1. This monarch entertained the Englishman Richard Chancellor, who founded the Muscovy Company for trade on the White Sea. This man ordered the brutal sack of (*) Novgorod [NOHV-gor-oht] in 1570. For 10 points—what first prince to be named Russian tsar [zar] killed his own son in a fit of rage?  
answer: Ivan the Terrible (or Ivan IV ["the fourth"] Vasiliyevich or Ivan Grozny; prompt on “Ivan”)  
<40673>

2. This woman was 130 years old when she had her third son, Seth. One of her children was exiled to Nod after murdering his (*) brother. She was tempted by a serpent to eat from the tree of knowledge. For 10 points—name this mother of Cain and Abel, the first woman in the Bible.  
answer: Eve  
<362512>

3. This man wrote a story in which Captain Kidd’s treasure is revealed to Tom Walker by the devil. In another of his stories, Katrina van Tassel marries Brom Bones after (*) Ichabod ["ICK"-uh-bahd] Crane is spooked by a ghostly “Headless Horseman.” For 10 points—name this author of “The Legend of Sleepy Hollow.”  
answer: Washington Irving  
<45489>

4. A National Historic Site named after this woman is on the former site of Val-Kill Industries, which she co-founded. This first American delegate to the U.N. organized Marian Anderson’s concert at the Lincoln Memorial. (*) For 10 points—what woman served as First Lady from 1933 to 1945?  
answer: Eleanor Roosevelt (prompt on “Roosevelt”)  
<458309>

5. Residents escaping the Black Death in this city tell 100 stories in The Decameron [dih-KAM-uh-run]. This city on the Arno (*ARE-noh) River is the site of the Uffizi [oo-FEET-see] Gallery and was once dominated by the (*) Medici [meh-DEE-chee] family. For 10 points—name this Italian city often considered to be the birthplace of the Renaissance [REN-ih-sahnss].  
answer: Florence (or Firenze)  
<425678>

6. The origin and this region of the Cartesian [kar-TEE-zhen] plane are the location of the graph of y equals [read slowly] the opposite of the square root of the opposite of x. In this quadrant of the unit circle, both sine and cosine are (*) negative. For 10 points—name this lower-left quadrant.  
answer: third quadrant (or quadrant III; accept just third or III after “quadrant”; prompt on “lower-left (quadrant)” before “lower-left”)  
<461556>

7. A character in this novel almost wins a steeplechase before making a mistake that breaks the back of his horse Frou-Frou [froo-froo]. The title character of this novel ends her affair with (*) Count Vronsky [VRAHN-see] by throwing herself under a train. For 10 points—name this Russian novel written by Leo Tolstoy.  
answer: Anna Karenina [AH-nuh kah-REH-nih-nuh]  
<444599>
8. In October 2017 a politician in this country alleged that he was poisoned by its first lady, who led the G40 faction. A coup in this country led to (*) Emmerson Mnangagwa [muh-nah-GAH-wa] becoming president. For 10 points—name this country whose longtime leader, Robert Mugabe [moo-GAH-bay], resigned in 2017.
answer: Zimbabwe [zim-BAH-way] (or Republic of Zimbabwe)

9. This state's Stony Man Mountain is a landmark on Skyline Drive, which starts in its city of Front Royal. Hawksbill Mountain is the highest point in this state's (*) Shenandoah National Park. For 10 points—name this mid-Atlantic state whose cities include Newport News and Charlottesville.
answer: Virginia (or Commonwealth of Virginia)

10. Since 2013 this NBA team has been coached by a former head coach of the Australian men's national team. Brett Brown coaches this team, which lost an NBA-record 28 consecutive games in 2015. “The (*) Process” resulted in Ben Simmons playing on—for 10 points—what Pennsylvania-based team?
answer: Philadelphia 76ers [*seventy-six-ers] (accept either underlined portion; accept Sixers)

11. This rock is felsic [*FELL-sik] and has a lower specific gravity, but is otherwise very similar to, scoria [*SCORE-ee-uh]. Volcanic eruptions near the ocean produce large rafts of this vesicular [veh-SIK-yoo-lur] rock, which is often used as an (*) abrasive. For 10 points—name this extremely porous volcanic rock that floats on water.
answer: pumice [PUH-miss] (accept pumice rafts)

