

1. A small value for the Rossby number indicates a significant effect caused by this force. Its root cause is the unequal rates of rotation for the Earth; the fastest rate is at the equator thus causing an object traveling south from the equator to deviate westward. The effect of this force is proportional to two times the rotation rate of the Earth times the sine of the angle of the latitude, thus this force causes no effect at the equator. For 10 points, name this apparent deflection of an object by inertial forces in a rotating frame of reference which is partially responsible for the rotation of hurricanes but not the flow of water in a toilet.

ANSWER: Coriolis force [or equivalents for force like "effect"]

064-11-25-01101

2. He led the bands that performed "Struttin' with Some Barbecue" and "Potato Head Blues." He moved to Chicago to perform in King Oliver's band, and later used Earl Hines as his band's pianist. His "Hot Seven" and "Hot Five" were disbanded before he went on to perform standards such as "When the Saints Go Marching In" with his "All Stars." This cornettist from New Orleans performed "Blueberry Hill." For 10 points, name this jazz musician nicknamed "Satchmo" who performed "What a Wonderful World" and "Hello Dolly."

ANSWER: Louis Daniel "Louie" Armstrong

027-11-25-01102

3. One of this man's poems contemplates the "vast similitude" that pervades "all gaseous, watery, vegetable, mineral processes." This poet of "On the Beach at Night Alone" equates his soul with a creature that "launch'd forth filament, filament, filament out of itself" in "A Noiseless Patient Spider." This man wrote, "I sound my barbaric yawp over the roofs of the world" in a lengthy work. Another of his poems contains the line, "The ship has weather'd every wrack, the prize we sought is won," and mourns Lincoln. For 10 points, name this poet of "Song of Myself" and *Leaves of Grass*.

ANSWER: Walter Whitman

080-11-25-01103

4. This man was fired from a job at Fox Sports Net after reporting on rumors News Corp intended to sell the Dodgers. After returning to a network he had worked at during the Lewinsky scandal, this man filled Phil Donahue's old timeslot with a show covering the top five stories of the day. This man announced he would be joining the Current TV network after the January 2011 replacement of this man by Lawrence O'Donnell on a program where this man was known for his Special Comment segments and his regular crowning of the "Worst Person in the World." For 10 points, name this former host of MSNBC's "Countdown" program.

ANSWER: Keith Theodore Olbermann

002-11-25-01104

5. This man ran for governor of his state, losing to James D. Williams. During his term in office, two American sailors were stabbed in Chile in what is known as the Baltimore Crisis. The so-called "Billion Dollar Congress" during his term enacted the McKinley Tariff and the Sherman Antitrust Act. His cabinet included James G. Blaine as Secretary of State and Vice President Levi P. Morton. For 10 points, name this President who was preceded and succeeded by Grover Cleveland and was the grandson of a former president.

ANSWER: Benjamin Harrison

024-11-25-01105

6. In the body, a reaction that uses the enzyme arginase produces both ornithine and this product in a process that has a citrulline intermediate. Birds and reptile produce a similar acidified form of this compound which is excreted as a white mass. Sometimes known as carbamide, it contains two amino groups bonded to a central carbonyl group and was produced by Friedrich Wohler (VUH-ler) in a reaction that showed that organic compounds could be produced from simple starting ingredients. For 10 points, name this compound found in mammalian urine.

ANSWER: urea [or carbamide before it is read; or carbonyl diamide; or CH₄N₂O]

064-11-25-01106

7. In one novel by this man, a man who runs off to Monte Carlo is thought to have been killed by his hometown community. In a play by him, the father of the central character has a scandalous encounter at the brothel of Madame Pace. In addition to *The Late Mattia Pascal*, this man wrote a work in which an actor who fell off his horse believes himself to be the title king. In another work, a production of *Mixing It Up* is interrupted by a group of abandoned literary creations. For 10 points, name this Italian dramatist who wrote the play *Six Characters in Search of an Author*.

ANSWER: Luigi Pirandello

064-11-25-01107

8. The synthesis of plasmalogen occurs in this structure; a deficiency of that synthesis causes Zellweger's syndrome. In cells, beta oxidation metabolizing fatty acids with more than 22 carbons begins in this structure and ends once it reaches 8 carbons, only to be resumed by the mitochondria. One enzyme located in this organelle called catalase is needed for a disproportionation reaction that produces oxygen gas and water from a certain starting product. For 10 points, name this cell organelle which, as its name suggests, breaks down a compound with formula H₂O₂.

