1. In this work, one of the characters visits Auerbach's Cellar, and one character in this work appears as Phorkyas and informs the Trojan women of Menelaus' (men-ih-LAY-us) bad intentions. Early in this work, a black poodle follows the title character into his study before undergoing a metamorphosis, and the title character kills Valentin prior to the death of his lover Gretchen. For 10 points, name this work by Johann Wolfgang von Goethe (GURR-tuh) in which the title scholar bargains with the devil.
ANSWER: _**Faust**_

030-13-90-04101

2. One part of this organelle is amplified and assayed in a common bacterial metagenomics technique. This organelle is targeted by macrolides, which are selective for the prokaryotic versions of this organelle. These organelles are activated by the Kozak consensus sequence in eukaryotes, in which they have a 40S and 60S subunit. This organelle contains A, P and E sites through which transfer RNAs are shuffled during translation. For 10 points, name these organelles responsible for protein synthesis.
ANSWER: **ribosome**

048-13-90-04102

3. Rainer Maria Rilke's "The Archaic Torso of Apollo" is written in this form. *Amoretti* and *Astrophel and Stella* are two examples of "sequences" of works in this form, which often contain a change in tone called the *volta*, or "turn." Petrarch developed the "Italian" form of this type of poem, whose "English" counterpart is exemplified by a poem beginning, "Shall I compare thee to a summer's day?" For 10 points, name these 14-line poems, many of which were written by Shakespeare.
ANSWER: **sonnet**s

080-13-90-04103

4. A GUI widget toolkit for this language is Swing. The Eclipse IDE is written in this language, which was developed by James Gosling. This language offers public, protected, default and private as access specifiers. Class files containing bytecode from this language are typically aggregated in a dot-jar file. For 10 points, identify this object-oriented programming language, originally developed at Sun Microsystems, and noted for its portability since it runs on a namesake "virtual machine".
ANSWER: **Java**

066-13-90-04104

5. Partial protection from this virus can be conferred when the delta 32 mutation occurs on chromosome 3, altering the gene that codes for CCR5. gp120 and gp41 are found on this virus's envelope, enabling it to bind to CD4 receptors on the surface of some T cells. Symptoms of opportunistic infections that follow this virus include Kaposi's sarcoma. For 10 points, identify this retrovirus that attacks cells of the immune system and causes AIDS.
ANSWER: **HIV** [or **human immunodeficiency virus**; do not accept or prompt on "AIDS" or "acquired immunodeficiency syndrome"]

233-13-90-04105

6. This author created a character who works unhappily at the New Albion ad agency. This writer created Gordon Comstock, as well as Pilkington and Frederick, who own Foxwood and Pinchfield respectively. In a novel by him, the protagonist receives a book written by Emmanuel Goldstein. Charrington betrays Julia and her lover in this man's novel about Winston Smith. Mr Jones is overthrown by Snowball and Napoleon in another novel by him. For 10 points, name this author of *Animal Farm* and *1984*.
ANSWER: George **Orwell** [or Eric Arthur **Blair**]

7. The stereographic projection maps a sphere onto one of these objects. The angle between two of these objects is called the dihedral angle. These objects can be defined with a single point and a normal vector. These objects have the general equation a x plus b y plus c z plus d equals zero. If these objects are not parallel, their intersection is a line. For 10 points, name these flat mathematical objects that also name the coordinate system used by Descartes.
ANSWER: **plane**s

8. ?The forty-five sites believed to house these objects include several in Latakia. The use of these items in the Ghouta area in August 2013 led to analysis of whether the "red line" had been crossed. John Kerry alleged that these items killed 1400 people. For 10 points, identify these Geneva Convention-violating items which Bashar Assad agreed to remove from Syria after U.S. pressure.
ANSWER: Syrian **chemical weapon**s

9. In the center of this painting, a man with a brown bandanna can be seen looking upward toward the center of the painting. The towers of Notre Dame appear on the right side of this painting covered by white smoke, and a bearded man wearing a scarf and top hat can be seen holding a rifle on the left. In this painting, a boy wields two pistols next to the central bare-breasted woman, who is holding a tricolored flag. For 10 points, name this painting by Eugène Delacroix.
ANSWER: *Liberty Leading the People* [or La *Liberté Guidant le Peuple*]

