1. Two rival organizations that were created as a part of this program were headed by Harold Ickes (ICK-iss) and Harry Hopkins. This program included an organization based in Muscle Shoals that provided power in the Tennessee Valley. Most of this program was set up during the Hundred Days, and it included the Works Progress Administration and the Civilian Conservation Corps. For 10 points, name this program started in 1933 by Franklin Roosevelt to combat the Great Depression.
ANSWER: **New Deal**

023-13-95-04101

2. In one play by this man, Tereus has been transformed into a Hoopoe. This playwright wrote about Dionysus's journey to the underworld with Xanthias to bring back one of the two great tragedians. This writer wrote about two men building Cloudcuckooland to block off sacrifices to the gods as well as a play in which the title chorus croaks "Bre-ke-ke-kex-koax-koax." For 10 points, name this Ancient Greek comedy writer of *The Birds* and *The Frogs.*
ANSWER: **Aristophanes** (air-ih-STAHF-uh-nees)

186-13-95-04102

3. These molecules are quantified using the Bradford assay. Tandem mass spectrometry is usually applied to these molecules. These molecules are assembled in the N terminal to C terminal direction. Salt bridges and hydrophobic core collapse help form their three-dimensional structure. Their monomers are sorted into polar, nonpolar, and charged groups by their side chains, which are linked during translation. For 10 points, name these molecules that are synthesized from amino acids by ribosomes.
ANSWER: **proteins** [or **peptides**; or **enzyme**s]

048-13-95-04103

4. This man painted a woman inside and in the alleyway next to a brick building in *The Little Street.* This artist included a foot-warmer on the floor of a painting in which a blue and yellow clad woman pours a liquid into a container, one of only thirty-four paintings he produced. This artist painted his birthplace from across a river with fishing boats in his *View of Delft*. For 10 points, name this Dutch artist who painted *Girl with a Pearl Earring* and many scenes of women working indoors.
ANSWER: Johannes **Vermeer** [or Jan **Vermeer**; or Johan **Vermeer**]

088-13-95-04104

5. The amount of water in a sample can be determined using a variant of this procedure named for Fischer. A stopcock is typically used to control the speed of this procedure. This procedure ends when the equivalence point is reached, which can be detected by the pH level, or through the use of an indicator such as methyl red or phenolphthalein. For 10 points, identify this laboratory procedure which determines the concentration of a chemical in a solution, often by adding a base to an acid until one is neutralized.
ANSWER: acid/base **titration** [or **volumetric analysis**; or **titrimetry**]

239-13-95-04105

6. This man was the father of Amphion's wife, who lost all her children for claiming to be greater than Leto. This man's son received an ivory shoulder from Demeter as recompense for this man's scheme. This father of Niobe (nai-OH-bee) was chosen to give a banquet for the Olympians, but responded by murdering his son Pelops and trying to feed him to the gods. For 10 points, name this mythical king whose eternal punishment in the underworld is to starve with food always in sight, but out of reach.
ANSWER: **Tantalus**

7. A failed conspiracy to overthrow this man was orchestrated by the Marquis of Cinq-Mars. His rival Marie de Medici was exiled to Compiegne (comp-YEN) in the "Day of the Dupes." After his death in 1642, he was succeeded by Jules Mazarin. He was criticized for allying with Protestant countries during the Thirty Years War. For 10 points, identify this powerful cleric who served as Chief Minister of France under Louis XIII.
ANSWER: Cardinal **Richelieu** [or Armand Jean du **Plessis**]

8. This scientist names a period of time that precedes cosmic inflation, when gravity had not separated from the other three fundamental forces. This scientist improved upon Wien's (VEENZ) law and the Stefan-Boltzmann law in formulating a better equation to describe blackbody radiation. The energy of a wave and its frequency are related by this man's namesake constant, which shows that energy is released in discrete packets. For 10 points, name this physicist, a pioneer in quantum mechanics.
ANSWER: Max **Planck**