ANSWER: peroxisome

064-11-25-01108

9. The protagonist of this novel goes on a date with a UN interpreter named Constantin. One character in this work named Philomena Guinea pays for the protagonist to be treated by Dr. Nolan following her attempted suicide with sleeping pills. The protagonist of this work, set on the backdrop of the execution of the Rosenbergs, is a college student from Massachusetts who interns for a month at a New York City magazine. For 10 points, name this work centering on Esther Greenwood, the only novel by Sylvia Plath.

ANSWER: *The* Bell Jar

064-11-25-01109

10. This author called for realism in detective fiction in his essay "The Simple Art of Murder." The search for the Brasher Doubloon is the focus of his novel *The High Window*. He wrote about Mendy Menendez and Terry Lennox in one novel, which is part of a series which opens with a novel in which General Sternwood hires the protagonist to solve a case of blackmail. For 10 points, name this author who wrote about Philip Marlowe in novels such as *The Long Goodbye* and *The Big Sleep*.

ANSWER: Raymond Thornton Chandler

024-11-25-01110

11. The magnetic field of these objects can be described using the London equations, and they can be described mathematically with the Ginzburg-Landau theory. One theory describing them notes that electrons below the Fermi level can bind together to form Cooper pairs. YBCO is notable for acting as one of these materials above the boiling point of nitrogen. These materials experience an expulsion of their magnetic field in a phenomenon known as the Meissner effect and can be described by the BCS theory. For 10 points, name this type of material, which as its name suggests has an electrical resistivity of zero.

ANSWER: superconductor

064-11-25-01111

12. A descendant of this woman, Jane Bolling, married Richard Randolph. According to William Strachey, her first marriage was to a warrior named Kocoum. Other names given to this woman include Matoaka and Rebecca, the latter of which she took after she was baptized at Henricus. She married a man who cultivated tobacco in Virginia named John Rolfe. She supposedly saved the life of John Smith. For 10 points, name this daughter of Powhatan who aided settlers at Jamestown.

ANSWER: **Pocahontas**

024-11-25-01112

13. In a debate about tariffs with Robert Hayne, he referenced "liberty and union, now and forever, one and inseparable." In the Marshall court, he won the case *Dartmouth v. Woodward* and lost *McCullough v. Maryland*. Many abolitionists were angered by the "Seventh of March" speech this orator gave. This man served as Secretary of State under Millard Fillmore and John Tyler. After the *Caroline* affair, he signed a treaty delineating the Maine-New Brunswick border. For 10 points, name this Massachusetts Senator who signed that treaty with Baron Ashburton.

ANSWER: Daniel **Webster**

079-11-25-01113

14. In Spain, Antonio de Nebrija (nay-BREE-hah) created one of these objects for the Catholic Monarchs. The author of another of these texts attacked his patron, Lord Chesterfield, for not providing enough support. While writing one of these texts, that author was inspired by Juvenal's tenth satire to write "The Vanity of Human Wishes." James Boswell wrote a biography of a man who compiled one of these. For 10 points, name these books, including Samuel Johnson's, which provide definitions for words.

ANSWER: **dictionaries** [accept English **dictionaries**; accept Spanish **dictionaries**]

080-11-25-01114

15. Mucus-producing foveolar cells are found inside this organ, which secretes a compound needed for vitamin B-12 absorption. That compound, the intrinsic factor, is secreted by the parietal cells, which also secrete a mixture of hydrochloric acid called gastric acid. At the lower part of this organ lies the pylorus, which connects this organ to the duodenum of the small intestine. For 10 points, name this organ which breaks down food sent from the esophagus and is divided into four chambers in a cow.

ANSWER: **stomach**

064-11-25-01115

1A. Name the director and comedian who starred alongside Diane Keaton in two of his best-known films, *Manhattan* and *Annie Hall*.

ANSWER: Woody Allen

1B. What American composer wrote the piece *Lincoln Portrait*, as well as the inspirational *Fanfare for the Common Man*?

ANSWER: Aaron Copland

2A. By saying “estoy embarazada” in Spanish, you are not saying you are embarrassed, but actually that you are in what condition?

ANSWER: pregnant [accept obvious equivalents]

2B. What Depression Era bank robber was set up by the "lady in red" and killed outside a movie theater in 1934?

ANSWER: John Herbert Dillinger

3A. This is a 10-second calculation question. What is the length of the hypotenuse of a right triangle with legs of length 6 and 8?

ANSWER: 10

3B. This is a 10-second calculation question. In simplest terms, what is the value of x in the equation $4x - 14 = x + 34$?

ANSWER: $x =$ 16

4A. What Greek harvest goddess was celebrated in the Eleusinian Mysteries for her search for her daughter Persephone?