10. The Democrats held their convention for this election in St. Louis, making it the first held west of the Mississippi River. This election saw controversy over how to allocate the twenty electoral votes from Florida, Louisiana, South Carolina, and Oregon, leading to a compromise where Reconstruction was ended but the Republican candidate won. For 10 points, identify this hotly-disputed election which Samuel Tilden lost to Rutherford B. Hayes.
ANSWER: Election of **1876**

11. A character in this novella wonders if "ever'body in the whole…world is scared of each other" and volunteers to shoot an old dog. Characters in this novella include Crooks, Carlson, and Slim. The protagonist of this novella, who really just wants to tend rabbits on a farm, accidentally kills a puppy, foreshadowing his accidental murder of Curley's wife. In this novella, George is ultimately obligated to step in and kill his friend Lennie. For 10 points, name this novella by John Steinbeck.
ANSWER: *Of Mice and Men*

12. The concentration of this compound is plotted on the Keeling curve. This compound was released from Lake Nyos after a limnic eruption in 1986. This compound drives ocean acidification because it reversibly forms carbonic acid when dissolved in water. This compound is fixed by the Calvin cycle and, after water vapor, it is the second most abundant greenhouse gas in the Earth's atmosphere. For 10 points, identify this compound with chemical formula CO_2.
ANSWER: **carbon dioxide** [or **CO$_2$** until it is read]

13. This author of "The Laughing Man" created Mr. Antolini, an English teacher who ambiguously brushes the hair of a former student. This man wrote about the Glass family in *Nine Stories*, a collection that contains "A Perfect Day for Bananafish." This author also created a sullen youth who has an epiphany watching his sister Phoebe ride a carousel. For 10 points, name this reclusive writer who created Holden Caulfield in *The Catcher in the Rye.*
ANSWER: J. D. **Salinger** [or Jerome David **Salinger**]

14. This writer parodied Robert Southey in his poem *The Vision of Judgment*. This friend of Thomas Moore died at Missolonghi. The title character feels guilt for Astarte's death in his "metaphysical drama", *Manfred*. This poet exclaims "A heart whose love is innocent!" about a woman whose eyes have "all that's best of dark and bright". This poet of "She Walks in Beauty" also wrote a satire about a womanizing Spanish nobleman. For 10 points, name this Romantic poet of *Don Juan*.
ANSWER: Lord **Byron** [or George Gordon **Byron**, 6th Baron Byron]

15. An author from this country wrote about a man who writes diary entries to his alternate personality. A theater troupe rehearsing *The Rules of the Game* is interrupted in a play from here called *Six Characters in Search of an Author.* Another author from here wrote about William of Baskerville's investigation of a series of murders in a medieval abbey in *The Name of the Rose.* For 10 points, name this country home to Luigi Pirandello (peer-un-DELL-oh) and Umberto Eco (EK-koh).
ANSWER: **Italy**

1A. What Italian composer wrote the opera *Turandot*?
ANSWER: Giacomo **Puccini**

1B. What classic Hollywood film is set in World War II-era Africa and stars Humphrey Bogart as club owner Rick Blaine?
ANSWER: ***Casablanca***

2A. What African country contains the cities of Swakopmund, Rehoboth, and Windhoek?
ANSWER: **Namibia**

2B. What two-dimensional diagrams are used in classical mechanics to depict the forces acting on an object?
ANSWER: **free body** diagrams [or **FBD**; or **force** diagrams]

3A. This is a 20-second calculation question. If four to the nth power is 256, what is two to the nth power?
ANSWER: **16**

3B. This is a 20-second calculation question. If one were to take the jacks, queens, kings, and aces out of a standard deck of cards, what is the probability that the card on top of the new deck is a club?
ANSWER: **1/4** [or 0.**25**; or obvious equivalents]

4A. What Minnesota Congresswoman, who confused the birthplace of John Wayne Gacy with that of John Wayne during her 2012 Presidential run, announced that she will not seek re-election in 2014?
ANSWER: Michelle **Bachmann**

