1. **A historic music venue in this city inspired Ry Cooder to produce the 1997 album *Buena Vista Social Club*. This city's harbor is guarded by Morro Castle, which appears in the background of John Singleton Copley's *Watson and the Shark*. This capital city's Plaza de la Revolución contains a monument to the independence leader José (\*)** Martí [hoh-SAY mar-TEE], as well as a steel facade of Che Guevara [chay gay-VAR-ah]. For 10 points—name this capital of Cuba.

answer: Havana, Cuba

<GEO, GEO>

2. ***Pandinus imperator*** [PAN-dih-nuss im-PER-ah-tor]**, this arthropod's ”emperor” species, is often kept as an exotic pet. The beta-carboline** [BAY-tuh KAR-buh-leen] **in its cuticle** [“CUTE”-ih-kul] **causes this animal to fluoresce under UV light. This animal often captures its prey by using powerful pedipalps** [PED-ih-palps] **modified for grasping and a (\*)** venom-containing metasoma [MET-uh-SOH-muh] held up and over the back. For 10 points—name this type of arachnid with grasping pincers and a curved, stinging tail.

answer: scorpion(s) or Scorpiones (accept emperor scorpions)

<SCI, BIO>

3. **This title is symbolized by the German motto ”*Ich dien*”** [eek deen]**, meaning “I serve,” and the image of three ostrich feathers. After the death of Llywelyn ap Gruffudd** [loo-“ELLEN” ap GRIFF-ith]**, who held this title, the right to choose who to invest with it was claimed by Edward I. The current (\*)** Duke of Cambridge is next in line to receive this title. For 10 points—give this title traditionally bestowed upon the eldest male heir to the British throne.

answer: prince of Wales (or Tywysog Cymru; prompt on “prince”)

<HIST, EURO>

4. **This author wrote about an orphan named Bliss who becomes a U.S. senator in the posthumous novel *Three Days Before the Shooting . . .*, part of which was initially published under the title *Juneteenth*. Another novel by this author is narrated by a man who listens to recordings of Louis Armstrong while living in an (\*)** underground shelter. For 10 points—what author described a Harlem “Brotherhood” in the novel *Invisible Man*?

answer: Ralph (Waldo) Ellison

<LIT, AMER>

5. **Ben Olmstead invented an esoteric one of these systems, Malbolge** [mal-BOHL-guh]**, that is not Turing-complete. Functional ones like Haskell and Scheme minimize side effects. Old examples of them include ALGOL, Ada, and one named “Beginners's All-Purpose Symbolic Instruction (\*)** Code,” commonly called BASIC. Compilers translate “high-level” ones into machine code. Algorithms are expressed in—for 10 points—what “languages” like Java?

answer: programming language(s) (prompt on “language(s)”; prompt on “esolang” until “Haskell”)

<SCI, OTHER>

6. **In a January 2016 op-ed, Barack Obama explained why he banned this practice for juveniles in federal custody. Louisiana controversially subjected the “Angola Three” to this practice for over 30 years. This practice, which has been linked to “social (\*)** atrophy” and self-mutilation, typically involves one hour per day in an ”exercise cage.” For 10 points—name this practice in which a prisoner is denied nearly all human contact.

answer: solitary confinement (or being held in solitary; prompt on answers mentioning “isolation” or “segregation” or ”(the) hole” or equivalents)

<CE, CE>

7. **This man led an attack against British forces at Parker's Ferry, which contributed to Nathanael Greene's victory the next month at Eutaw** [YOO-taw] **Springs. This man's nickname was supposedly given to him by Banastre Tarleton, who said that the ”devil himself” could not have caught this man best-known for using (\*)** guerrilla tactics against the British in South Carolina. For 10 points—name this colonial soldier known as the “Swamp Fox.”

answer: Francis Marion (prompt on “Swamp Fox” before “Swamp”)

<HIST, AMER>

8. **This man's death was said to have been “kept from his poems” in a poem that begins by proclaiming that he “disappeared in the dead of winter.” This subject of an elegy by W. H. Auden himself wrote of listening to “polite meaningless words” and of how a “terrible (\*)** beauty is born” in his poem “Easter 1916.” For 10 points—what poet wrote that the ”falcon cannot hear the falconer” and that “things fall apart” in “The Second Coming?”