12. This party's presidential nomination was sought by Edward Bates and Salmon Chase, as documented in the book Team of Rivals. One member of this party won the presidency over both John (*) Breckinridge and Stephen Douglas in 1860. For 10 points—what party's first president was Abraham Lincoln?
answer: Republican Party (accept GOP or Grand Old Party)

13. This desert's Dragon's Breath Cave contains one of the world's largest underground lakes. The Namib [nah-MIB] Desert is west of this desert, which includes the delta of the Okavango [oh-kuh-VAHN-goh] River. Most of (*) Botswana [baht-SWAH-nah] is covered by—for 10 points—what desert of interior southern Africa?
answer: Kalahari [KAH-luh-HAH-ree] Desert

14. This spacecraft took a photograph known as the Family Portrait, and it took the first photograph of volcanic activity on Io [*EYE-oh]. Despite its name, it was the second probe launched with a (*) “Golden Record.” For 10 points—name this NASA probe which is the farthest man-made object from Earth.
answer: Voyager 1

15. A leader of this African country claimed to be the the uncrowned king of Scotland. The group Invisible Children's controversial film Kony 2012 was about a rebel leader originally from this country. (*) Idi Amin [EE-dee ah-MEEN] led—for 10 points—what African country opposed by the Lord's Resistance Army?
answer: Uganda [oo-GAHN-dah] (or Republic of Uganda or Jamhuri ya Uganda)

16. Terry Pratchett created one of these animals named “The Amazing Maurice.” One of these animals often accompanied the James Bond (*) villain Ernst Stavro Blofeld. For 10 points—what kind of animal was the Hanna-Barbera [bahr-BERR-uh] cartoon character Tom, who often pursued Jerry, a mouse?
answer: cats

17. Pencil and paper ready. Geraldine needs to find the value of x that satisfies the equation 4 times the quantity 2 raised to the x power equals one-half. By remembering that 2 to the x equals 1 over 2 to the negative x, she is able to compute (*) —for 10 points—what value of x?
answer: x = -3 (accept 2^-3; do not accept or prompt on “3”) [4 x 2^x = 1/2, so 2^x = 1/8, so 2^-x = 8, so -x = 3, and x = -3]

18. This novel's protagonist declines a proposal in a carriage from the clergyman Mr. Elton. At this novel’s end, the owner of Donwell Abbey, (*) George Knightley, marries its “handsome, clever, and rich” title character. For 10 points—what Jane Austen novel is named for its female protagonist?
answer: Emma
19. This man uttered the sentence “nevertheless, she persisted” in describing why Elizabeth Warren was punished. Donald Trump tweeted at this fellow Republican to “get back to work” and fix health care. (*) For 10 points—name this Kentucky senator who has served as Majority Leader since 2015.

answer: Mitch McConnell (or Addison Mitchell McConnell Jr.)

20. The Mayans used a tortoise shell shape to represent this number. It is the number of moons that orbit Venus, and in the C programming language, the number used to represent a value of (*) false. For 10 points—what value, when added to any number, leaves that number unchanged?

answer: zero

21. The Augusteum [aw-goo-STAY-um] is an extension to the house where this man lived with his wife Katherine von Bora. Leo X [‘the tenth’] excommunicated this man after he refused to (*) retract his views on indulgences at the Diet of Worms [VORMS]. For 10 points—name this reformer who nailed his Ninety-Five Theses to a church door.

answer: Martin Luther

22. Although he wrote it during a happy time, this composer’s sixth symphony, in A minor, is nicknamed “Tragic.” This composer wrote “The Song of the Earth” and a symphony nicknamed for the large (*) number of musicians it requires. For 10 points—name this composer of the Symphony of a Thousand.

answer: Gustav Mahler [MAH-lur]

23. This novel’s protagonist crashes Udebee’s wedding and saves zhulpH, a young gnome, after fleeing finishing school; later, she writes letters to the Kyrrian prince Char. The fairy (*) Lucinda gives the title girl the “gift of obedience” in—for 10 points—what retelling of the “Cinderella” story?

