

1. Horsts and Grabens are regions formed by the action of these, and slow constant movement at these formations is called creep. Their line of action is their trace and fundamental ones penetrate the entire lithosphere. Movement in the horizontal plane occurs in strike-slip ones and a notable intraplate example is New Madrid (Mad-rid). Transform ones occur at plate boundaries. For 10 points, name these fractures in the Earth's crust that are often associated with earthquakes, like the San Andreas.

ANSWER: **fault**

001-09-1-11101

2. Eddi Amsel runs a scarecrow factory while Walter Matern is assailed by a radio program in this author's *Dog Years*, and Pilenz narrates a novel in which "The Great Mahlke" steals an Iron Cross, his *Cat and Mouse*. This author wrote a novel in which the protagonist leads "The Dusters" and loses his virginity to Maria Truczinski. The protagonist of that novel by this author is accused of killing Sister Dorothea, can shatter glass with his shriek, and decides to stop growing at age three, Oscar Matzareth. For 10 points, name this German author of *The Tin Drum*.

ANSWER: Günter Wilhelm **Grass** [accept **Dog Years** before "this author" is read]

029-09-1-11102

3. In this war, Steven van Rensselaer led the losing side at the battle of Queenston Heights. An indecisive battle in this war ended with Winfield Scott wounded near Lundy's Lane. Oliver Hazzard Perry was a commander in this war. This war included a victory for Jean Lafitte and Andrew Jackson in New Orleans after this war's treaty was signed. Fought over impressment and resolved by the Treaty of Ghent, for 10 points, name this war that saw the White House burned and the bombing of Fort McHenry, which began in its namesake year.

ANSWER: War of **1812**

027-09-1-11103

4. This man painted a self portrait in which he rests on a tree wearing a blood-stained shirt, *The Wounded Man*. This artist created a painting in which many people, including a nude prostitute, crowd around a man painting a landscape, as well as a painting in which the central focus is female genitalia. In addition to *The Artist's Studio* and *The Origin of the World*, this artist created a now destroyed painting depicting hard manual labor, and another showing a funeral procession. For 10 points, name this French Realist painter of *The Stone Breakers* and *A Burial at Ornans*.

ANSWER: Jean Désiré Gustave **Courbet**

035-09-1-11104

5. This event resulted in Norway being kept by Sweden and Kraków (CRACK-cove) being established as a free city. This meeting condemned the slave trade, but did not outlaw it like one attendee had hoped. This meeting was interrupted by the Hundred Days. Great Britain was represented by Castlereagh at this meeting, which was also attended by Alexander I of Russia and Klemens von Metternich. For 10 points, name this meeting that led to the Concert of Europe after the Napoleonic Wars, which took place in the Austrian capital.

ANSWER: Congress of **Vienna** [or equivalent]

023-09-1-11105

6. Placing a register between this structure and the controller creates the “registered” or “buffered” form of it. Attempting to read data not currently stored in this triggers a page fault. Flip-flops are used to implement the static type of it, while capacitors are used in the dynamic type. Its main benefit is that reading or writing to any spot is done in constant time. For 10 points, identify this type of volatile memory, used in modern computers as the main storage for running programs.

ANSWER: **RAM** [or **Random Access Memory**; prompt on partial answer]

001-09-1-11106

7. "Please Master" and "September on Jessoro Road" are among the poems collected in this poet's *The Fall of America*. Another of his collections is named for a poem named after a Jewish prayer for the dead, "Kaddish," while another work includes a poem in which Walt Whitman pokes among the meats in the title location, "A Supermarket in California," and one which begins "I saw the best minds of my generation destroyed by madness." For 10 points, name this Beat poet who wrote "Howl."

ANSWER: Allen **Ginsberg**

024-09-1-11107

8. Amontons' laws govern this phenomenon. Relations for the dry form of this phenomenon were first explained by Coulomb. This phenomenon results in the change of kinetic energy into heat. The magnitude of this force equals the magnitude of the normal force times this force's namesake coefficient, which is symbolized mu and comes in static and kinetic varieties. For 10 points, name this force that opposes the motion of an object, caused by two surfaces rubbing together.

ANSWER: **friction**

028-09-1-11108

9. This man's general, Gaius Suetonius Paulinus, defeated the revolt of Boudicca in Britain. This emperor had his tutor, Seneca the Younger, executed for his role in the Pisonian Conspiracy. Late in his rule, this man faced the revolt of Galba, who succeeded this ruler to start the Year of the Four Emperors. This man supposedly murdered his wives Octavia and Poppaea, as well as his mother. For 10 points, name this son of Agrippina the Younger and successor to Claudius, a Roman emperor who didn't actually play any instrument while Rome burned.