9. This poem celebrates several characters who embody the author's conception of the "one just man." This poem's seventh part may identify Urania with the "Heavenly Muse" invoked in its opening lines, in which the author proposes to "justify the ways of God to men." The events of this poem begin with Satan rallying his forces in Hell before seeking out Earth to seduce Adam and Eve. For 10 points, name this epic poem about the Fall of Man written by John Milton.
ANSWER: *__Paradise Lost__*

10. One work by this man contains a thought experiment about a man sitting below decks in a ship not being able to tell whether the ship is moving. That work is in the form of a conversation between Simplicio and Salviati, who attempt to convince Sagredo of the Ptolemaic and Copernican systems, respectively. For 10 points, name this scientist, whose *Dialogue Concerning the Two Chief World Systems* was banned by the Catholic Church for advocating a heliocentric universe.
ANSWER: **Galileo** [or Galileo **Galilei**]

11. This ruler moved his capital away from Amarna to Memphis. This ruler was married to Ankhesenamun (ohn-kes-en-AH-mun), and he sent forces to fight the Syrians and Hittites under his general Horemheb (HO-rem-heb). This ruler was also advised and succeeded by Ay (EYE), and he was one of the last pharaohs of the Eighteenth Dynasty. This pharaoh was buried in KV62. For 10 points, name this boy-king of Egypt whose tomb was discovered in 1922 by Howard Carter.
ANSWER: **Tut**ankhamun [or **Tut**ankhaten]

12. An American and two chemists from this country won the 2010 Nobel in Chemistry for their work in palladium-catalyzed cross-couplings. The man who theorized the existence of mesons came from this nation. A physician from here discovered induced pluripotent stem cells. A biologist from here found that, during synthesis of the lagging strand in DNA replication, short "fragments" were required. The Shinkansen bullet trains are in this country. For 10 points, name this nation home to Yukawa and Okazaki.
ANSWER: **Japan** [or **Nippon**]

13. This city has a state university complex located at Sparrow Hills; the main building of that complex forms one of the "Seven Sisters" skyscrapers in this city. Its underground metro system has the highest passenger numbers in Europe. It contains Luzhniki (looj-NEE-kee) Stadium, a complex built for the Olympic Games and named for the flood meadows on this city's namesake river. This city is home to St. Basil's Cathedral and the Kremlin. For 10 points, name this capital of Russia.
ANSWER: **Moscow**

14. *Will in the World* is a biography of this man by Stephen Greenblatt. Thomas de Quincey analyzed "the knocking at the gate" in a play by this man. This playwright also created a character who was the subject of an essay by T. S. Eliot in *The Sacred Wood* about him "and His Problems." For 10 points, name this English playwright whose sexuality has been questioned by some because a "Fair Youth" is the addressee of most of his one hundred fifty-four sonnets.
ANSWER: William **Shakespeare**

15. Dixon applied this theory to the Australian languages. A mechanism behind this theory, posited by Barnosky, is called the Court Jester hypothesis. It was originally conceived as an extension to the work of Ernst Mayr, and it was criticized in Richard Dawkins's The Blind Watchmaker. This idea is opposed to phyletic gradualism and can explain stasis in the fossil record. For 10 points, name this theory developed by Niles Eldredge and Stephen Jay Gould which states that evolution occurs in bursts.
ANSWER: **punctuated equilibrium** [prompt on **evolution**]

1A. Gioachino (jee-uh-KEE-noh) Rossini composed what opera in which the title character Figaro helps Count Almaviva woo Rosina?
ANSWER: The *__Barber of Seville__*

1B. What Greek historian recorded the funeral oration of Pericles in his *History of the Peloponnesian War?*
ANSWER: **Thucydides**

2A. What Middle Eastern country is the headquarters of Al-Jazeera and will host the 2022 FIFA World Cup?
ANSWER: **Qatar**

2B. What 19th century experiment used an interferometer floating on liquid mercury to disprove the existence of the luminiferous aether?
ANSWER: **Michelson-Morley** experiment

3A. This is a 20-second calculation question. What is the area of the circumcircle of an equilateral triangle with side-length 3?
ANSWER: **3pi**