answer: Ella Enchanted

24. The “leptosporangiate” [LEP-toh-“spore”-AYN-je-“ate”] group of these plants includes bracken, which is carcinogenic [kar-SIN-uh-JEN-ik] in many animals. Like the related clubmosses, these plants have megaphylls [“mega-fills”]. Coiled structures called (*) fiddleheads appear in—for 10 points—what plants, which reproduce via spores and have fronds?

answer: ferns
1. The name of this element means “light-bearing.” For 10 points each—
   A. Name this nonmetal, whose “red” form replaced its “white” form for use in lighting matches.
      answer: phosphorus (or P; accept red phosphorus or white phosphorus)
   B. “Red” and “white” are examples of these different elemental forms for phosphorus. Examples of these forms for carbon include graphite and diamond.
      answer: allotropes [AL-uh-trohps] (accept allotropy)
   C. Red phosphorus exists as one of these solids whose structures lack long-range order. They are contrasted with crystals.
      answer: amorphous (ay-MORF-us) solids (accept amorphous material(s))

2. In Gautrek’s Saga, a king prays to this god for favorable wind. For 10 points each—
   A. Name this chief Norse god, the father of Thor.
      answer: Odin [OH-din] (or Wotan)
   B. In order to gain wisdom, Odin sacrificed this body part, leaving him with only one.
      answer: eye(s)
   C. Odin wields Gungnir [GOONG-neer], which is this type of weapon. In Irish myth, Cú Chulainn [koo-KULL-in] uses one called the Gáe Bulg [“guy’ BULG].
      answer: spear

3. For 10 points each—answer the following about Paris’s Île de la Cité [eel duh lah see-TAY]:
   A. The Île de la Cité is an island in this river, connected to the rest of the city by the Pont Neuf [pohn NUHF], Paris’s oldest standing bridge.
      answer: the Seine
   B. It is home to this Gothic cathedral, which was one of the first buildings to use flying buttresses.
      answer: Notre Dame [noh-truh dahm] Cathedral (or Notre-Dame de Paris)
   C. Jacques de Molay [zhahk duh moh-LAY] was burned at the stake in front of Notre Dame in 1314. He was the last Grandmaster of the “Poor Fellow-Soldiers of Christ,” the Catholic military order better known by this name.
      answer: Knight(s) Templars

4. For 10 points each—answer the following about queens of England named Mary:
   A. Mary I, who was nicknamed “Bloody” for her persecution, belonged to this dynasty that ruled England from 1485 to 1603.
      answer: House of Tudor (or Tudor dynasty or Tudors)
   B. The last Catholic queen of England was Mary of Modena, the wife of this Stuart king deposed in 1688.
      answer: James II of England (accept James VII of Scotland; prompt on “James”)
   C. James’s daughter was Mary II, who ruled England jointly with this Dutch-born king.
      answer: William III of England (or William of Orange; prompt on “William”)
5. The shortest distance between any two points along the surface of a sphere is an arc of this kind of “circle.” For 10 points each—
   A. Give this term for one of the largest possible circles that can be drawn on the surface of a sphere. 
      answer: great circle(s) (or orthodrome(s); prompt on “geodesic(s)” or “Riemannian (circle(s))”)
   B. This is the name for the great circle at 0 degrees latitude on Earth. 
      answer: equator (prompt on “equatorial (circle)”)  
   C. Antipodal [ahn-TIP-uh-dul] points are pairs of points on a sphere connected by this type of segment through the sphere. 
      answer: diameter (of the sphere) (prompt on “segment (passing) through the center” or “chord (passing) through the center”) 

6. This novel, which is divided into sections titled “The Strings,” “The Grass,” and “The Vessel,” is titled for fictional “copyright traps” like Agloe, New York. For 10 points each—
   A. Name this 2008 novel in which Quentin Jacobsen follows the trail of his missing childhood friend Margo Roth Spiegelman. 
      answer: Paper Towns 
   B. Paper Towns is the third novel by this author of An Abundance of Katherines, a co-creator of the Vlogbrothers YouTube channel. 
      answer: John (Michael) Green 
   C. A 2010 book by John Green and David Levithan splits its chapters between two different characters with this first and last name. 
      answer: Will Grayson (prompt on partial answer; accept Will Grayson, Will Grayson) 