ANSWER: **Nero** Claudius Caesar Augustus Germanicus [or Lucius Domitius **Ahenobarbus**]

035-09-1-11109

10. Jig and "The American" drink Anis del Toro in a Madrid train station in this author's "Hills Like White Elephants," which appears in the collection *Men Without Women* along with some Nick Adams stories, such as "The Killers." In one of this author's novels, the narrator walks home in the rain after Catherine Morland delivers a stillborn baby. This man wrote about Michael Campbell's engagement to Lady Brett Ashley in Pamplona in a work narrated by Jake Barnes, and in another work, Manolin is apprenticed to a fisherman who idolizes Joe DiMaggio, Santiago. For 10 points, name this author of *A Farewell to Arms*, *The Sun Also Rises*, and *The Old Man and the Sea*.

ANSWER: Ernest Miller **Hemingway** [accept "**Hills Like White Elephants**" before "this author" is read]

027-09-1-11110

11. The Reuleaux triangle is formed from the intersection of three of these objects. It is given by the parametric functions x equals a cosine t and y equals a sine t , and in polar coordinates it is given by the equation r equals a . It can be formed by the intersection of a cone and a plane parallel to the base of the cone. For 10 points, give this two-dimensional geometric object with area proportional to the square of its radius.

ANSWER: **circle**

003-09-1-11111

12. This event was preceded by the murder of the captain Ramon Ferrar. Josiah Gibbs used his knowledge of Mende numbers to find James Covey for this trial. Joseph Story ruled in favor of the arguments of Roger Baldwin in this case, and the defense was also supported in this trial by John Quincy Adams. The defendants in this case included Cinque, and this case involved the abduction of the defendants from Sierra Leone. For 10 points, name this case that ruled in favor of slaves who mutinied on the namesake Cuban schooner in 1839.

ANSWER: *Amistad* case [or *United States v. Libellants and Claimants of the Schooner Amistad*]

023-09-1-11112

13. ?In one of his novels, Manuela Sanchez is courted by a man who is between 107 and 232 years old. In another of his works, Bayardo San Roman discovers that his wife Angela Vicario was not a virgin, leading to her twin brothers attacking the Arabic Santiago Nasar. This author of *The Autumn of the Patriarch* opened one novel with a colonel before a firing squad thinking about ice. This author created the gypsy Melquiades, who writes about the family of Ursula Iguaran Buendia, including her son Aureliano, residents of Buendia. For 10 points, name this author of *Chronicle of a Death Foretold* and *One Hundred Years of Solitude*.

ANSWER: Gabriel Jose **Garcia Marquez**

027-09-1-11113

14. As a member of the House of Representatives, this man was appointed to the Warren Commission. This man's presidency dealt with the Cambodian seizure of the Mayaguez. This man served as house minority leader from 1965 to 1973. This president was shot at by Squeaky Fromme. This man retained Henry Kissinger in his cabinet from his predecessor. This man pardoned Vietnam War draft dodgers. For 10 points, name this successor of Spiro Agnew, who eventually pardoned his presidential predecessor, Richard Nixon.

ANSWER: Gerald Rudolph **Ford**, Jr. [or Leslie Lynch **King**, Jr.; accept Thomas Hale **Boggs**, Sr. before "presidency" is read]

027-09-1-11114

15. One section of this work was written to fit the meter of the poem "I vow to thee, my country." Another movement in this work has an often copied 5/4 ostinato. This piece was completed by Colin Matthews after the death of its composer with a movement subtitled the Renewer. The other movements of this piece include "the Mystic," "the Bringer of Jollity," "the Winged Messenger," "the Magician," "the Bringer of Peace," and "the Bringer of War." For 10 points name this orchestral suite about Mars, Neptune, and Jupiter, a work of Gustav Holst.

ANSWER: *The **Planets***

015-09-1-11115

1A. Although the French word for yes is oui, this word is used instead when answering positively to a negative question. What is this word that, with an accent, signifies a simple yes in Spanish?

ANSWER: si

1B. Identify the literary term referring to the fatal flaw or error, often hubris (HUGH-briss), that causes the downfall of the hero in Greek tragedies.

ANSWER: hamartia

2A. The only film this director made without producer Jerry Bruckheimer was 2005's *The Island*. Name this director of *Bad Boys*, *Pearl Harbor*, and both *Transformers* movies.

ANSWER: Michael Benjamin Bay

2B. After bribing subjects to perform a boring task, Leon Festinger theorized what phenomenon, which occurs due to an inconsistency among one's beliefs?