3B. This is a 20-second calculation question. What is the maximum value of the square of the sum sine of x plus cosine of x?
ANSWER: **2**

4A. "Die Lorelei" is a famous lyric by what German Romantic poet?
ANSWER: Heinrich **Heine**

4B. What French poet wrote *A Season in Hell* and "The Drunken Boat"?
ANSWER: Arthur **Rimbaud**

5A. What 1992 treaty signed in a Dutch city created the European Union?
ANSWER: the **Maastricht** Treaty

5B. In what Herman Melville story does the title character repeatedly say he "would prefer not to" do things?
ANSWER: "**Bartleby**, the Scrivener"

6A. What stuff is called "el pelo" in Spanish and "cheveux" in French?
ANSWER: **hair**

6B. Charles Cornwallis surrendered to George Washington at what final major engagement of the American Revolutionary War?
ANSWER: Battle of **Yorktown**

7A. What rap-rock band fronted by Chester Bennington released the album *Collision Course* in 2004?
ANSWER: **Linkin Park**

7B. What anion, with formula H-minus, is commonly donated by reducing agents?
ANSWER: **hydride**

8A. What 2013 comedy subtitled "The Legend Continues" features Paul Rudd as Brian Fantana and John C. Reilly as the ghost of Stonewall Jackson?
ANSWER: *__Anchorman 2__: The Legend Continues*

8B. In Java, the try-catch statement is used to handle what conditions that "a reasonable application might want to catch", as opposed to errors?
ANSWER: __exception__s

9A. This is a 30-second calculation question. When three fair dice are rolled and the numbers shown on them are multiplied together, what is the probability the product is divisible by 5?
ANSWER: __91/216__

9B. This is a 30-second calculation question. Give all the solutions in degrees to the equation square root of quantity cosine-squared x plus cosine x equals sine of x, in the domain 0 to 360.
ANSWER: x=__60,180__

10A. What Asian country had its island of Leyte (LAY-tay) wrecked by Typhoon Haiyan in 2013?
ANSWER: __Philippines__

10B. *The Dream of the Red Chamber* and *Journey to the West* are among the great classic novels of what country?
ANSWER: __China__

1. In this novel, the murder of William is blamed on Justine Moritz after she is found to be in possession of a locket. The title character of this novel is accused of murdering Henry Clerval, and on his wedding night he loses his wife and adopted sister, Elizabeth Lavenza. Robert Walton meets the title character of this novel, who was studying at the University of Ingolstadt when he discovered how to create life. For 10 points, name this novel about a scientist and his monster by Mary Shelley.
ANSWER: *__Frankenstein__: or, the Modern Prometheus*

023-13-95-04117

2. This composer hated the recording industry and coined the term "canned music" to describe recorded pieces. He wrote a piece for the awards ceremony of an essay contest being run by the *Washington Post.* While serving as the leader of "The President's Own," this composer wrote the song "Semper Fidelis," which was made the official song of the Marine Corps. For 10 points, name this American "March King" who composed "The Stars and Stripes Forever" and is the namesake of a tuba-like brass instrument.
ANSWER: John Philip **Sousa**

023-13-95-04118

3. This man described all life as "a process of breaking down" in an essay about his depression, "The Crack-Up." That essay includes the observation, "The test of a first-rate intelligence is the ability to hold two opposed ideas in the mind at the same time." John Unger visits Percy Washington's home that rests atop a giant diamond in this man's story "The Diamond as Big as the Ritz." His most famous novel is narrated by Nick Carraway. For 10 points, name this author of *The Great Gatsby.*
ANSWER: F. Scott **Fitzgerald**

121-13-95-04119

4. Harry Hammond Hess proposed the existence of these objects to explain Wegener's (VEG-uh-nerz) earlier theory. Two of these objects move away from each other at a divergent boundary, which is also the cause of seafloor spreading. These objects, whose examples include the Eurasian and Indo-Australian one, may meet at subduction zones or faults. For 10 points, identify these large objects that slide around on the surface of the Earth's crust, and may cause earthquakes if they move suddenly.
ANSWER: tectonic **plates**

