1. The speaker of this poem describes how the title figure's "soul transpires at every pore with instant fires." This poem concludes with the resolution that "though we cannot make our sun stand still, yet we will make him run." The speaker warns that "worms will try that long-preserved virginity" and notes that he hears "Time's winged chariot hurrying near." This poem begins, "Had we but world enough, and time." For 10 points, name this *carpe diem* poem by Andrew Marvell.
ANSWER: "**To His Coy Mistress**"

080-11-44-06101

2. Amontons' laws govern this force which is perpendicular to the normal force. Terminal velocity occurs when the fluid type of this force, called drag, is equal to velocity of the object. This force is proportional to the load and independent of surface area. This force is calculated by multiplying the normal force by its coefficient, which is symbolized mu. The static type of this force has a higher value than the coefficient of the kinetic type. For 10 points, name this force that opposes motion.
ANSWER: **friction**

124-11-44-06102

3. This site was wrecked in 1863 by an artillery barrage ordered by Quincy Adams Gillmore. A barrage from a battery on Morris Island prevented the *Star of the West* from reinforcing this location. Daniel Hough died here in a surrender ceremony ordered by its commander Robert Anderson. P.G.T. Beauregard led the bombardment of this fort, which surrendered on April 13, 1861. For 10 points, name this fort off the coast of South Carolina that saw the first action of the American Civil War.
ANSWER: Fort **Sumter**

015-11-44-06103

4. This poem calls triumph and disaster "two impostors" that should be treated "just the same." The author of this poem was inspired by the recent failure of the Jameson Raid in South Africa. This poem praises the ability to fill the "unforgiving minute with sixty seconds' worth of distance run." After setting up a series of stoic and masculine ideals, it concludes, "You'll be a man, my son!" For 10 points, name this inspirational poem by Rudyard Kipling.
ANSWER: "**If--**"

080-11-44-06104

5. New Echota was the capital of these people. Samuel Worcester was a missionary who helped create the first newspaper for this people, using a writing system created by Sequoyah. Two Supreme Court cases were brought against Georgia for its treatment of these people, who were eventually forced off their land by the federally passed Indian Removal Act. For 10 points, name this Native American tribe, one of the "Five Civilized Tribes," which was relocated to Oklahoma on the Trail of Tears.
ANSWER: **Cherokee** Nation [or Ani **Tsalagi**; or **Tsalagi**hi Ayeli]

121-11-44-06105

6. The title character of this work tells a story about a man who commits suicide by jumping into a threshing machine while working for the Harlings. The narrator of this novel goes shopping for fabric with Lena Lingard, a Norwegian immigrant who arrives in Black Hawk after the title character's Bohemian family. This novel is narrated by Jim Burden, who reminisces about his youth spent with the title member of the Shimerda family. For 10 points, name this novel by Willa Cather.
ANSWER: *My Antonia*

7. This substance is synthesized by the cyclization of squalene epoxide. The rate-limiting step in this molecule's production is catalyzed by HMG-CoA reductase, an enzyme inhibited by statins. The liver converts this molecule to bile acids, while the skin converts it into Vitamin D. Its uptake is the canonical example of receptor-mediated endocytosis. It is transported via lipoproteins, including HDL, the "good" kind, and LDL, the "bad" kind. For 10 points, name this precursor to most steroids.
ANSWER: **cholesterol**

8. This state's governor Hiram Johnson served as the Vice Presidential candidate in 1912 to Theodore Roosevelt on the Progressive Party ticket. Settlers in this state under William B. Ide declared its independence in 1846 in the Bear Flag Revolt. That revolt was supported by John C. Fremont, who became one of this state's first Senators. For 10 points, name this western state gained after the Mexican-American War in 1848, shortly before the start of its gold rush.
ANSWER: **California**

9. This poem states "If her horny feet protrude, they come to show how cold she is, and dumb" while discussing a subject whose face will be covered by a sheet taken from the "dresser of deal." Containing the lines "Let the lamp affix its beam" and "Let be be finale of seem," this poem begins by asking that "concupiscent curds" be whipped by the "roller of big cigars." For 10 points, name this poem by Wallace Stevens whose title references a certain frozen treat.
ANSWER: "The **Emperor of Ice-Cream**"