ANSWER: cognitive dissonance

3A. Combining the Schwarzschild radius and the Stefan-Boltzmann law helped theorize this thermal radiation. Give this term for the "evaporation" of black holes.

ANSWER: Hawking radiation

3B. Former president Clinton visited what country in August 2009, successfully negotiating the release of two American journalists?

ANSWER: North Korea [or DPRK; or Democratic People's Republic of Korea; or Chos?n Minjuju?i Inmin Konghwaguk; prompt on Korea; do not accept or prompt on "Republic of Korea"]

4A. This is a 10-second calculation question. An angle has a cosine of $\frac{2}{7}$. Find the secant of that angle.

ANSWER: $\frac{7}{2}$

4B.[10] This is a 10-second calculation question. If eight widgets cost one dollar, how much will twenty widgets cost?

ANSWER: \$2.50

5A. Give the term for the process by which a mass of ice quickly detaches from glaciers or icebergs.

ANSWER: ice calving

5B. What early Renaissance artist, nicknamed for his poor hygiene, painted *The Expulsion of Adam and Eve* and *The Tribute Money* for the Brancacci Chapel?

ANSWER: Masaccio [or Tommaso Cassai]

6A. This is a 20-second calculation question. Using the formula $C = (5F - 160)/9$, find the Celsius temperature that corresponds to 23 degrees Fahrenheit.

ANSWER: -5 degrees Celsius

6B. This is a 20-second calculation question. If each page of a typed manuscript takes one and a half minutes to perform, how many pages can be performed in thirty minutes?

ANSWER: 20

7A. Name the arm of the Baltic Sea that separates Sweden's east coast from Finland's west coast.

ANSWER: Gulf of Bothnia

7B. Name the Swedish chemist who first theorized the greenhouse effect, introduced the concept of activation energy, and formulated an eponymous equation relating temperature and reaction rate.

ANSWER: Svante August Arrhenius

8A. In September 2009, Sanofi-Aventis SA beat its estimated schedule when it delivered the first batch of what medical substance, designed to combat the spread of the H1N1 virus?

ANSWER: swine flu vaccine [or obvious equivalents]

8B. What pinecone-shaped gland of the endocrine system inhibits sexual maturation and secretes melatonin?

ANSWER: pineal gland

9A. This is a 30-second calculation question. Two urns each have a hundred balls in them: the first has fifty red and fifty green balls, while the second has a hundred green balls. One of the urns is randomly chosen and a ball is drawn from it, which is green. What is the probability that the all-green urn was chosen?

ANSWER: 2/3

9B. This is a 30-second calculation question. In a circle of radius four inches, find the area of a sector with a central angle of two radians.

ANSWER: 16 square inches

10A. Give the term for the literary technique, common in ancient epics, of beginning a narrative from the middle of a story.

ANSWER: in media res

10B. Name the Swedish pop group of the 70s that released the hits "Waterloo" and "Dancing Queen" and whose music was featured in the musical *Mamma Mia!*

ANSWER: ABBA

1. One of this figure's secrets was revealed after his barber whispered into a hole in the ground. When this figure disagreed with Tmolus (tih-MOW-luss), by stating that Pan was a better musician than Apollo, this man was cursed with the ears of a donkey. This man obtained his most notable characteristic as a reward for his care of Silenus (sigh-LAY-nuss), but he rid himself of that ability by bathing in the river Patoclus (PAA-tow-cluss), after his ability killed his daughter and rendered his food inedible. For 10 points, name this Phrygian (FRIDGE-ee-uhn) king, to whom Dionysus (DYE-oh-NIGH-suss) gave the golden touch.

ANSWER: King **Midas**

005-09-1-11117

2. One constant involved in this quantity can be calculated from the temperature using the Eyring equation, or by an equation including a steric factor. The temperature and activation energy are also used to calculate this quantity. One way of calculating it, the Arrhenius equation, is based on the collision model. In zero order reactions, it is determined only by a constant, and not by the concentration of the reactants. It can be calculated by laws that have first and second order varieties. For 10 points, name this measure of the speed of a reaction.

ANSWER: reaction **rate** [or **rate constant**; accept word equivalents]

001-09-1-11118

3. In a poem about this type of "movement," Carl Sandburg wrote that this is when "the sea-winds takes the city in their arms." Edgar Allan Poe wrote of an eidolon named this in his poem "Dream-Land." A play titled after this time describes the Reverend Shannon's visit to Maxine's motel in Mexico. A novel titled after this time tells of Rosemary Hoyt's involvement with Dick Diver and Nicole's psychiatric treatment. For 10 points, name this period of time that titles a Tennessee Williams play "of the Iguana," which in an F Scott Fitzgerald novel is "Tender."