answer: William Butler Yeats [rhymes with “gates”]

<LIT, BRIT>

9. **Six of these events, including the first two, featured the Grambling State marching band. Up With People performed in five of these events, in another of which rapper M.I.A. flipped her middle finger to the camera while appearing with Madonna. In 2004 an alleged (\*)** ”wardrobe malfunction” caused Justin Timberlake to expose Janet Jackson during—for 10 points—what event held after the second quarter of a major football game?

answer: Super Bowl halftime shows (prompt on partial answers)

<TRASH, POP CULT>

10. **This document, which was approved on February 5, 1917, included several articles that restricted the power of the Catholic Church. Its attempted enforcement by Plutarco Calles** [ploo-TAR-koh KYE-ace] **led to the Cristero War. The 27th article of this document was invoked by Lázaro Cárdenas** [LAH-sah-roh KAR-day-nahs] **to create the state oil company (\*)** Pemex. For 10 points—name this document that sets out the basic government structure of a North American country.

answer: Constitution of Mexico or Mexican constitution (or Political Constitution of the United Mexican States or Constitución Política de los Estados Unidos Mexicanos; accept Constitution of 1917 before “1917”; prompt on “constitution”)

<HIST, WORLD>

11. **An early version of this law was put forth by Ibn Sahl in his 10th-century work *On the Burning Instruments*. Fermat's** [fair-MAH'Z] **principle implies this law because going further in the faster medium reduces the total time. This law predicts the (\*)** critical angle for total internal reflection, and it involves sines of angles of travel. The bending of waves entering a new medium is described by—for 10 points—what law of refraction?

answer: Snell's law (of refraction) (or Snell-Descartes or Snellius's law; prompt on ”(law of) refraction”)

<SCI, PHYS>

12. **The first welfare theorem states that a condition named for this man is satisfied by competitive equilibria. A type of power-law distribution is named for this man because of his observation that about 20 percent of the population owns 80 percent of the total wealth. An allocation displays his namesake (\*)** ”efficiency” if no one can be made better off without making another worse. For 10 points—name this Italian economist.

answer: Vilfredo Pareto (or Vilfredo Federico Damaso Pareto or Wilfried Fritz Pareto; accept Pareto efficiency or Pareto optimality)

<RMPSS, SOC SCI>

13. **One composer with this last name wrote a march honoring the 1848 victory over the Kingdom of Sardinia at the Battle of Custoza** [koo-STOAT-suh]**, which is always the last encore of the Vienna Philharmonic's New Year's concert. A later composer with this surname composed *An Alpine Symphony* and (\*)** *Also Sprach Zarathustra* [ahl-ZOH shprahk ZAR-uh-TOOS-truh]. For 10 points—give this name of Richard [REE-kart] and Johann [YOH-hahn], who composed “The Blue Danube.”

answer: Strauss [shtrouse] (accept Johann Strauss II or Johann Strauss the Younger or Johann Strauss Jr. or Richard Strauss)

<FA, AUDIO>

14. **Since ancient times, this country's Kokcha River Valley has been mined for lapis lazuli** [lap-iss LAZ-uh-lee]**, which is used to make ultramarine pigments. In 2001 Mohammed Omar dynamited this country's cliffside Buddhas of Bamiyan** [bah-mee-yahn] **after declaring them to be idols. Like neighboring (\*)** Pakistan, a majority of its population consists of ethnic Pashtuns. In the 1980s the mujahideen [moo-jah-hih-DEEN] fought in—for 10 points—what country whose capital is Kabul?

answer: (Islamic Republic of) Afghanistan (or Jomhuri-ye Eslami-ye Afghanistan)

<GEO, GEO>

16. **According to this character, Fortune is a “false housewife.” This woman “pursed up” the heart of a lover by appearing in a barge that sat on the water “like a burnish'd throne.” Enobarbus claims that “custom” cannot “stale” this woman's “infinite variety.” This defeated foe of (\*)** Octavius Caesar uses the venom of two asps to commit suicide. Shakespeare wrote a tragedy about—for 10 points—what Egyptian queen who loved Mark Antony?

