1. One mole of these particles is represented by Faraday's constant. These particles are arranged using the Aufbau's principle in a manner which maximizes their total spin, an observation noted by Hund's rule. The charge of this particle was determined in the oil drop experiment and compounds gain this particle in a reduction reaction. For 10 points, name this negatively charged particle found outside of the nucleus.
ANSWER: **electron**

064-12-36-07101

2. The population of this political unit was forcibly urbanized in the Highland Clearances. Two of the world's longest cantilever bridges and suspension bridges cross this political unit's Firth of Forth. This place's highest point is Ben Nevis. The Orkney and Shetland Islands are to its north, and this region's largest city is Glasgow. For 10 points, name this constituent part of the United Kingdom, with capital at Edinburgh (ED-in-burr-uh), which lies to the north of England.
ANSWER: Kingdom of **Scotland**

139-12-36-07102

3. This character is taken prisoner by Mandricardo after throwing away his armor, and he rides the horse Veillantif (vay-ON-teef). The death of this wielder of the sword Durandal causes his betrothed Alda, the sister of his friend Oliver, to die of grief. This character dies when his temples burst from blowing on his Oliphant ("ALL"-ee-font) horn at the Battle of Roncevaux (RON-seh-voe) Pass. For 10 points, name this knight of Charlemagne (SHAR-luh-main), the title character of a *chanson de geste* called the "Song of" this figure.
ANSWER: **Roland** [or **Orlando**]

014-12-36-07103

4. This state was the site of the Revolutionary War defeat of Banastre Tarleton at Cowpens. A slave revolt in this state supposed to take place on Bastille Day was stopped and resulted in the hanging of Denmark Vesey. The Star of the West tried to resupply Robert Anderson and his men in a fort in this state, which was first fired upon on April 12, 1861. For 10 points, name this first state to secede from the Union, which is home to Fort Sumter and Charleston.
ANSWER: **South Carolina** [prompt on **Carolina**]

121-12-36-07104

5. This man defined the propositional function in *On Denoting*. He stated that he did not believe Jesus was the wisest of all men in "Why I am not a Christian." His most famous work attemps to derive mathematical principles from logical truths. He posed the question of whether the set of all sets is a member of itself, known as his namesake paradox. For 10 points, name this British philosopher who, along with Alfred North Whitehead, co-authored *Principia Mathematica*.
ANSWER: Bertrand **Russell** [or Bertrand Arthur William **Russell**; or Earl **Russell**]

127-12-36-07105

6. This poet used a section titled "Medallion" to conclude a possibly autobiographical poem which includes the character of Lady Valentine entitled *Hugh Selwyn Mauberley.* One of his poems reads "The apparition of these faces in the crowd; petals on a wet, black bough." Part of his longest work was written after he was imprisoned in a cage in Pisa. For 10 points, name this American modernist poet and friend of T. S. Eliot who wrote "In a Station of the Metro" and *The Cantos.*
ANSWER: Ezra Loomis **Pound**

7. This urban area includes the Orthodox Jewish communities in Flatbush and Crown Heights, where race riots occurred in 1991. is accessed on foot using a structure designed by John and Washington Roebling. In 1960, Ebbets Field was demolished here. Its southern end is home to a Ferris wheel, boardwalk, and beach at Coney Island. For 10 points, name this borough across from Manhattan and west of Queens, a part of New York City accessed by a namesake bridge.
ANSWER: **Brooklyn** [or **Kings** County; prompt on **New York** City until "borough" is read]

8. This poet described "nine and fifty" of the title creatures "upon the brimming water" in his "The Wild Swans at Coole." The speaker of one poem remarks "An aged man is but a paltry thing, a tattered coat upon a stick" in a poem which begins "That is no country for old men." Another poem by this man ends by asking "what rough beast, its hour come at last, slouches towards Bethlehem to be born?" For 10 points, name this Irish poet of "Sailing to Byzantium" and "The Second Coming."
ANSWER: William Butler **Yeats**