7. For 10 points each—answer the following about the Battle of El Alamein [el AH-luh-MAYN]:
   A. It was a World War II battle fought in what is now this country. Napoleon’s invasion of this country resulted in the Battle of the Pyramids. 
      answer: Egypt (or Arab Republic of Egypt or Gumhuriyat Misr al-Arabiyyah) 
   B. The Battle of El Alamein pitted Allied troops against armies led by this Nazi commander known as “the Desert Fox.” 
      answer: Erwin (Johannes Eugen) Rommel 
   C. The Allied forces were led by this British general, whose 1943 Tunisia Campaign forced the Axis out of North Africa. 
      answer: Bernard Montgomery (or Bernard Law Montgomery, 1st Viscount Montgomery of Alamein; prompt on “Monty”) 

8. This opera premiered on Christmas Eve, 1871, in Cairo. For 10 points each—
   A. Name this opera in which the Egyptian military commander Radames [rah-dah-MAYS] falls in love with the title prisoner, an Ethiopian princess. 
      answer: Aida [eye'-EE-dah] 
   B. Aida was composed by this Italian, whose mid-career hits included Rigoletto [ree-go-lay-toh] and La traviata [lah trah-vee-AH-tah]. 
      answer: Giuseppe Verdi [joo-ZEP-pay VAIR-dee] (or Giuseppe Fortunino Francesco Verdi) 
   C. Aida’s rival for Radames’s love, Amneris [ahm-NEH-reez], is written for this female vocal type. It is the second-highest female voice, just above contralto [kon'-TRAHL-toh]. 
      answer: mezzo-soprano [MET-soh] (do not accept or prompt on “soprano”)
9. For 10 points each—name these methods of joining materials together:
   A. Circuits are often made using this technique that uses heat and a metal alloy to fuse objects together. It is contrasted with welding and brazing [BRAY-zing].
   answer: soldering [SAH-duh-ring]
   B. Cellophane [SELL-uh-fayn] is often used as a base for this adhesive material that has “masking” and “Scotch” types.
   answer: adhesive tape (accept masking tape or Scotch tape)
   C. This generic term describes substances, such as cyanoacrylates [“sigh-AN”-oh-AK-rh-layts], that quickly cure, or polymerize [puh-LIM-uh-rise], to form strong bonds between objects.
   answer: glues (accept superglues or power glues or instant glues or Krazy glues)

10. This country’s Gangkhar Puensum [gaung-kar poon-sum] is often considered the world’s highest mountain that has never been climbed. For 10 points each—
   A. Name that mountainous Asian country governed from Thimphu [thim-POO].
   answer: Bhutan [boo-TAHN] (or Kingdom of Bhutan or Druk Yul or Druk Gyalkhap)
   B. The king of Bhutan is named after this mythical fire-breathing creature, one of which appears on the country’s flag.
   answer: dragons (or druk; accept Dragon King or Druk Gyalpo)
   C. Bhutan was part of this ancient “road” connecting Asia with Europe. It is named for a type of prized fiber produced from a particular worm.
   answer: Silk Road (or Silk Route; accept silkworm)

11. For 10 points each—answer the following about the Senate’s December 2017 passage of the Tax Cuts and Jobs Act:
   A. The bill passed by a 51 to 49 vote margin, meaning that this vice-president did not need to break a tie.
   answer: Mike Pence (or Michael Richard Pence)
   B. The bill opened the location known as ANWR [ann-war] to drilling, a concession for this state’s Senator Lisa Murkowski.
   answer: Alaska
   C. This Tennessee senator, often mocked by Donald Trump as being “widdle,” was the only Republican to vote against the bill.
   answer: Bob Corker (or Robert Phillips Corker Jr.)