answer: Cleopatra (or Cleopatra VII Philopator; accept Antony and Cleopatra after “Antony”)

<LIT, BRIT>

17. **This character saves a woman from being beheaded by extremists in Karachi. Emelia Ricoletti fakes her death and murders her husband in an episode that largely takes place in this character's “mind palace.” This character fakes his death by jumping off the roof of St. (\*)** Bartholomew's Hospital in “The Reichenbach Fall.” For 10 points—name this character played by Benedict Cumberbatch, who lives at 221B Baker Street.

answer: Sherlock Holmes (accept either underlined portion)

<TRASH, POP CULT>

18. **To oppose this ruler, Clement VII [“the 7th”] organized the League of Cognac, resulting in this ruler's mutinous troops sacking Rome. He and the Schmalkaldic** [shmawl-“CALL”-dik] **League signed the Peace of Augsburg, allowing German princes to choose the religion of their realms. This emperor pushed for the Council of (\*)** Trent and presided over the Diet of Worms. For 10 points—name this Habsburg king of Spain and Holy Roman Emperor who abdicated in 1556.

answer: Charles V [“the fifth”] (or Charles I of Spain or Carlos I; prompt on “Charles”; do not accept or prompt on “Charles I”)

<HIST, EURO>

19. **A politician with this surname drew censure for his affair with Rielle Hunter, and was the 2004 running mate of John Kerry. Another man with this surname gave a speech at Northampton and Enfield in which he likened a (\*)** spider being held over a flame to God holding man over the pit of hell. For 10 points—give this surname of the preacher Jonathan, who delivered the sermon “Sinners in the Hands of an Angry God.”

answer: Edwards (accept John(ny Reed) Edwards or Jonathan Edwards)

<HIST, AMER>

20. **In chemistry, this letter can denote a constant that equals the charge on an electron times Avogadro's** [AH-voh-GAH-droh's] **number. The lanthanide** [LAN-thuh-nyde] **contraction is caused by the poor shielding of electrons in orbitals designated by this letter. This letter is the atomic symbol of the element found alongside carbon in (\*)** Teflon, which has the highest electronegativity. For 10 points—name this letter, the atomic symbol of the first halogen [HAL-uh-jin].

answer: F [The element described in the last two sentences is fluorine.]

<SCI, CHEM>

21. **This city was dubbed ”the city too busy to hate.” In an 1895 “exposition” in this city, the phrase ”cast down your bucket where you are” indicated that blacks would submit to white political rule. In 1964 the Supreme Court forcibly applied the Civil Rights Act to a (\*)** motel named for the “heart of” this city. Booker T. Washington negotiated a “compromise” named after—for 10 points—what capital of Georgia?

answer: Atlanta, Georgia (accept Heart of Atlanta Motel or Atlanta Compromise)

<HIST, AMER>

22. **This writer declared that “subjectivity is truth” in a work he would later describe as the “turning point” before his “second authorship.” This man, who used the pen name of Johannes Climacus in his *Concluding Unscientific Postscript*, described the “knight of infinite resignation” in a book that used (\*)** Abraham's binding of Isaac to argue for a “leap of faith.” For 10 points—what Danish philosopher wrote *Fear and Trembling*?

answer: Søren (Aabye) Kierkegaard [SOH-rin KEER-kuh-gard]

<RMPSS, PHIL>

23. **In one novella by this author, a stage show ends in violence after an Italian waiter kisses the hypnotist Cipolla** [chee-POH-luh]**. This author of *Mario and the Magician* also wrote a novel in which the “Frau Director” of the Berghof sells a thermometer to the protagonist, whose elevated temperature causes concerns of (\*)** tuberculosis [too-burk-yoo-LOH-siss]. For 10 points—what German author depicted Hans Castorp's time at a Swiss sanatorium in *The Magic Mountain*?

answer: (Paul) Thomas Mann [TOH-mahss MAHN]

<LIT, EURO>

24. **These things are created when a molecular cloud accumulates more mass than the Bonnor-Ebert mass and gravitational collapse begins. These objects become less luminous and develop a radiative zone if they follow the Hayashi** [“HI”-ash-EE] **track; they join the (\*)** main sequence on the Hertzsprung-Russell diagram if nuclear fusion begins. Red giants and yellow dwarfs are types of—for 10 points—what objects that include the Sun?