9. This man's victories include a defeat of his former ally at the Battle of Pharsalus. He wrote *Commentaries on the Gallic War*, which in part describes his defeat of Vercingetorix (vur-sin-GET-uh-riks) at the Battle of Alesia. Along with Crassus and Pompey, this man was part of the First Triumvirate; later, this man became a dictator after he successfully crossed the Rubicon River in 49 BCE. For 10 points, name this Roman leader assassinated on the Ides of March by Cassius and Brutus.
ANSWER: Gaius **J**ulius **Caesar** [prompt on **Caesar**]

10. One element in this group can be detected by its ability to turn a starch solution blue. Ions of the four lightest members of this family can be distinguished by the color of the precipitate, if any, when reacted with silver nitrate. This group includes the only liquid and solid diatomic elements. It contains the most electronegative element on the Pauling scale. For 10 points, name this group whose lightest members are iodine, bromine, chlorine, and fluorine.
ANSWER: **halogen**s [or **halide**s; or Group **VIIA** (Seven A); or Group **17**]

11. This novel includes a character who carves wooden animals with his axe before using it to kill his wife and children. The protagonist's father commits suicide on a train, and that father's lawyer Komarovsky later seduces the protagonist's love interest. The title character's half-brother Evgraf raises the child born of his relationship with Lara. For 10 points, name this Russian novel following the physician Yurii written by Boris Pasternak.
ANSWER: ***Doctor Zhivago***

12. The proteins sevenless and bride of sevenless are necessary for the development of this organism's compound eye, which contains eight photoreceptors in each ommatidium (OH-mah-TID-ee-um). The theory of sex-linked genes was first put forth after studying the inheritance of eye color in this organism, whose four-chromosome genome and one-month life cycle make it ideal in genetics research. For 10 points, Thomas Hunt Morgan's research concerned what insect with scientific name *Drosophila melanogaster* (droh-SOFF-ill-uh meh-LAN-oh-gas-ter)?
ANSWER: common **fruit fly** [or **vinegar fly**; or ***Drosophila*** *melanogaster* before read; prompt on **fly**]

13. The Alpher-Bethe-Gamow paper was early support for the nucleosynthesis caused by this phenomenon. Occuring during the Planck epoch, this period was quickly followed by cosmic inflation. Supported by the existence of the cosmic microwave background radiation, it occurred about 13.7 billion years ago. For 10 points, name this most popular theory regarding the formation the formation of the universe, which states that the universe was once dense but expanded rapidly.
ANSWER: the **Big Bang** theory

14. In this work, the lawyer McBryde claims it is scientifically proven that dark-skinned people always lust after lighter-skinned people. That argument is presented in a trial during which it is revealed that Ronald Heaslop forced his mother to leave the title location to prevent her from testifying. In this novel, after panicking during a visit to the Marabar Caves with Mrs. Moore, Adela Quested mistakenly accuses Dr. Aziz of attempted rape. For 10 points, name this novel by E. M. Forster.
ANSWER: *A **Passage to India***

15. A microprocessor architecture by this name has been jointly developed by Sony, Toshiba, and IBM, and is used in the PlayStation 3. Rotating thunderstorms are known as "super-" ones of these objects. In electrochemistry, an object called by this name has electrolytic and voltaic varieties. In biology, those of plants have a namesake "wall" made of cellulose, which is missing in those of animals. For 10 points, name this smallest unit of life.
ANSWER: **cell**

1A. Name the Norwegian composer and pianist who composed "In the Hall of the Mountain King" for his incidental music to *Peer Gynt*.
ANSWER: Edvard Hagerup **Grieg**

1B. What nearly massless particle, generated from annihilation reactions, travels at speeds near the speed of light and can pass through regular matter?
ANSWER: **neutrino**s

2A. This is a 10-second calculation question. Evaluate the expression n squared plus the square root of the quantity (n plus two), when n equals two.
ANSWER: **6**

2B. This is a 10-second calculation question. Find the median of the set 8, 4, 9, 2, 6, 14.
ANSWER: **7**

3A. Name the leader killed on Christmas Day in 1989 after a revolution overthrew his twenty-four year Communist regime in Romania.
ANSWER: Nicolae **Ceausescu** (chow-CHESS-cue)