239-13-95-04120

5. A poem by this author ends with the speaker asserting he is "strong in will to strive, to seek, to find, and not to yield." This poet wrote a long poem in response to the death of his friend Arthur Hallam. Inspired by the Battle of Balaclava, this poet asked, "When can their glory fade?" in a poem that describes how "into the valley of death rode the six hundred." For 10 points, name this Victorian poet who wrote "Ulysses" and "The Charge of the Light Brigade."
ANSWER: Alfred, Lord **Tennyson**

023-13-95-04121

6. Stephen Smale discovered an eversion of this object, allowing self-intersection but not creases. Using the axiom of choice, one of these objects is doubled in the Banach-Tarski paradox. The complex plane and a point at infinity can be modeled as one of these named for Riemann. In the coordinate system named after this object, points are determined by one length and two angles. This is the shape that maximizes volume enclosed by a given surface area. For 10 points, identify this 3D generalization of a circle.
ANSWER: **sphere**s

7. On the third day of the Battle of Gettysburg, this soldier led the Michigan Brigade in holding off the cavalry of JEB Stuart. Forces under this man were supposed to be part of a multi-pronged attack with the troops of Alfred Terry. He was the leader of the Seventh Cavalry in a crushing defeat to Crazy Horse and Sitting Bull. For 10 points, name this American military commander who fought at the Battle of Little Bighorn during his "Last Stand."
ANSWER: George Armstrong **Custer**

8. This man conducted a study in which clothing merchant Mr. Jacobs delivered items to Sharon, Massachusetts. He sent letters to people in Nebraska in the "small world" experiment, which introduced the idea of "six degrees of separation." In an earlier experiment, he ordered "teachers" to administer punishments to unseen "learners." For 10 points, name this psychologist who tested people's willingness to follow authority by administering theoretically dangerous electric shocks.
ANSWER: Stanley **Milgram**

9. This number is the coefficient of all terms in the expansion of one over quantity one minus x. A proof by induction involves proving that if a claim is true for n equals k, then it is true for n equals k plus this number. It is the smallest number of real roots an odd-degree polynomial can have. A quadratic will have exactly this many roots if its discriminant is zero. It is the largest number found in the identity matrix because it is the multiplicative identity. For 10 points, name this first digit after the decimal point in pi.
ANSWER: **1**

10. He's not Gary Pinkel, but this coach was a Kent State player during the campus shootings. The team he formerly coached lost the 2004 Capital One Bowl to Iowa on a Hail Mary. This coach took over his current job after Mike Shula was fired, which caused him to abruptly leave the Miami Dolphins. His team lost a 2013 game when Chris Davis ran a missed field goal attempt back for a touchdown at the end of the Iron Bowl. For 10 points, name this football coach at the University of Alabama.
ANSWER: Nicholas "Nick" **Saban**

11. In a short story written by this author, Mr. and Mrs. Richards fall deathly ill after being unable to withstand the temptation of a sack of gold. In a novel by this author of "The Man That Corrupted Hadleyburg," Merlin is replaced by Hank Morgan after the latter correctly predicts the date of a solar eclipse. He also wrote about a character that runs away down the Mississippi River with a slave named Jim. For 10 points, name this American author who created Huckleberry Finn and Tom Sawyer.
ANSWER: Mark **Twain** [or Samuel Langhorne **Clemens**]

12. This god was unable to prevent the death of his son, Sarpedon, during the Trojan War. The goat Amalthea raised this god on Crete after he survived his father's cannibalistic intentions when his mother wrapped a stone in baby clothes. He dispatched Hermes to kill the all-seeing guard Argos to free Io, a mistress he had turned into a cow. This god's many affairs enraged his sister and consort, Hera. For 10 points, name this thunderbolt-throwing king of the gods in Greek mythology.
ANSWER: **Zeus** [or **Jupiter**]