12. About 1,000 plant species are gymnosperms [JIM-no-sperms]. For 10 points each—
   A. Most gymnosperms, including cedars, firs, and pines, house their seeds in these woody organs that consist of plates called “scales.”
   answer: cones (or strobilus; or strobili; accept pinecones; prompt on “conifer(s)” or “coniferous”)
   B. Unique fan-shaped leaves characterize the only extant plant in this gymnosperm genus; that plant has the species name biloba [bih-LOH-bah].
   answer: ginkgo [GEEN-koh] (accept Ginkgo biloba)
   C. The fossil record of these tropical plants, which have cylindrical non-branching trunks topped by a “crown” of leaves, dates back to the early Permian [PURR-me-in].
   answer: cycads [“SIGH”-kads]
13. The intense color of this product is caused primarily by the compound crocin [KROH-sin]. For 10 points each—
A. Name this thread-like spice with a distinctive golden-orange color. It is generally regarded as the world’s most expensive spice.
   answer: saffron
B. Saffron is a key ingredient in paella [pah-AY-uh], often considered a national dish of this country where it originated.
   answer: Spain (or Kingdom of Spain or Reino de España)
C. Saffron contains large amounts of this transition metal whose atomic symbol is Mn [M-N].
   answer: manganese

14. A song by the German band Nena [NEE-nuh] describes 99 of these objects “on their way to the horizon.” For 10 points each—
A. Name these inflatable objects that the band Goldfinger described as “red” and “floating” in an English-language cover of Nena’s song.
   answer: balloons (or Luftballons; accept 99 Luftballons or 99 Red Balloons; accept air balloons; do not accept or prompt on “hot air balloon(s)”)  
B. “Black Balloon” was the first single from this band’s 1998 album Dizzy Up the Girl, which also featured their hits “Slide” and “Iris.”
   answer: Goo Goo Dolls
C. During this singer’s Dangerous Woman tour, pink balloons dropped as she sang “Sometimes.” She released the song “No Tears Left to Cry” in 2018.
   answer: Ariana Grande [GRAHN-day] (or Ariana Grande-Butera)

15. The landscape in this painting’s foreground is replaced by a series of rectangular bricks in a 1954 painting titled for its “disintegration.” For 10 points each—
A. Name this 1931 painting that features the Cap de Creus [kahp day KRAY-ooz] peninsula and a number of melting clocks.
   answer: The Persistence of Memory (or La Persistencia de la Memoria)
B. This designer of the Chupa Chups logo, a Spanish surrealist painter, created The Persistence of Memory.
   answer: Salvador Dalí [dah-LEE] (or Salvador Domingo Felipe Jacinto Dalí i Domènech)
C. A Dalí painting subtitled “Corpus Hypercubus” depicts this religious scene. “Stabat Mater” [STAH-baht MAH-tair] paintings show Mary and St. John the Evangelist flanking this scene.
   answer: crucifixion of Jesus

16. For 10 points each—answer the following about the 2016 encryption dispute between Apple and the FBI:
A. The FBI wanted Apple to enable them to unlock one of these products, whose 8, 8 Plus, and X [“ten”] models were announced in 2017.
   answer: iPhone
B. The iPhone in question belonged to one of the perpetrators of a 2015 terrorist attack at the Inland Regional Center in this California city.
   answer: San Bernardino
C. This libertarian politician who founded an antivirus software company volunteered to personally unlock the iPhone.
   answer: John (David) McAfee
17. John Dryden was the first official holder of this position, whose current holder, Carol Ann Duffy, is the first woman to hold it. For 10 points each—
A. Name this royally-appointed literary position, whose American equivalent is a consultant to the Library of Congress. 
answer: Poet Laureate (of the United Kingdom)

B. The longest-tenured British Poet Laureate was this Victorian author of “In Memoriam A.H.H.” and “The Charge of the Light Brigade.”
answer: Alfred, Lord Tennyson

C. The heroic title character of this Tennyson poem notes that “tho’ much is taken, much abides” and vows “to strive, to seek, to find, and not to yield.”
answer: Ulysses [yoo-LIH-seez]  

18. For 10 points each—answer the following about a military defeat for Toyotomi Hideyoshi [toh-yoh-toh-mee hee-day-yoh-shee] in the 1590s:
A. Hideyoshi attempted to conquer this peninsula, which at the time was ruled by the Kingdom of Joseon [CHOH-sun].
answer: Korean Peninsula

B. This caste of Japanese warriors composed the core of Hideyoshi’s military force.
answer: samurai [saa-moo-rye] (accept bushi or buke)

C. Yi Sun-sin [EE soon-sheen] led the Koreans to several victories over the Japanese navy using panokseons [pah-nohk-"sons"] and large warships named after this animal.
answer: turtles (accept turtle ship(s); prompt on “Geobukseon” or “gwiseon”; do not accept or prompt on “tortoise(s)”)  

