Bush's party of squatters. Mark Twain wrote an essay about the "literary offenses" of this man, who created a character that captures the scalpers Henry March and Tom Hutter and rescues Wah-tah-tah from the Hurons. This author of *The Deerslayer* created Magua, who kidnaps Cora in a novel about Chingachgook and Natty Bumppo. For 10 points, name this author whose *Leatherstocking Tales* include *The Last of the Mohicans*.

ANSWER: James Fenimore **Cooper**

079-11-44-14127

12. This work's protagonist manages to convince a king to delay her banishment by one day prior to being offered sanctuary by Aegeus. A poisoned robe and fillet cause the flaming deaths of the princess Glauce and her father Creon in this play. A chariot drawn by dragons is sent by the sun god Helios to the title character of this play, who escapes after murdering her children to spite Jason. For 10 points, name this tragedy about a sorceress written by Euripides.

ANSWER: Medea

014-11-44-14128

13. Global warming is predicted to reduce the intensity of these occurrences due to an increase in vertical wind shear. They are responsible for transporting a large amount of heat poleward. The intensity of these phenomena is measured on the Saffir-Simpson scale. They are usually responsible for destructive storm surges. They consist of numerous thunderstorms swirling around a center called an eye. For 10 points, name these natural phenomena whose intensity is measured from Category 1 to 5.

ANSWER: hurricanes [or tropical cyclones or typhoons]

066-11-44-14129

14. This author described a man who makes journal entries with his neighbor whom he hires as a typist in his *Diary of a Bad Year*. The town magistrate is hung by his arms after protesting the Empire's attacks led by Colonel Joll on the title people in another work by this author. This novelist also created a professor at Cape Town University who is fired after refusing to apologize for initiating an abusive love affair with a student. For 10 points, name this creator of David Lurie, the South African author of *Waiting for the Barbarians* and *Disgrace*.

ANSWER: John Maxwell Coetzee

135-11-44-14130

15. This character's father is Corsair, the leader of the Starjammers. This character is the brother of Vulcan and Havok. He is currently in a relationship with Emma Frost, years after the death of his previous wives Madelyne Pryor and Jean Grey. This character recently split with Wolverine over the direction of the Xavier Institute. For 10 points, name this leader of the X-Men who has the ability to shoot lasers from his eyes.

ANSWER: Cyclops [or Scott Summers; prompt on Summers]

088-11-44-14131



1. In one poem by this author, the jongleur Papiols is addressed by Bertrams de Born, who laments, "Damn it all! All this our south stinks peace." This author of "Sestina: Altaforte" coined the term "Vorticism" and wrote a brief poem which reads, "The apparition of these faces in the crowd; petals on a wet, black bough." This poet also wrote a long poem in one hundred twenty sections, including the notable "Pisan" ones. For 10 points, name this American poet who helped define Imagism and wrote *The Cantos*.

ANSWER: Ezra Loomis **Pound**

014-11-44-14132

2. The peak of this area's namesake phenomenon is in late spring, as opposed to the late fall "Dixie" counterpart. This area is created by the intersection of the different characters of air from the Sonoran Desert on its southwest, the Rocky Mountains on its west, and the Gulf of Mexico on its southeast. This area includes North Texas, Oklahoma, and Kansas, and sees several storms rated on the Fujita scale. For 10 points, name this Plains area where twisters are the most common in the U.S.

ANSWER: **Tornado Alley**

019-11-44-14133

3. Lord Raleigh discovered argon by comparing the weights of two different samples of this element. Two atoms of this element are found in a molecule of hydrazine. In proteins, the bond between this atom and carbon has partial double bond character. Laughing gas contains two atoms of this element, and at standard temperature and pressure this element exists as a diatomic molecule with a triple bond. For 10 points, name this element with chemical symbol N.

ANSWER: **nitrogen**

147-11-44-14134

4. In one opera by this composer, Ferrando and Guglielmo seduce each other's fiancées after a bet with Don Alfonso. This composer of an opera about the unfaithfulness of women called *Così fan tutte* (CO-see FAHN TOO-tay) wrote an opera which takes place in Count Almaviva's palace. Another opera by this composer contains the "Catalogue Aria" and sees the title character dragged to hell after he refuses to repent for his sins. For 10 points, name this composer of the operas *Don Giovanni* and *The Marriage of Figaro*.

ANSWER: Wolfgang Amadeus **Mozart** [or Johannes Chrysostomus Wolfgangus Theophilus **Mozart**]

066-11-44-14135

5. Upon a child's birth in this religion, their holy text is opened and the child's first name is chosen using the top left hand letter on the random page. Vaisakhi is a holiday in this religion celebrated on April 13 and commemorate when Gobind Singh laid down the Foundation of the Kahlisa. Followers of this faith are always required to carry the dagger kirpan as well as never cut their hair. For 10 points, name this fifth largest religion in the world, whose holy text is the Guru Granth Sahib.

ANSWER: **Sikhism**

135-11-44-14136