4B. What element was used to scatter alpha particles into a ring of zinc sulfide in Ernest Rutherford's experiment that "discovered" the atomic nucleus?
ANSWER: **gold** [or **Au**]

5A. In the Sermon on the Mount, Jesus claims that one cannot serve both God and what term for money or earthly goods?
ANSWER: **Mammon**

5B. Name the colleague of William James who examined the interaction between man and works of art in *Art as Experience* and argued that schools should play a part in social reform in *Democracy and Education.*
ANSWER: John **Dewey**

6A. What German Field Marshal was known as the "Desert Fox" for his early successes in North Africa during World War II?
ANSWER: Erwin Johannes Eugen **Rommel**

6B. Which historian is considered one of the first realists because of the Melian Dialogue in his *The History of the Peloponesian War*?
ANSWER: **Thucydides**

7A. Which ferromagnetic, blue-gray metallic element is at the active center of vitamin B12?
ANSWER: **cobalt** [or **Co**]

7B. What type of piece, with a name meaning "joke", replaced the minuet as the standard third movement of symphonies?
ANSWER: **scherzo**

8A. In Greek myth, what type of object did Cronus mistakenly swallow, believing it to be his son Zeus?
ANSWER: **rock** [or **stone**; or same-knowledge equivalents]

8B. What Islamic caliphate dominated the Muslim world between the death of Ali and the ascent of the Abbasids?
ANSWER: **Ummayad** Caliphate [or **Ummayad**s]

9A. This is a 30-second calculation question. If the diagonals of a rhombus are of length 10 and 24, what is the length of one side of the rhombus?
ANSWER: **13**

9B. This is a 30-second calculation question. If sine of theta equals 2/3, give all possible values for sine of 2 theta. Express your answers in simplest radical form.
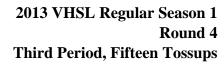ANSWER: **plus or minus 4** times the square **root** of **5, over 9** [or **4** times the square **root** of **5, over 9 and negative 4** times the square **root** of **5, over 9**; do not prompt on partial answer]

10A. On March 15 of what year was Julius Caesar assassinated at the Senate?
ANSWER: **44** BCE

10B. Which American Nobel Laureate dedicated her novel *Beloved* to the "sixty million or more" who died in slavery?
ANSWER: Toni **Morrison**

1. These proteins can be sorted into different classes by spectrotyping, and cells that secrete these proteins have characteristic clockface chromatin. A version of these proteins conjugated to horseradish peroxidase are used to stain a membrane in Western blots. They are created through a process of somatic hypermutation and VDJ recombination, and they have two light chains bonded two heavy chains. They are produced by B cells. For 10 points, name these Y-shaped immune proteins that bind to antigens.
ANSWER: **antibodies** [or **immunoglobulins**]

048-13-90-04117

2. This country's Grasberg mine, the world's largest gold mine, is located near its tallest mountain. This country's Lombok Strait is part of an ecological "line" that gives its name to the Wallacea region. Puncak Jaya is located in this country whose manmade attractions include the Borobudur temple. Much of this country makes up the Sunda Islands, including Bali. The Straits of Malacca separate its islands of Sumatra and Java. For 10 points, name this archipelagic country of Southeast Asia.
ANSWER: **Indonesia**

232-13-90-04118

3. A disco song about one of these businesses mentions meeting "a movie star or maybe an Indian chief" and was the most successful single by Rose Royce. In *Shark Tale*, the Will Smith-voiced fish Oscar works at one of them. On *Breaking Bad*, Walter White purchases one of these businesses to hide his money after angrily quitting his job there in the first episode.For 10 points, name this type of facility where rotating scrubbers and a conveyer belt are used to clean Subarus or Fords.
ANSWER: **car wash**es

080-13-90-04119

4. During the primaries in this election, Charles Lindbergh's lawyer, Henry Breckinridge, attempted to earn the nomination.. After this election, James Farley joked, "As Maine goes, so goes Vermont." While *the Literary Digest* predicted Republican victory in this year, George Gallup correctly picked the winner. This election was a rout of the Republican candidate, Alf Landon. For 10 points, name this Presidential election, a landslide for Franklin Roosevelt in his first re-election campaign.
ANSWER: Election of 19**36**