answer: stars (accept protostars before “Hertzsprung-Russell diagram”)

<SCI, OTHER>

Bonuses

1. During Roman times, this river's delta was guarded by the Moesian Limes [MEE-see-ahn LEE-“mace”], a series of fortifications sometimes called Trajan's [TRAY-jin's] Wall. For 10 points each—

A. Name this river that formed most of the Roman Empire's border throughout Central Europe. Today, this river flows through the European capitals of Budapest and Vienna.

answer: Danube (River) (or Donau or Dunaj(a) or Dunav or Dunai or Dunarea)

B. Rome's main possession north of the Danube was this historical region conquered by Trajan in the 2nd century. This region's territory includes much of modern-day Romania.

answer: Dacia [“DAY-she-uh”]

C. Much of modern-day Romania is covered by this mountain range, which ran through the center of Dacia.

answer: Carpathian [kar-PAY-thee-in] Mountains (or Carpathians)

<GEO, GEO>

2. For 10 points each—answer the following about surprise military victories following attacks from unexpected directions:

A. In 218 BC Hannibal brought a Carthaginian army—including elephants—across these mountains as a prelude to a series of victories in northern Italy.

answer: Alps

B. The rapid collapse of France in May 1940 is generally traced to Germany's rapid tank advance through this supposedly “impassable” forest. It was later the site of the Battle of the Bulge.

answer: Ardennes (Forest)

C. Louis-Joseph de Montcalm lost this battle after an “unscalable” cliff along the Saint Lawrence River was scaled by James Wolfe's men.

answer: Battle of the Plains of Abraham (or Battle of Quebec (City))

<HIST, OTHER>

3. Pencil and paper ready. For 10 points each—answer these questions about radians:

A. If a sector of a circle has a central angle of 1 radian, then the length of its subtending arc is the same as what other aspect of the circle?

answer: (its) radius [by the definition of “radian”]

B. To within 5 percent, how many degrees are in 1 radian?

answer: 57.30 degrees (accept any answer between 54.44 degrees and 60.16 degrees) [1 radian = 180/pi degrees; since pi is bit more than 3, 180/pi must be a little less than 180/3 = 60 degrees.]

C. If a disk is spinning at 10 revolutions per minute, what is its angular speed in radians per second? You have 10 seconds.

answer: pi/3 radians/second or 1/3 pi radians/second (do not accept or prompt on “1/3”) [(10 revolutions/minute) × (2 pi radians/revolution) × (1 minute/60 seconds) = (20 pi)/60 = pi/3 rad/s]

<SCI, OTHER>

4. For 10 points each—answer the following about unusual occupations in Gabriel García Márquez's novel *One Hundred Years of Solitude*:

A. Aureliano Buendía [aw-rel-ee-AH-noh bwen-DEE-uh] spends his days making small fish out of this metal. Early in the novel José Arcadio [hoh-SAY ar-KAH-dyoh] attempts to create this metal using the alchemy of the gypsies.

answer: gold

B. Aureliano maintains this rank when serving in the military. This rank also appears in the title of a Garcia Marquez novel about a veteran of the Thousand Days' War.

answer: colonel (accept No One Writes to the Colonel or El Coronel No Tiene Quíen le Escriba)

C. This character, the mother of Aureliano and matriarch of the Buendía family, earns her living by manufacturing candy in the shape of animals.

answer: Úrsula Iguarán (accept either underlined portion)

<LIT, OTHER>

5. A series of blue and yellow umbrellas installed by this artist was removed after one was blown over and killed a woman. For 10 points each—

A. Name this artist, who with his wife Jeanne-Claude, wrapped the Reichstag in fabric as part of another artwork.

answer: Christo [KREE-stoh] (Vladimirov) Javacheff (accept either underlined portion)

B. Christo and Jeanne-Claude's artwork *The Gates* was set up in this New York City park, which was designed by Frederick Law Olmsted.

answer: Central Park

C. Christo and Jeanne-Claude's other works include wrapping islands in Biscayne Bay near Miami in polypropylene [“poly”-PRO-puh-leen] fabric that was this neon color.