3B. What former ruler is known posthumously as the "Showa Emperor" and was forced to admit he was not divine after his country lost World War II?
ANSWER: Michinomiya **Hirohito** (HEE-ro-HEE-toe)

4A. Identify the noun case, whose name derives from the Latin word for "to give," and is used to indicate an indirect object in some Indo-European languages.
ANSWER: **dative**

4B. Identify the figure of speech which compares one thing to another using the terms "like" or "as."
ANSWER: **simile**

5A. Name the French sociologist who wrote about the effects of *anomie* in his study, *Suicide*.
ANSWER: Emile **Durkheim**

5B. What popular TV show stars Hugh Laurie as the title wisecracking doctor, who is assisted by Chase and Foreman?
ANSWER: *House*

6A. This is a 20-second calculation question. If theta is a second-quadrant angle such that cosine theta equals negative three fifths, find tangent theta.
ANSWER: **-4/3** [or **-1 1/3** or **-1.33...** repeating]

6B. This is a 20-second calculation question. Find the circumcenter of the triangle formed by the points (3,5), (3,8), and (6,8).
ANSWER: **(3,8)** [for an isosceles right triangle, the circumcenter is just the vertex opposite the hypotenuse]

7A. This is a 30-second calculation question. David places three coins in a jar one day, four coins in the jar the next day, five coins in the jar the following day, and so on, increasing by one each day until a day when he places 20 coins in the jar. Find the total number of coins he has placed in the jar.
ANSWER: **207**

7B. This is a 30-second calculation question. Circle O has a radius of 5. Points A and B lie on Circle O. If the sine of angle AOB is one-half, find the largest possible length of arc AB. Express your answer as an improper fraction in terms of pi.
ANSWER: **25/6 pi** [or **25 pi over 6**]

8A. What power forward was teamed with Ray Allen and Paul Pierce after being traded by the Timberwolves to the Boston Celtics in 2007?
ANSWER: Kevin **Garnett**

8B. One artist from this country created the lithograph series *The Disasters of War*, while another painted the *Rokeby Venus* and *Las Meninas*. Name this Iberian nation home to Francisco Goya and Diego Velasquez.
ANSWER: Kingdom of **Spain** [or Reino de **España**]

9A. Identify the Belgian surrealist who painted a picture of a pipe labeled "this is not a pipe" called *The Treachery of Images* and depicted a man behind an apple in his *The Son of Man*.
ANSWER: Rene Francois Ghislain **Magritte**

9B. Which space craft disintegrated on January 28, 1986, killing the seven people aboard, including teacher Christa McAuliffe?
ANSWER: Space Shuttle **Challenger** [or **OV-099**]

10A. Name Burma's largest river, which flows south into the Andaman Sea.
ANSWER: **Irrawaddy** River

10B. Name the American novelist who created Oedipa Maas and Tyrone Slothrop in *The Crying of Lot 49* and *Gravity's Rainbow*.
ANSWER: Thomas **Pynchon**

1. A song in this play begins "full fathom five thy father lies." Its characters include the clown Trinculo and the drunken butler Stephano. In this play, Antonio usurps his brother as Duke of Milan. One character in this play is faithfully served by Gonzalo, and other characters include the monstrous Caliban and the imprisoned spirit Ariel. For 10 points, name this Shakespeare play in which Miranda and her father Prospero are trapped on an island and which is titled after a storm.
ANSWER: The **_Tempest_**

015-12-36-07117

2. According to Babinet's (BAB-in-AYS) principle, the results of this phenomenon are the same whether the object encountered is a narrow solid object or a narrow slit. When that slit is a circular aperture (APP-er-tyur), Airy disks form due to this phenomenon. Thomas Young's double-slit experiment used this phenomenon to show the wave-like nature of light. For 10 points, name this bending of light around an obstacle, which should not be confused with reflection or refraction.
ANSWER: **diffraction** [do not accept "refraction"]

003-12-36-07118

3. In one opera by this composer,the horse Grane (GRAHN-uh) carries its rider to her funeral pyre, which also destroys the Gibichung hall. A "death-curse" is sung by the wooer of several maidens guarding a treasure in another of his operas. The sisters of Brunhilde (broon-HIL-duh) gather as this composer's most famous piece plays. *The Twilight of the Gods* and *The Rhine-Gold* were composed by, for 10 points, what composer, who included "The Ride of the Valkyries" in his *Ring Cycle*?
ANSWER: Richard **Wagner** [or Wilhelm Richard **Wagner**]