052-13-90-04120

5. This team was coached in the 1990's by Barry Alvarez, who coached this team's most recent bowl game. Russell Wilson transferred to this team from NC State and set a passing efficiency record while here. Gary Andersen took over head coaching duties for this team in 2013 after Bret Bielema left for Arkansas. This football team battles for a trophy known as Paul Bunyan's Axe against the University of Minnesota. For 10 points, name this collegiate football team, which plays home games in Madison.
ANSWER: University of **Wisconsin** Badgers

140-13-90-04121

6. Unstable equilibrium occurs at a local maximum for this quantity when plotted against position, since force is equal to the negative position derivative of it. In an electric field, it is proportional to the product of two charges divided by the distance between them. For a spring, it is equal to one-half k x-squared, while its gravitational form is mgh. For 10 points, name this energy stored in a system, which is converted into kinetic energy.
ANSWER: **potential energy** [prompt on **energy**]

226-13-90-04122

7. The slope of a coexistence curve is proportional to a form of this quantity divided by temperature. This quantity is the integral of the constant-pressure heat capacity with respect to temperature. It equals internal energy plus PV. The most common statement of Hess' Law is that this quantity is a state function. For 10 points, name this quantity, the heat transferred at constant pressure, which often measures the energy change associated with a chemical reaction.
ANSWER: **enthalpy** [or **latent heat** before "heat capacity"; prompt on "heat" or "heat of reaction"]

190-13-90-04123

8. In one scene in this play, one character declares that "the hungry lion roars, and the wolf behowls the moon." In this play, a group of townspeople led by Peter Quince perform the play *Pyramis and Thisbe* for the wedding of Theseus. One character in this play is given the head of a donkey while in the forest surrounding Athens; that character is Nick Bottom. This play includes the lovers Lysander and Helena, as well as Hermia and Demetrius. For 10 points, name this Shakespeare play which features Oberon and Titania, as well as the trickster Puck.
ANSWER: *A **Midsummer Night's Dream***

186-13-90-04124

9. Penelope Barker instigated a boycott of this product by women in Edenton, North Carolina. This commodity was transported by the *Dartmouth, Eleanor,*, and *Beaver* The Townshend duty on this product was *not* lifted after the Boston Massacre. Parliament permitted this product to be exported duty-free in a 1773 act that infuriated the Sons of Liberty. For 10 points, name this foodstuff which was therefore dumped into Boston Harbor.
ANSWER: **tea**

190-13-90-04125

10. John Kerry's 2004 presidential campaign borrowed the title of a poem by this author which pleads for America to "be the pioneer on the plain." A man croons, "I can't be satisfied" to a "drowsy syncopated tune" in a poem by this author. This poet wondered, "Does it explode?" and, "Does it dry up like a raisin in the sun?" in his poem, "Harlem." For 10 points, name this poet of the Harlem Renaissance who wrote about "a dream deferred."
ANSWER: Langston **Hughes**

190-13-90-04126

11. The Duffy antigen is expressed on the surface of these cells. The breakdown of these cells produces bilirubin as a byproduct. The production of these cells is controlled by erythropoietin (uh-rith-ro-POI-uh-tin), and they can express Rhesus (REE-suss) factor. These cells are affected by a hereditary disease that confers partial resistance to malaria and lack a nucleus. That disease causes them to take on a sickle shape that can damage the spleen. For 10 points, identify these cells that carry hemoglobin and deliver oxygen to tissues.
ANSWER: **red blood** cells [or **RBC**s; or **erythrocyte**s; or **erythroid** cells]

066-13-90-04127

12. When describing his father's work, a character in this novel tells a painter to imagine "a kitchen table...when you're not there." That character's death in World War I is mentioned in the chapter "Time Passes." Charles Tansley stays with his teacher and his teacher's family at a summer home, annoying Lily Briscoe by telling her women can't paint. For 10 points, name this novel about the Ramsay family by Virginia Woolf that ends with three character approaching the title structure.
ANSWER: *__To the Lighthouse__*