ANSWER: **Night**

036-09-1-11119

4. This country is home to the Dayak ethnic group, who live in this country's Kalimantan (KAH-lee-mon-TAHN) area. Among the areas controlled by this country are the Moluccas, formerly known as the Spice Islands. This country contains the Sunda Strait, in which one can find the large volcano Krakatoa. This country controls the western half of Papua as well as the island of Celebes (SEH-luh-beez). More Muslims live in this country than any other. For 10 points, name this country, which includes the islands of Bali and Java, the latter of which is home to this country's capital, Jakarta.

ANSWER: Republic of **Indonesia** [or Republik **Indonesia**]

019-09-1-11120

5. This king's troops were victorious against James IV of Scotland at the Battle of Flodden Field. This man was the target of the "Pilgrimage of Grace," a rebellion sparked when this king seized large amounts of church land. This man negotiated with Francis I of France at the Field of the Cloth of Gold. This king's advisors included Thomas Wolsey, Thomas Cranmer, and Thomas Cromwell. This man was excommunicated after declaring himself head of the Church of England. For 10 points, name this Tudor king of England famous for having six wives.

ANSWER: **Henry VIII** Tudor of England

021-09-1-11121

6. Various versions of this work give its first word as "Listen," "Hear Me," and "So." One character in this work describes winning a swimming contest against Breca. A slave is killed in this work after trying to steal a chalice, and the protagonist is abandoned against all of his men except Wiglaf after deciding to kill a dragon in his old age. The central Geat is asked by Hrothgar to defend the mead hall Heorot from a descendent of Cain. For 10 points, name this epic in Old English about a hero who kills Grendel and Grendel's mother.

ANSWER: **Beowulf**

015-09-1-11122

7. Trademarked terms on this eatery's menu include "loaded potato bites," "bronco berry sauce," and "tangy southwest sauce." This company, whose largest store in the world is located in Colonial Heights, Virginia, also offers the "Market Fresh" line of salads and the horseradish-based Horsey Sauce. This chain's commercials feature a superimposed cowboy hat and the slogan "I'm thinking" followed by the company name. For 10 points, name this fast-food franchise whose menu revolves around roast beef sandwiches.

ANSWER: **Arby's**

019-09-1-11123

8. This deity was once trapped in a large tree, which was incorporated into the palace of the King of Byblos. This ruler of Duat was born on the first of the five intercalary (inter-CALORIE) days that Thoth won from Khonsu. He is often depicted with either red or green skin, and he usually carries a crook and flail. His body was hacked into pieces by his villainous brother Set, and he was then avenged by his son Horus. For 10 points, name this Egyptian ruler of the underworld, whose consort was Isis.

ANSWER: **Osiris** [or **Usiris**; or **Asar**; or **Aser**; or **Ausare**; or **Ausir**; or **Wesir**; or **Usire**]

029-09-1-11124

9. He wrote a work discussing his night in jail after joining intellectuals like Robert Lowell in a march at the Pentagon protesting the Vietnam war entitled *The Armies of the Night*. One of his works is about a man who kills Max Jensen during a gas station robbery after that man fought with his lover Nicole Barrett. Author of a "true life novel" of a Provo resident who died of capital punishment named Gary Gilmore, this man wrote a novel about Croft's platoon in the Anapopei campaign of World War Two. For 10 points, name this author of *The Executioner's Song* and *The Naked and the Dead*.

ANSWER: Norman Kingsley **Mailer**

027-09-1-11125

10. Many of the enzymes involved are activated by the reduction of thioredoxin. This pathway occurs in bundle sheath cells in C4 plants. This series of reactions does not devolve to photorespiration because of the function of the enzyme Rubisco, and it takes place in the stroma of the chloroplast. For 10 points, name this series of biochemical reactions that convert carbon dioxide and water into organic compounds, also known as the "dark reactions."

ANSWER: the **Calvin**-Benson-Bassham cycle [or **dark reactions** before mentioned; or **light-independent reactions** before "dark;" or **carbon fixation**]

026-09-1-11126

11. The early kingdom of Axum was located within this modern day nation. This nation's forces defeated Oreste Baratieri in one war at the Battle of Adowa while under the leadership of Menelik II. During the Scramble for Africa, Liberia and this country remained free from European control. One ruler of this country appealed to the League of Nations for help when Italy under Mussolini invaded in 1935. For 10 points, name this East African nation, from which Eritrea declared independence, once ruled by Haile Selassie.