10. This compound is metabolized to 5-HIAA, and tumors that secrete lots of this substance cause carcinoid syndrome. Raphe nuclei produce this molecule in the brain, and it is also produced in the enterochromaffin cells of the small intestine. Also known as 5-hydroxytryptamine, it is derived from tryptophan by TPH and DCC. Celexa, Zoloft, Prozac and other antidepressants inhibit the reuptake of this molecule. For 10 points, name this neurotransmitter that regulates mood and appetite.
ANSWER: **serotonin** [accept **5-HT** or **5-hydroxytryptamine** before mentioned]

11. One entity in this poem is described as "just as fair, and having perhaps the better claim." The narrator of this poem states "I shall be telling this with a sigh somewhere ages and ages hence" after recalling how he doubted if he should ever come back. Including the image of "leaves no step had trodden black," this poem concludes "And that has made all the difference" after noting "I took the one less traveled by." For 10 points, name this poem by Robert Frost.
ANSWER: "The **Road Not Taken**"

12. This country's current Prime Minister compared himself to a fish called a loach to emphasize his ability to work hard under grueling conditions; his predecessor had attempted an unpopular increase in the sales tax rate from five to ten percent. It plans to limit its reliance on nuclear power following a natural disaster that led to the failure of the cooling systems of two of its nuclear power plants. The Diet is the national legislature of this country, which is currently led by Yoshihiko Noda. For 10 points, name this Asian nation primarily composed of four islands.
ANSWER: **Japan**

13. During this battle, an air attack codenamed Operation Cobra was initiated. Landings during this battle at the base of the Contentin Peninsula resulted in many casualties due to drowning. One side's attack phase in this battle was given the name Operation Neptune. That winning side nicknamed this battle Operation Overlord. For 10 points, name this World War II battle in which Allied forces landed in Utah, Gold, Sword, Juno, and Omaha in an effort to invade Germany.
ANSWER: **Normandy** Invasion [or **D-Day**; or Battle of **Normandy**]

14. The Sejm [SAME] was a legislative body in this country. Thaddeus Kosciusko [ko-shee-OOS-ko] was a man from this country who fought in the American Revolution and created a constitution for this country, which caused Russia to invade it in 1792. After the Third Partition in 1795, this country did not exist until after World War I. For 10 points, name this country whose invasion in 1939 sparked the beginning of World War II.
ANSWER: Republic of **Poland** [or Rzeczpospolita **Polska**; accept **Poland-Lithuania** or **Polish-Lithuanian Commonwealth** before "invasion in 1939"]

15. One person from this country built a 67-meter pendulum to demonstrate the rotation of the Earth. The international prototype kilogram is kept in a museum in this country. One chemist from this country proposed the law of conservation of mass and wrote the *Elementary Treatise on Chemistry.* A Polish-born resident of this country became the first woman to win a Nobel Prize after her discovery of radium. For 10 points, name this country, the home of Marie Curie and Antoine Lavoisier (lah-vwah-see-AIR).
ANSWER: **France**

1A. What layer of the Earth's atmosphere is responsible for the anvil shape of cumulonimbus clouds and lies above the tropopause?
ANSWER: **stratosphere**

1B. What theorem states that every polynomial with complex coefficients has at least one complex root?
ANSWER: **fundamental theorem of algebra** [prompt on **fundamental theorem**]

2A. This is a 10-second computation question. If it is now 9:00 AM, what time will it be five hundred twenty minutes from now?
ANSWER: **5:40 PM** [or **17:40**; prompt on **5:40**]

2B. This is a 10-second computation question. For a data set, the minimum value is 6, the maximum value is 32, the first quartile is 12, the median is 20, and the third quartile is 24. What is the interquartile range?
ANSWER: **12**

3A. Comets are believed to originate from what "cloud" named for a Dutch astronomer that lies past the Kuiper (KIE-purr) belt?
ANSWER: Opik-**Oort** cloud

3B. What is the name given to the upper layer of forests that is formed by tree crowns and that absorbs most of the incident sunlight and precipitation?
ANSWER: forest **canopy**

4A. Which Dutch artist of *Girl with a Pearl Earring* and *The Milkmaid* painted his hometown in *View of Delft*?
ANSWER: Johannes **Vermeer** [accept "Jan", "Johan", or "Joannis" for "Johannes"]