080-13-95-04128

13. This city's namesake university is the home of the S.I. Newhouse journalism school. This city originated from the village of Webster's Landing and the brine-harvesting center of Salina. The Everson Museum of Art and the Erie Canal museum are located in this city, which is the seat of Onondaga County and is found about halfway between Albany and Buffalo. For 10 points, name this central New York city which hosts a private college that plays sports as the Orangemen.
ANSWER: **Syracuse**

019-13-95-04129

14. The models from this painting were costumed by the painter like "tintypes from [his] old family album." The background of this painting includes the Dibble House, and the foreground shows people based on Byron McKeeby, the artist's dentist, and the artist's sister Nan. This painting's setting is Eldon, Iowa, where a father and daughter live together on a farm. For 10 points, name this painting by Grant Wood in which a dour-looking man holds onto a three-pronged pitchfork.
ANSWER: _**American Gothic**_

023-13-95-04130

15. In one of these stories, a king sends out servants to invite people to a wedding but then banishes a guest wearing the wrong clothes. Another of them compares a man who builds his home on rock to one who builds his home on sinking sands. In one of them, a man becomes jealous when his father kills a fatted calf to celebrate the return of a brother who had wasted his whole inheritance. For 10 points, "The Prodigal Son" is one of what New Testament stories that illustrate Christian principles?
ANSWER: **parables** of Jesus

015-13-95-04131

1. In 1861, Union forces surrounded a pro-Confederacy militia at Camp Jackson in this state. This state and New Jersey were the only ones to give Stephen Douglas electoral votes in 1860. The New Madrid earthquakes struck this state in 1811 and 1812. Though this state is located north of the 36 degrees, 30 minutes parallel, slavery was allowed here, and Maine entered the U.S. accompanied by this slave state. For 10 points, identify the namesake of an 1820 "Compromise."
ANSWER: **Missouri**

190-13-95-04132

2. Along with Kasha, this scientist linked the triplet state to phosphorescence. This man proposed the word photon for a quantum of electromagnetic energy. Although it is not Arrhenius, one of this man's theories is similar to another theory based on hydrogen ions, named for Brønsted and Lowry. This chemist predicted covalent bonding in molecules through his namesake dot diagrams. For 10 points, name this American chemist who came up with an acid–base theory of electron pair acceptors and donors.
ANSWER: Gilbert Newton **Lewis**

239-13-95-04133

3. The protagonist of this novel sells her beautiful locks of hair for money in order to help her sick father. Another character in this novel is forced to throw pickled limes out of the window and is later saved by Laurie after falling through ice. Beth dies after becoming ill with scarlet fever in this novel, and at its beginning, the March family donate their breakfast to a poor neighbor. For 10 points, name this novel featuring Meg and Jo, written by Louisa May Alcott.
ANSWER: ***Little Women***

227-13-95-04134

4. Mutations in miR164c cause extra ones of these structures to grow early. These structures are doubled in mutants of the AGAMOUS gene in Arabidopsis. Both class A and B genes affect the development of these structures in the ABC model. They are collectively known as the corolla. These structure lie inside of the sepals, and monocots typically have three, six, or nine of them. For 10 points, name these flower parts that attract pollinators with their bright colors.
ANSWER: **petal**s [or **corolla** until it is read]

048-13-95-04135

5. Circular, volcanic domes on this object are referred as "pancake" volcanoes. This planet was studied by the Venera probes and lacks natural satellites. The atmosphere of this planet contains many clouds of sulfuric acid. Although of similar size and mass to Earth, this planet is unable to sustain life due to a runaway greenhouse effect vaporizing any water present. For 10 points, name this very hot planet with a heavy atmosphere of carbon dioxide, the second closest planet to the Sun.
ANSWER: **Venus**

239-13-95-04136

On December 20th, 2013, District Judge Robert Shelby struck down what state's ban on same-sex marriage?
ANSWER: **Utah**

This is a calculation question. What is the area of a rhombus with perimeter 16 and long diagonal of length 4 square root of 3?
ANSWER: **8** times the **square root** of **3** [**8rt3**]