ANSWER: Demeter

4B. What element made up the foil used in the 1909 Rutherford experiment and is also dissolved by aqua regia?

ANSWER: gold [accept Au]

5A. This is a 20-second calculation question. What is the probability of rolling two dice such that the sum of the dice is 8?

ANSWER: 5/36

5B. This is a 20-second calculation question. What is the ratio of the volume of a cone with radius 4 and height 8 to the volume of a cone with radius 2 and height 16?

ANSWER: 2:1

6A. What Dutch computer scientist invented the semaphore concept for programming and lends his name to a shortest-path algorithm?

ANSWER: Edsger Wybe Dijkstra

6B. What current president of Bolivia has caused a stir by nationalizing the country's oil, mines, and gas?

ANSWER: Juan Evo Morales Ayma [accept either underlined part]

7A. This is a 30-second calculation question. In simplest terms, what is the geometric mean of $\{1/8, 1/2, 4, 1024\}$?

ANSWER: 4

7B. This is a 30-second calculation question. Completely factor the polynomial $12x^2 - 5x - 72$.

ANSWER: $(3x - 8)(4x + 9)$ [or $(-3x + 8)(-4x - 9)$]

8A. What economic phenomenon has cost-push and demand-pull varieties and is supposedly incompatible with low unemployment, according to the Phillips curve?

ANSWER: **inflation**

8B. What video game bad guy frequently kidnaps Princess Zelda and attempts to claim the Triforce while battling Link?

ANSWER: **Ganon** [accept **Ganondorf**]

9A. What pillar of Islam concerns donating a portion of one's income as alms to the poor?

ANSWER: **Zakat** [or **Zakah**]

9B. Name the term which refers to a line which touches a curve, or curved surface, at any given point.

ANSWER: **tangent**

10A. What Greenpeace vessel was sunk by French agents near New Zealand in 1985?

ANSWER: **Rainbow Warrior**

10B. Known as "Kerepakupai vena" to natives, what is this Venezuelan location, the world's highest waterfall?

ANSWER: **Angel** Falls [accept Salto **Angel**]

1. In one novel by this author, a mad gardener sings a song which begins, "He thought he saw an elephant." That novel is *Sylvie and Bruno*. In a poem, he wrote about a creature which is sought with thimbles and care, and pursued with forks and hope. Other creatures created by this author include the Rocking Horse Fly, Bill the Lizard, the Mock Turtle, and the Cheshire Cat, which appear in a novel whose protagonist falls down a rabbit hole. For 10 points, name this author of *Alice's Adventures in Wonderland*.

ANSWER: Lewis Carroll [or Charles Lutwidge Dodgson]

024-11-25-01117

2. Among the objects found in this region are Makemake (MAH-kay-MAH-kay) and Haumea (hoo-MAY-ah). Also found in this region are a group of "classical" objects called cubewanos (cue-bee-WAH-nose). This region is sometimes named after Kenneth Edgeworth and is believed to be the origin of Centaur objects like Chiron. Because of orbital resonance, it has a gap from 40 to 42 AU. The moon Triton is thought to have been captured by this region, due to its similarities with Pluto, the largest object in this region. Home to several trans-Neptunian objects, for 10 points, name this region of the solar system found between the Oort Cloud and Neptune.

ANSWER: Edgeworth-Kuiper Belt

064-11-25-01118

3. This region's namesake "game farm" provided most of the rare ungulates to the world's zoos before closing in 2006. The term "clove" is used for rocky valleys in this region, which comprises much of Greene County and Ulster County and is ultimately drained by the Delaware River. Sections of this area include the Helderberg Hills and Slide Mountain. It is dotted by artificial lakes, including Neversink and Ashokan, which supply water to the urban areas southeast of this region. This setting of certain Washington Irving stories is found between the Mohawk and Hudson valleys. For 10 points, name this portion of the Appalachian mountains which comprises a former resort hotspot in eastern New York.

ANSWER: the Catskill Mountains [or the Catskills]

019-11-25-01119

4. This man's first career triple-double came against the Grizzlies in January 2011. He tied Kareem Abdul-Jabbar's record for most points scored by a rookie in a playoff debut at thirty-six against the Celtics in 2009. He led the team that defeated UCLA in the Final Four before losing to Kansas in the NCAA title game. That finish was nullified after this top pick of the 2008 draft was accused of having someone take his SAT for him. He was also the starting point guard of the 2011 Eastern Conference All-Stars. For 10 points, name this Chicago Bulls star.