4B. Lev Landau won a Nobel Prize for his studies of which property that he observed in helium-4, a state in which a substance behaves as if it has no viscosity?
ANSWER: **superfluid**ity

5A. *Nude Descending a Staircase, No. 2* was painted by which Dada artist, who also created readymades like *Fountain*, an inverted urinal signed "R. Mutt"?
ANSWER: Marcel **Duchamp** [or Henri-Robert-Marcel **Duchamp**]

5B. What procedure analogous to verbal conjugation alters the case of a noun to change its meaning or relation to other words in languages such as Latin?
ANSWER: **declension** [or **declin**ing a noun]

6A. This is a 20-second computation question. A cake consists of three cylindrical layers of radius 4, 8, and 12 inches. If each layer has height 3 inches, what is the total volume of the cake? Express your answer in terms of pi.
ANSWER: **672 pi** cubic inches

6B. This is a 20-second computation question. Find the tangent of the third-quadrant angle whose sine is negative five-thirteenths.
ANSWER: **5/12**

7A.  William James coined the term for what literary technique, in which a character's internal thoughts are presented with little organization, and which is commonly used by James Joyce and Virginia Woolf?
ANSWER: **stream of consciousness**

7B.  Which author described the trials of Emily St. Aubert, including being held prisoner in the title castle by Montoni, in her Gothic novel *The Mysteries of Udolpho*?
ANSWER: Ann **Radcliffe**

8A.  What man known as the "Poet of the American Revolution" wrote such works as "The British Prison-Ship" and "The Indian Burying-Ground"?
ANSWER: Philip **Freneau**

8B.  What movie directed by J.J. Abrams featured a group of children who investigate a derailed military train storing an alien?
ANSWER: *Super 8*

9A.  What state is home to Scotts Bluff and Chimney Rock, as well as the Sand Hills and the headquarters of Warren Buffet's Berkshire Hathaway?
ANSWER: **Nebraska**

9B.  Which man, who negotiated the Treaty of Payne's Landing, lends his name to a purchase that the U.S. made from Mexico to acquire lands for a railroad route south of the Rockies?
ANSWER: James **Gadsden** [or **Gadsden** Purchase]

10A.  This is a 30-second computation question. Find *both* points of intersection of the parabola y = x squared minus 3 x plus 7 with the line y = 3 x plus 2.
ANSWER: **(1,5)** and **(5,17)** [or **x = 1 and y = 5** and **x = 5 and y = 17**; do not prompt on answers that give only the x-coordinate or y-coordinate]

10B.  This is a 30-second computation question. There is a 50% chance of rain on Tuesday if it rains on Monday, and a 70% chance if it does not rain on Monday. If there is a 60% chance of rain on Monday, what is the chance of rain on Tuesday? Express your answer as a percentage.
ANSWER: **58%**

1. At a 1620 battle near this city, Christian of Anhalt's army was routed by the Catholic League and the Holy Roman Emperor. This site of the Battle of White Mountain was the namesake of a period of liberalization spearheaded by Alexander Dubcek (doob-CHECK). This city was also the site of a 1618 incident in which Count Thurn led a mob which threw some Catholic emissaries out of a window. For 10 points, name this Bohemian city that was the site of a twentieth century "spring" and a seventeenth century "defenestration."
ANSWER: **Prague** [or **Praha**]

015-11-44-06117

2. By synthetically combining with sulfate, this element can be used for cement and fertilizers when sold as Epsom salt. This metal is also found in chlorophyll. ATP, RNA and DNA are all stabilized because they are bound to this metal. Water is typically considered "hard" if it has high levels of calcium ions and ions of this element. When combined with hydroxide and placed in water, this element form its namesake laxative milk. For 10 points, name this element with chemical symbol Mg.
ANSWER: **magnesium**

130-11-44-06118

3. In one opera by this man, the title singer is interrogated about the whereabouts of an escaped political prisoner, after which she sings the aria "Vissi d'arte". This man wrote the aria "Nessun Dorma," in which Calaf rejoices at his impending victory over Turandot. This composer of *Tosca* also wrote an opera featuring the aria "Che gelida manina", in which Rodolfo's lover Mimi dies of tuberculosis. For 10 points, identify this composer of the operas *Madame Butterfly* and *La Boheme.*
ANSWER: Giacomo **Puccini** [or Giacomo Antonio Domenico Michele Secondo Maria **Puccini**; prompt on "Tosca" during the first sentence]