19. In 2003 astronomers witnessed a series of events dubbed the “Halloween Storms.” For 10 points each—
A. The interaction of those storms with the Earth’s magnetic field resulted in the “borealis” form of these phenomena, which are often called the Northern Lights.
answer: aurora borealis or auroras

B. The storms produced one of the rare “X” class of these eruptions, which can output more than $10^{25}$ ["ten to the twenty-five"] joules ["jewels"] of energy.
answer: solar flares (prompt on “flare(s)”)  

C. Solar flares can also cause “proton storms” that create charged particles in this atmospheric layer, which contains electron-dense regions labeled D, E, and F.
answer: ionosphere ["eye-AH-noh-"sphere"]

20. This actress sang “The Trolley Song” in Meet Me in St. Louis. For 10 points each—
A. Name this actress whose best known character lives on a farm in Kansas with Aunt Em, Uncle Henry, and Toto.
answer: Judy Garland (or Frances Ethel Gumm)

B. Garland played Dorothy Gale, who follows the yellow brick road to Emerald City in this film.
answer: The Wizard of Oz

C. Garland starred with James Mason in this 1954 musical about the rise of a young singer/actress. It is currently being remade with Lady Gaga.
answer: A Star Is Born
21. For 10 points each—name these Brazilian cities:
A. This capital of Brazil was planned and developed in the 1950s to serve as a replacement for Rio de Janeiro [REE-oh day zhuh-NAIR-oh].
answer: Brasilia [brah-SEE-lee-uh]
B. This most populous Brazilian city is also the most populous Portuguese-speaking city in the world.
answer: São Paulo [sawn PAO-loo]
C. This most populous city in the Amazon rain forest was at the heart of the Brazilian rubber boom in the late 19th century.
answer: Manaus [mah-NAH-ooz]

22. A law in this state regulating the working hours of bakers was struck down in a case in which this state opposed Joseph Lochner ['LOCK'-nur]. For 10 points each—
A. Name this state where pro-labor legislation was championed by Fiorello La Guardia [fee-uh-REH-loh lah-GWAR-dee-ah].
answer: New York [The case was Lochner v. New York.]
B. William Tweed was the “boss” of this New York City political machine, which opposed pro-labor factions in the 19th and 20th centuries.
answer: Tammany Hall (accept Society of St. Tammany or Sons of St. Tammany or Columbian Order or Tammany Society)
C. New York City was the site of a 1911 conflagration in this building that resulted in the deaths of over 100 garment workers.
answer: Triangle Shirtwaist Factory

23. This author described the possible supernatural possession of Eleanor Vance in her horror novel The Haunting of Hill House. For 10 points each—
A. Name this author who shocked readers of the New Yorker with a story in which Tessie Hutchinson unluckily draws a marked slip from a black box.
answer: Shirley (Hardie) Jackson
B. Name that story by Jackson, in which Tessie is then stoned to death.
answer: The Lottery
C. Jackson wrote a 1956 children’s book about these early-1690s events in Massachusetts. Arthur Miller’s The Crucible fictionalizes these events.
answer: Salem witch trial(s) (or Salem witch hunt(s) or Salem witch panic; accept equivalents that mention Salem and the concept of witchcraft; prompt on partial answers)

24. Pencil and paper ready. For 10 points each—answer these questions about rolling a pair of six-sided dice:
A. What is the probability that both dice show the same number?
answer: 1/6 or 1 in 6 [Regardless of the value of the first die, there is a 1/6th chance the second die matches it.]
B. What is the probability that the sum of the roll is 8?
answer: 5/36 or 5 in 36 [There are 5 outcomes ((6, 2), (5, 3), (4, 4), (3, 5), and (2, 6)) that produce a sum of 8 out of 6 × 6 = 36 total possible outcomes.]
C. What is the probability that neither die shows a '6'? You have 10 seconds.
answer: 25/36 or 25 in 36 [Each die has a 1/6th chance of showing '6', and thus a 1 - (1/6) = 5/6ths chance of not showing '6'; since the dice are independent, the overall probability of zero '6's is (5/6) × (5/6) = 25/36.]