ANSWER: Derrick Rose

079-11-25-01120

5. One section of this work includes poems about the significance of wine to various figures, including the lonely man and the murderer. That section comes between the sections "Revolt" and "Death." Its longest section features poems such as "Sorrows of the Moon," "The Sick Muse," and "Invitation to the Voyage." A poem which introduces this volume addresses the reader as "Hypocrite leader, my likeness, my brother!" For 10 points, name this 1857 poetry collection by Charles Baudelaire.

ANSWER: *Les* Fleurs du Mal [or *The* Flowers of Evil]

024-11-25-01121

6. One sculpture of this figure depicts him with his left hand on his hip, wearing a shirt with flowers over his nipples. That sculpture is by Verrocchio. Another sculpture in which this figure has his left hand on his hip depicts him wearing only a hat and boots, with his foot resting on a severed head, and is by Donatello. The most famous depiction of this figure shows him in a contrapposto pose with a slingshot over his shoulder. For 10 points, name this figure who was most famously sculpted by Michelangelo, the slayer of Goliath.

ANSWER: **David**

024-11-25-01122

7. One equation that improves upon this law exhibits oscillatory behavior that is corrected by Maxwell's equal area rule. This law can be derived by assuming that kinetic energy is equal to one half Boltzmann's constant times temperature and by assuming that collisions off a wall are perfectly elastic. It can be rewritten to include density if one of the terms is substituted with total number of moles divided by molar mass. It is corrected by the Van der Waals equations and assumes that gases have negligible volume and zero interaction with one another. For 10 points, name this gas law typically written as $PV=nRT$.

ANSWER: **ideal gas** law

064-11-25-01123

8. The appearance of the French army to save the narrator in "The Pit and the Pendulum" is one example of this device, while another example is the amends made by Puck at the end of *A Midsummer Night's Dream*. Euripides was known for using this plot device in his plays, such as the sudden appearance of Jason's wife at the end of *Medea*. For 10 points, name this plot device where seemingly unsolvable problems are resolved with the sudden introduction of a new character or device, from the Latin for "god out of the machine."

ANSWER: **deus ex machina**

064-11-25-01124

9. The Euler totient theorem generalizes a theorem by this man, while another statement by this man can be proved using the Taniyama conjecture regarding elliptic curves. Snell's law can be derived from his principle that the path taken by a ray of light is the one which can be traveled in the least amount of time, while a statement he proposed was only recently proven by Andrew Wiles in the 1990's. For 10 points, name this French mathematician who stated that there are no integers n greater than 2 which satisfies the equation a to the n plus b to the n equals c to the n , known as his last theorem.

ANSWER: Pierre de **Fermat**

064-11-25-01125

10. One government of this city was led by twenty-four Captains and Defenders of Liberty and was called the Ambrosian Republic. One ruling family of this city, whose coat of arms shows a large snake eating a human, was the Visconti family. This capital of Napoleon's Kingdom of Italy was also ruled by a family whose members included Ludovico and Francesco I. For 10 points, name this Italian city which was once ruled by the Sforza family, a center of fashion.

ANSWER: **Milano**

024-11-25-01126

11. This character asks another man why "clouds still hang on you" only to be given the reply "I am too much in the sun." The play *The Murder of Gonzago* is put on in an effort to prove the guilt of this man, who proposes a fencing match in which one of the sword tips has been poisoned. During that match, a glass of poisoned wine is inadvertently drunk by this man's newlywed wife Gertrude. For 10 points, name this man who uses ear poison to murder the king of Denmark, the primary villain in *Hamlet*.

ANSWER: **Claudius**

064-11-25-01127

12. Palladium is commonly used as one of these species in most organic coupling reactions. A mixture of titanium and aluminum forms the Ziegler-Natta one used in polymerization reactions. In cars, platinum is used as one to convert carbon monoxide to carbon dioxide. Chlorofluorocarbons act as one in the breakdown of ozone in the atmosphere. These species work by lowering the activation energy of a chemical reaction, and a common industrial one is iron in the Haber-Bosch process. For 10 points, name these chemical species which speed up a reaction.

ANSWER: catalysts

064-11-25-01128

13. This school's name was coined by Christian von Ehrenfels. This school believes in the "common fate" principle and had its ideas extended to a school of therapy by Fritz Perls. Its theories, which were also applied to behavioral science by Kurt Lewin (luh-VEEN), are embodied in its fundamental law of "clarity" or "pragnanz." This school originally investigated why a light on a series of bulbs appears to be "moving," calling that the phi phenomenon, and was led by Kurt Koffka, Wolfgang Kohler, and Max Wertheimer (VAIRT-high-mer). For 10 points, identify this school of psychology which theorized that the brain makes a "completion" of all sensory stimuli and is named after the German word for "whole."