020-12-36-07119

4. H.L. Mencken gave biased reporting on this case for the *Baltimore Sun*. The prosecutor for this case was asked who Cain's wife was and whether God created the world in six days; that lawyer died five days after the trial. The defendant in this case was fined one hundred dollars for violating the Butler Act. That man was defended by Clarence Darrow, who was set against William Jennings Bryan. For 10 points, name this case in which a Tennessee substitute was charged with teaching evolution.
ANSWER: **Scopes** Monkey Trial [or Scopes **Monkey** Trial; or *State of Tennessee v. **Scopes***]

080-12-36-07120

5. One of this kingdom's residents traveled to Sparta with Pisistratus. Tiresias told another resident to carry an oar inland on this place. One woman from this place recognized her master by a scar on his leg. Another woman from this home of Euryclea ("you"-ruh-"CLAY"-ah) unwove a shroud every night to avoid marrying her suitors. The king of this island took ten years to return to this place after the end of the Trojan War. For 10 points, name this island homeland of Penelope, Telemachus, and Odysseus.
ANSWER: **Ithaca**

118-12-36-07121

6. This man was the target of Operation El Dorado Canyon, in which his adopted daughter was killed. He came to power by overthrowing King Idris and outlined his philosophy in the *Green Book.* in 2009, he welcomed to his country Abdel al-Megrahi, the "Lockerbie bomber." Recently, the International Criminal Court issued an arrest warrant for him, and his attacks against rebels in Benghazi ushered the establishment of a no-fly zone over his country. For 10 points, name this Libyan dictator.
ANSWER: Muammar Muhammad al-**Gaddafi**

7. During this election, the governor of Oregon attempted to replace a Republican elector with a Democratic one. A fifteen member Electoral Commission including Joseph Bradley decided the results of this election two days before inauguration. That commission's decision may have been influenced by one man agreeing to take federal troops out of the South to beat Samuel Tilden. For 10 points, name this election that ended Reconstruction in exchange for making Rutherford B. Hayes President.
ANSWER: Presidential Election of **1876**

8. Prehistoric species belonging to this order include Palorchestes (PAL-or-KESS-teez) and Diprotodon (dye-PRO-tow-don). Due to convergent evolution, this order contains the cat-like quoll (KWOLL) and the wolf-like thylacine (THY-lah-seen). The only North American species in this order is the opossum. For 10 points, name this order of mammals that carry their young in a pouch, which include Australian species such as the wombat (WAHM-bat) and kangaroo.
ANSWER: **Marsupial**ia [or **marsupial**s]

9. This concept is sometimes characterized as an escape from the "forest" of kilesas. In Hinduism, moksha is a precondition for it, and in Jainism, it comes at the release of all aghatiya karmas. In Mahayana Buddhism, bodhisattvas seek to help all sentient beings attain this state while achieving it themselves. Deemed the "ultimate happiness" by the Buddha, for 10 points, name this transcendent state that results from an escape from suffering.
ANSWER: **nirvana**

10. A pair function partially named for this geometric object is defined as e to the x plus or minus e to the negative x, all over 2. Its degenerate form is a pair of intersecting lines, which occurs when its discriminant is zero. It can be produced by the intersection of a plane with both halves of a double cone. This figure has an eccentricity greater than one and possesses two asymptotes and two foci. For 10 points, name this conic section which can be produced by the equation y = 1/x ("y equals one over x").
ANSWER: **hyperbola**

11. The creator of this game was honored in two separate instances, once in the Alliances expansion as Phelddagrif (FELL-duh-griff) and as himself in the 2004 parody set, Unhinged, as Richard Garfield, Ph.D. Besides standard "Friday Night" matches, and the increasingly popular Commander format, players of this game can participate on gaming systems with *Duels of the Planeswalkers.* For 10 points, name this trading card game in which players tap land for mana in order to cast spells.
ANSWER: *Magic: the Gathering* [or **MTG**]