105-11-44-06119

4. This man headed a company that introduced a new product with the "1984" commercial, which aired during Super Bowl XVIII (eighteen). Until selling to Disney in 2005, he was the CEO of Pixar. As CEO, his company introduced products such as the App Store, and the 4S version of another device. For 10 points, name this executive whose death due to complications of pancreatic cancer came two months after he resigned as the head of Apple.
ANSWER: Steven Paul "Steve" **Jobs**

088-11-44-06120

5. This value can be measured with an ebullioscope (eh-BYUL-ee-oh-scope). Upon addition of a solute, this value increases proportionally to the molality of a solution. On a phase diagram, this value is represented by a line connecting the triple point and critical point, increasing with pressure. This value is, for a given system pressure, the temperature at which vapor pressure equals that of the system. For 10 points, name this temperature, which for water is 100 degrees Celsius.
ANSWER: **boiling** point

121-11-44-06121

6. This composer's opus 28 contains a piece which features a recurring A-flat, inspiring its nickname "Raindrop", and consists of 24 preludes in all the major and minor keys. This inventor of the piano *ballade* wrote a challenging work inspired by his home country's loss in a civil war with Russia. He also composed a D flat major work in 3/4 time inspired by a dog chasing its tail. For 10 points, name this composer of the "Revolutionary Etude" and the "Minute Waltz", a Polish pianist.
ANSWER: Frederic Francois **Chopin** [or Fryderyk Franciszek **Szopen**]

7. The shortest path algorithm A-star is one type of these algorithms. Two of the most useful examples of these algorithms are the Boyer-Moore and Knuth-Morris-Pratt ones. The depth-first and breadth-first form of this operation can be used to traverse trees. The binary form of this operation requires that the data already be sorted. For 10 points, name this operation whose linear form consists of checking every element in a list until the desired one is found.
ANSWER: **search**ing [accept "string search"]

8. Among Jesuits, this group is denoted by the term "saligia," which refers to such Latin words as "invidia" and "luxuria." In English-speaking countries, a mnemonic device for them is "wasp leg." Gregory the Great first listed these offenses, which Thomas Aquinas codified as the origin of all other misbehavior. Gluttony, wrath, envy, pride, lust, sloth, and greed comprise, for 10 points, what list of primary offenses to God in Catholicism?
ANSWER: the seven **deadly sins** [prompt on partial answer]

9. One leader of this empire was victorious in a battle near the Tugela River against his brother. That leader of this group also had troops win in fighting the Battle of Isandlwana against the British. Another ruler of this empire created a special tactic that divided impi into four groups to create the "buffalo horns" formation. For 10 points, name this group in southern Africa that fought the British in 1879 and was led at times by Cetshwayo and Shaka.
ANSWER: ama**Zulu** Empire

10. This man discussed his love of pigeons in a 2011 show airing on the Animal Planet. First coached by Cus D'Amato, he had a tumultuous one year marriage to Robin Givens and went to jail for raping Desiree Washington. He lost the WBA title to Evander Holyfield in 1996 and fought Holyfield again in a 1997 match in which he bit off part of Holyfield's ear. For 10 points, name this former heavyweight boxer with a troubled personal life, who made a cameo in *The Hangover*.
ANSWER: Mike **Tyson**

11. An archaeological discovery in this desert by Roy Chapman Andrews confirmed the coexistence of mammals and dinosaurs. Andrews was also tasked with capturing an olgoi-khorkhoi, a cryptid "death worm" that supposedly lives in this desert. It is divided into five regions, including the Dzungarian Basin, which is separated from the Taklamakan Desert by the Tien Shan Mountains and is in the Xinjiang (SHIN-jang) Autonomous Region in northwest China. For 10 points, name this Asian desert found mostly in Mongolia.
ANSWER: **Gobi** Desert