ANSWER: Gestalt psychology

019-11-25-01129

14. This author wrote a controversial essay entitled "A Suggestion on the Negro Problem." She published novels such as *Mag-Marjorie* and *Moving the Mountain* in her self-published journal *The Forerunner*. Jeff, Van, and Terry discover an all-female utopia in her novel *Herland*. John's wife is driven mad by the perceived smell of the decorations in a former children's nursery room in a short story inspired by this woman's postpartum depression. For 10 points, name this feminist author of "The Yellow Wallpaper."

ANSWER: Charlotte Perkins Gilman

079-11-25-01130

15. This man borrowed the pose of the *Apollo Belvedere* for the portrait of a man in a wig leaning on his sword in front of the dark sea. Another of his paintings shows a pale noblewoman carving her name into a tree. This artist of portraits of Augustus Keppel and Mrs. Lloyd forayed into criticism with his fifteen *Discourses on Art*. Another of his paintings shows Melpomene ("mel-PAW-men-ee") standing behind the title enthroned actress, famous for her role as Lady Macbeth. For 10 points, name this first president of the Royal Academy of Art, who painted *Sarah Siddons as the Tragic Muse*.

ANSWER: Sir Joshua Reynolds

080-11-25-01131

1. This ruler dispatched the Nestorian monk, Rabban Sauma, as a diplomat to Christian Europe. With the help of his general, Hundred Eyes Bayan, he successfully besieged the cities of Xianyang and Fencheng. After those victories, he conquered the Southern Song and declared himself ruler of the Yuan Dynasty. This man sent an expedition to Kyushu, which was defended by a stone wall along Hakkata Bay; however, that expedition failed when a typhoon called the kamikaze destroyed this ruler's navy. For 10 points, name this Mongol ruler visited by Marco Polo who was the grandson of Genghis.

ANSWER: **Kublai Khan**

080-11-25-01132

2. One battle during this event saw the surrender of Major Sucharski. This event was marked by the bombing of the city of Wielun (vee-YELL-oon). This event took place the day after the Gleiwitz (GLY-vitz) incident, which was part of a propaganda campaign called Operation Himmler. It saw a lengthy defence of a certain post office and led to the annexation of the Free City of Danzig. For 10 points, name this event started on September 1, 1939, which marked the beginning of World War II.

ANSWER: **Invasion of Poland** [or clear equivalents; or **September Campaign**]

024-11-25-01133

3. The locations of these events are classified using the Flinn-Engdahl regions. John Milne developed an early tool for studying these events. A law providing for the probability distribution of these events is partially named for Beno Gutenberg. These events frequently occur in areas named after Wadati and Benioff. The intensity of these events is measured using the Mercalli scale, while frequently these events cause the most damage at their epicenters. For 10 points, name these events once measured with the Richter scale, which produce devastating seismic waves.

ANSWER: **Earthquakes** [accept **quakes**, **tremors**, or **temblors**]

052-11-25-01134

4. This poem describes one locale as "the mote without a mote" in its sixteenth canto, which describes the New Jerusalem. It makes use of its author's trademark "bob and wheel" meter. This poem ends with the speaker diving into a river and awakening from his vision back in his garden. Its speaker had previously lost the title object when it fell to the ground in his garden. This poem lends its name to an anonymous author who also wrote *Cleanness* and *Sir Gawain and the Green Knight*. For 10 points, name this poem in Middle English describing the loss of the title gemstone.

ANSWER: *The **Pearl***

026-11-25-01135

5. This thinker attacked the corruption made possible by the theatre in a letter to D'Alembert. He argued for an end to the artificial form of the title concept in *Discourse on the Origin of Inequality*. The title figure of one of his works marries Sophie after receiving an appropriate education that allows him to grow morally in a corrupt world. He wrote that "Every law the people have not ratified in person is null and void" and "Man is born free, and everywhere he is in chains" in another work. For 10 points, name this French author of *Emile* and *The Social Contract*.

ANSWER: Jean-Jacques **Rousseau**

015-11-25-01136

This is a calculation question. In simplest terms, what is the point of intersection of the lines $y = 3x - 8$ and $y + 5 = 2$ times the quantity $(x - 3)$ end quantity?

ANSWER: **$(-3, -17)$** [or **$x = -3$** and **$y = -17$**]

015-11-25-01137

What programming constructs come in "while" and "for" types?

ANSWER: **loops**

015-11-25-01137