13. In one of this man's roles, he raises money to restore the sight of the blind Flower Girl. In another film, he accidentally ingests a large amount of cocaine that he mistakes as salt. He portrayed a character who is harried by the prospector Big Jim McKay in *The Gold Rush.* In another film, his character passes through the giant gears of a factory machine. For 10 points, name this silent film star known for his "little tramp" character and for directing *City Lights* and *Modern Times*.
ANSWER: Charlie **Chaplin**

14. During this battle, Nathan Bedford Forrest was wounded in the "Fallen Timbers" incident. After it took place, President Lincoln said he couldn't spare the winning commander because "he fights." Much of the fighting in this battle occurred on a "Sunken Road," near the "Hornet's Nest." Albert Sidney Johnston died on the first day, and it was won by Ulysses Grant's Army of the Tennessee. For 10 points, name this April 1862 battle, the bloodiest two-day battle of the Civil War.
ANSWER: Battle of **Shiloh** [or Battle of **Pittsburg Landing**]

15. A rare character in this language is the "inverted nun." A revival of it occurred during the period known as the "Haskalah," and a symbol in this language that refers to God is known by the Greek word "tetragrammaton." Magazines published in this language included *Hameassef,* which was published in Konigsberg, and HaZvi, which was edited by Eliezer Ben-Yehuda. The Torah was written in this language. For 10 points, name this language, which, with Arabic, is an official language of Israel.
ANSWER: **Hebrew** [or **Modern Hebrew**; or **Classical Hebrew**, do not accept "Yiddish"]

1. This statement applies whenever two operators have non-zero commutators. It says that the product of certain pairs of quantities is greater than or equal to h-bar over two; occasionally, those two quantities are energy and time. This statement's standard form states that it is impossible to measure both the position and momentum of a particle to infinite precision. For 10 points, name this principle named for Werner Heisenberg.
ANSWER: Heisenberg **uncertainty principle**

226-13-90-04132

2. James Hadfield attempted to assassinate this king at the Drury Lane Theatre. During this king's rule, Ireland was joined to the United Kingdom by the 1801 Act of Union. This king was advised by Lords Grenville and North, and his government passed the Intolerable Acts. His madness later in life may have resulted from porphyria. For 10 points, name this King of England who ruled during the American Revolution.
ANSWER: **George III** [prompt on **George**]

186-13-90-04133

3. This quantity equals the relative atomic mass of an electron divided its rest mass, and also is Faraday's constant over elementary charge. The namesake of this quantity discovered that equal volumes of gas contain an equal number of molecules. Boltzmann's constant equals the gas constant divided by this constant. It's the number of atoms of carbon-12 in 12 grams. For 10 points, name this constant, the number of atoms in a mole, approximately 6.02 times 10 to the 23rd.
ANSWER: **Avogadro**'s number [or **6.02**2 **times 10 to the 23rd** until it is read; prompt on "mole"]

190-13-90-04134

4. This scientist developed a set of three angles that can be multiplied to produce any rotation of a rigid body. This scientist proved that no circuit will cross each of seven edges once before returning to its starting point, thus solving the Seven Bridges of Konigsberg problem. He sometimes names the number that is the base of the natural logarithm and approximately equal to 2.71828. For 10 points, name this Swiss mathematician and physicist.
ANSWER: Leonhard **Euler**

080-13-90-04135

5. Bradford Washburn went to this mountain to prove Frederick Cook never climbed it. It is located in a national park near the city of Healy. This peak's name is vigorously protected by Congressmen from Ohio despite its home state wishing to change it. This mountain was named as a political statement by a gold prospector. Referred to by the Athabaskans as "Denali," it was first seen by George Vancouver. For 10 points, name this highest mountain in North America.
ANSWER: Mount **McKinley** [or Mount **Denali** until it is read]

052-13-90-04136

What playwright wrote about former baseball player Troy Maxson in his play *Fences*?
ANSWER: August **Wilson**

This is a calculation question. An equilateral triangle is inscribed in a circle of radius 3 inches. What is the length of an altitude of the triangle?
ANSWER: **4.5** inches [or **9/2** inches]