12. The plot of Shakespeare's lost play *Cardenio* was probably based on this work. The title character of this work puts a barber's basin on his head, thinking it is the helmet of Mambrino. The protagonist of this novel adores Dulcinea del Toboso and sallies forth on the nag Rocinante (roe-sih-NAHN-tay) with his companion, Sancho Panza. For 10 points, name this novel about a would-be knight who attacks some windmills, a parody of chivalric romance by Miguel de Cervantes.
ANSWER: *El Ingenioso Hidalgo __Don Quixote__ de la Mancha*

13. The internet clothing vendor Threadless offers a spoof of the Three Wolf Moon T-shirt featuring this animal. The announcement for *World of Warcraft: Cataclysm* featured Deathwing playing the role of this animal. Also spoofed in the first episode of *Tosh.0* by Kato Kaelin, this creature was owned by Charlie Schmidt before its death in 1987. For 10 points, name this creature actually named Fatso, an internet meme famous for playing things off.
ANSWER: __Keyboard Cat__ [or __Fatso__ before it is read]

14. This country shares Chetumal Bay with its northern neighbor, and that bay is partially defined by its island of Ambergris Caye. The Sibun and New Rivers flow through this country, whose largest peak, in the Cockscomb Range, was named after Arthur Conan Doyle. The Hondo and Sarstoon Rivers define the northern and southern borders of this country, which, unusually for its region, was for many years a British colony. Found south of Mexico and north of Guatemala, for 10 points, name this small, Central American country with capital Belmopan.
ANSWER: __Belize__

15. Immediately before shooting himself in the head, one character in this novel states that he is going "to America." In one episode in this novel, the protagonist dreams of a horse being beaten to death. Characters in this novel include the depraved Svidrigailov, who pursues the protagonist's sister Dunya, and the detective Porfiry, who suspects the protagonist of murdering a pawnbroker with an axe. For 10 points, identify this novel centering upon Raskolnikov, written by Fyodor Dostoevsky.
ANSWER: __*Crime and Punishment*__ [or __*Pryestupleniye i Nakazaniye*__]

1. This figure escaped reincarnation by deleting his name from the Book of Life and Death. He acquired the ability to use his hairs to clone himself as part of 72 transformations. He was assigned to the heavenly stables by the Jade Emperor but was trapped under a pillar by the Buddha for thousands of years. He accompanied the monk Tangsen on a quest to retrieve scriptures from India, along with Pigsy and Sandy. For 10 points, identify this figure from Chinese mythology, the king of a group of primates.
ANSWER: **Sun Wukong** or **Monkey** King

048-11-44-06132

2. Adding a group 13 element to silicon creates a semiconductor described by this letter. This letter describes a type of wave whose mode of propagation is longitudinal. This letter describes a type of orbital that has a magnetic quantum number from negative one to positive one and is shaped liked a dumbbell. Placing this letter in front of the Ka ("K-A") or proton concentration value means that the negative logarithm of that value should be taken. For 10 points, name this letter used to symbolize phosphorus.
ANSWER: **p**

064-11-44-06133

3. This writer was stabbed in the neck as a result of his controversial treatment of religion in *Children of the Alley.* He introduced the idealistic Fahmy, hedonistic Yasin, and intellectual Kamal as the three sons of the overbearing and self-indulgent patriarch Al-Sayyid Ahmad in the first novel in a series following the al-Jawad family. That novel, which is followed by *Palace of Desire* and *Sugar Street,* is entitled *Palace Walk.* For 10 points, name this Egyptian writer who wrote the *Cairo Trilogy.*
ANSWER: Naguib **Mahfouz**

130-11-44-06134

4. Apollo gave Cyparissus one of these animals as a gift, which he accidentally killed with a javelin. In one story, Iphegenia is saved when a god replaces her with one of these animals. Another figure is torn up by his own hounds after being transformed into one of these creatures; that figure is named Actaeon. Another one of these animals was presented to Eurystheus but ran away before he could place it in his menagerie; that is the Ceryneian one which was sacred to Artemis. For 10 points, name these antlered creatures.
ANSWER: **Deer** or **Hind**

048-11-44-06135

5. This man posited that consumers base their decisions on expected future income in what is known as his "permanent income hypothesis." With his wife Anna Schwartz, he wrote *An Economic History of the United States* and created the television series *Free to Choose,* This advocate of a negative income tax was a leading member of the monetarist and Chicago schools. For 10 points, name this free-market economist.
ANSWER: Milton **Friedman**

141-11-44-06136