ANSWER: Federal Democratic Republic of **Ethiopia**

036-09-1-11127

12. The protagonist of this play cries "Never, never, never, never, never" upon discovering the death of his youngest child. One character in this play commands "Out, vile jelly" while plucking out the eyes of Gloucester [GLOSTER]. In this play's major subplot, Edgar duels and kills his villainous brother Edmund. This play begins with the title character expecting declarations of love after dividing his kingdom among Regan, Goneril, and Cordelia. For 10 points, name this Shakespeare tragedy about an aged ruler.

ANSWER: King Lear

004-09-1-11128

13. One ruler of this dynasty lost control of its territory to Sher Shah before receiving help from Tahmasp I. That ruler of this dynasty, Humayun, had a son who won the second Battle of Panipat, Akbar. The first Battle of Panipat was won by this dynasty's founder, Babur. Another ruler of this dynasty had a wife named Mumtaz, for whom he built the mausoleum, the Taj Mahal. For 10 points, name this Indian dynasty whose rulers included Shah Jahan, and whose rulers were all Muslim.

ANSWER: Mughal Dynasty

023-09-1-11129

14. Several peasants watch Jacob wrestling with an angel on the red ground in this man's painting *Vision After the Sermon*. Three women with a child, young adults, and a dying old woman represent the three title questions of this artist's *Where Do We Come From? What Are We? Where Are We Going?*. This painter depicted a farmer on the Atlantic coast with four expressionless biblical figures in *The Green Christ*. This man used Pont-Aven as the setting for his *The Yellow Christ*, though he is better known for painting nude villagers in Tahiti. For 10 points, name this French post-Impressionist painter.

ANSWER: Eugène Henri Paul Gauguin

024-09-1-11130

15. The RTS,S (R-T-S-comma-S) vaccine is currently under development to protect against this disease, whose most dangerous form is caused by species *falciparum*. The gene which causes sickle-cell anemia also provides resistance to this disease. Female members of the genus *Anopheles* are vectors for this disease, which can be treated with quinine. For 10 points, name this disease caused by parasites of the genus *Plasmodium*, which is transmitted by mosquitoes and whose name comes from the "bad air" originally thought to cause it.

ANSWER: malaria

025-09-1-11131

1. In one of these stories, a house built on the sand is blown down by a storm. Another of these stories involves three servants, each given a different number of talents. In a different one of these stories, a shepherd abandons ninety-nine sheep to find one lost one. In another, the return of one character prompts the slaying of a fatted calf. In what is perhaps the most known of these stories, a man is robbed and left on the side of the road, only to be helped by a member of a hated group of people. For 10 points, name this group of instructional tales, including "The Prodigal Son" and "The Good Samaritan," that are told by a central figure in the Gospels.

ANSWER: **parables** of Jesus

015-09-1-11132

2. WRITE MORE QUESTIONS, Particularly a Social Science-Sociology Tossup

00--20-11133

3. The Karl Fischer version of this technique is used to determine water content. Potentiometry is often used to discern when to stop this process. This technique can determine the isoelectric point for amino acids, and the end point often occurs when an indicator changes color. When all of the analyte has reacted, this technique yields the equivalence point. For 10 points, name this technique in which a buret is used to determine the amount of analyte in a solution using a known quantity of reagent.

ANSWER: **titration**

003-09-1-11134

4. An influx of this ion is thought to trigger release of neurotransmitters into the synaptic cleft. This ion also binds to troponin to allow muscle contraction, before being pumped back into the sarcoplasmic reticulum. Vitamin D increases absorption of this ion via the small intestine. In conjunction with parathyroid hormone, Vitamin D stimulates release of both this cation and phosphate from bone, where the vast majority of it is stored. For 10 points, name this plus two ion of element number 20, a deficiency in which is known as hypocalcemia.

ANSWER: **calcium** [or **Ca⁺⁺**]

003-09-1-11135

5. The Buddhist monk Zenchi Naigu tries some quack techniques for changing the size of this item in a namesake story by Akutagawa Ryunosuke (ah-KOO-tuh-GAH-wuh ree-OH-no-SOO-kay). In another story, a man believes that Mrs. Podtochin (pah-TAH-chin) has taken revenge for a refusal to marry by cursing this object. This object becomes a State Councilor after being found in a loaf of bread by Ivan Yakovlevich (YAH-kohv-LAY-vich), but eventually returns to Platon Kovalyov (KOH-vull-yoff), in that story by Nikolai Gogol. For 10 points, identify this appendage which was unusually large on Cyrano de Bergerac and Pinocchio.

ANSWER: a **nose**

019-09-1-11136