12. This play features a Mexican woman selling "flores para los muertos." In this play, one character reveals that her husband, Allan Grey, committed suicide because she discovered his homosexuality. That character begins seeing Mitch Mitchell after moving to New Orleans to live with her sister Stella. The protagonist is driven insane when Stella's husband Stanley Kowalski rapes her. For 10 points, name this play about Blanche DuBois, who rides the title conveyance, by Tennessee Williams.
ANSWER: *A Streetcar Named Desire*

13. This person expressed a concern during the 2008 election that Barack Obama "may have anti-American views." This person claimed the only question her family would answer on the census would be the number of people in the home. She gave a response to the State of the Union where she repeatedly faced the wrong camera. For 10 points, name this controversial member of the House of Representatives, a Tea Party-endorsing Minnesotan.
ANSWER: Michelle Marie **Bachmann**

14. These geologic structures can exhibit alternating light and dark bands called ogives. Isostatic rebound is caused by an absence of these objects. A kettle lake is the remnant of these structures, which also leave behind drumlins. These objects can turn mountain valleys into U-shaped valleys. Much of the geology of the Canadian shield is due to these structures, which also create fjords. For 10 points, name this large mass of ice that can calve to form icebergs.
ANSWER: **glaciers**

15. This author claimed that a woman must have money and the title entity to write fiction in her essay *A Room of One's Own.* In one of her novels, Lily Briscoe struggles with her painting, and a trip to the title structure is planned by the Ramsays. She also wrote about the World War I veteran Septimus Smith, who commits suicide in a novel in which the title character Clarissa hosts a party. For 10 points, identify this modernist author of *To the Lighthouse* and *Mrs Dalloway.*
ANSWER: Adeline Virginia **Woolf**

1. The Hyde Amendment barred federal funding for this practice, which is opposed by Randall Terry's Operation Rescue. This practice was declared legal up until the point of "viability" as part of a right to privacy in a case whose plaintiff was Norma McCorvey. The "partial-birth" type of this practice is illegal. For 10 points, name this practice supported by the pro-choice movement and given legal basis in *Roe v. Wade*, the termination of a pregnancy.
ANSWER: **abortion**

080-12-36-07132

2. This novel's protagonist repeatedly steals newspapers to judge his chances of escape from the police before being captured after a chase across several rooftops. That protagonist, who meets Jan Erlone while working as a chauffeur, is defended by the Communist lawyer Boris Max in a trial over the death of a white girl he accidentally smothers with a pillow named Mary Dalton. For 10 points, name this novel about Bigger Thomas written by Richard Wright.
ANSWER: *Native Son*

014-12-36-07133

3. If the dorsal and ventral parts of this organ fail to fuse, it is called "divisum". This organ produces somatostatin (so-MAT-oh-STAT-in) from its delta cells. Other cells in this organ's islets of Langerhans (LAHN-ger-HAHNS) are the alpha and beta cells, which secrete hormones that, respectively, increase and decrease the blood sugar concentration. For 10 points, name this organ that is part of both the digestive and endocrine (EN-doe-krinn) systems and produces glucagon and insulin.
ANSWER: **pancreas**

003-12-36-07134

4. One side's forces during this battle strategically camped at Senlac Hill until tricked into leaving it. This battle was fought a short time after Harald Hardrada was killed at the Battle of Stamford Bridge. The events of this battle were chronicled in the Bayeux Tapestry, which depicted the alleged arrow in the eye wound received by Harold Godwinson. For 10 points, identify this 1066 battle in which William the Conqueror's victory led to his becoming the first Norman king of England.
ANSWER: Battle of **Hastings**

126-12-36-07135

5. Some types of this component use RISC, such as the SPARC and PowerPC ones. The 80386 one of these gave rise to the i386 architecture. This component almost always contains a digital circuit to perform operations such as bitwise logic, called an arithmetic logic unit, and there was a flaw in the floating point unit of the P5 Pentium one of these. For 10 points, name this part of a computer that carries out instructions from a computer program and is the primary product of Intel.
ANSWER: **C**entral **P**rocessing **U**nits [or micro**processor**s]

066-12-36-07136