answer: pink

<FA, OTHER>

6. This man sent Russian troops to crush the 1831 November Uprising in Poland. For 10 points each—

A. Name this conservative Russian tsar who succeeded his brother Alexander I, and was himself succeeded by his son Alexander II.

answer: Nicholas I of Russia (or Nikolai I of Russia; prompt on “Nicholas” or “Nikolai”)

B. Shortly after taking power in 1825, Nicholas's rule was challenged by this uprising of soldiers who favored his older brother Constantine.

answer: Decembrist uprising (or Vosstanie dekabristov; accept similar terms in place of “uprising”)

C. During the Revolutions of 1848, Nicholas sent Russian troops to help suppress the liberal uprising of Lajos Kossuth [LOY-ohsh kuh-SOOTH] in this country, which would later enter a ”dual monarchy” with Austria to its west.

answer: Hungary (or Magyarország)

<HIST, EURO>

7. In one scene, Captain Miller's squad believes they have found this character, only to later realize they are talking to a man whose middle name is Frederick, not Francis. For 10 points each—

A. Name this title character played by Matt Damon in a 1998 film.

answer: Private Ryan (or James Francis Ryan; accept Saving Private Ryan)

B. This man won his second Best Director Oscar for *Saving Private Ryan*. He won his first for directing *Schindler's List*.

answer: Steven (Allan) Spielberg

C. In *Saving Private Ryan* the men of Captain Miller's squad have an ongoing bet as to Miller's pre-war occupation, which Miller eventually reveals to have been this.

answer: high school teacher (accept English (composition) teacher; accept any answer indicating an educator or the notion of teaching; prompt on ”(baseball) coach”)

<TRASH, POP CULT>

8. In October 2015 Metrojet Flight 9268 broke up in midair shortly after taking off on a flight to St. Petersburg. For 10 points each—

A. The jet departed Sharm el-Sheikh, a resort town at the south tip of this country's Sinai peninsula.

answer: Egypt (or Arab Republic of Egypt or Gumhuriyat Misr al-Arabiyah)

B. This president of Egypt, who orchestrated the 2013 coup that toppled Mohammed Morsi, claimed Egypt's airports were “safe and secure” after many countries suspended flights to Sharm el-Sheikh.

answer: Abdel Fattah el-Sisi

C. A loud noise recorded on this device led to speculation that a bomb brought down the plane. Along with a flight data recorder, it is one of a plane's ”black boxes.”

answer: cockpit voice recorder or CVR (prompt on partial answer)

<CE, CE>

9. This composer wrote a hymn about people “Marching as to war / With the cross of Jesus / Going on before.” For 10 points each—

A. Name this composer of “Onward, Christian Soldiers,” as well as such “Savoy operas” as *The Yeoman of the Guard*.

answer: Sir Arthur (Seymour) Sullivan

B. Sullivan worked with this librettist on *The Yeoman of the Guard*, as well as on such works as *The Mikado* and *H.M.S. Pinafore*.

answer: Sir William (Schwenck) Gilbert

C. “I Am the Very Model of a Modern Major-General” is sung in this Gilbert and Sullivan operetta about Frederic, who has mistakenly been apprenticed to the title group of criminals.

answer: The Pirates of Penzance

<FA, OTHER>

10. An old woman in this novel quotes the English Protestant martyr Hugh Latimer before setting her own house aflame. For 10 points each—

A. Name this Ray Bradbury novel in which Latimer's statement about a ”candle” that will “never be put out” is recognized by Fire Captain Beatty [“BAIT”-ee].

answer: Fahrenheit 451 [“four-fifty-one”]

B. This protagonist of *Fahrenheit 451* secretly rescues a book from the old woman's house.

answer: Guy Montag (accept either underlined portion)

C. Guy Montag is married to this woman, who finds the salvaged book under a pillow, and almost reveals its location to Captain Beatty.

answer: Mildred Montag (or Millie Montag; prompt on ”(Mrs.) Montag”)

<LIT, AMER>

11. For water, it is at approximately 0.01 atmospheres of pressure and 0.01 degrees Celsius. For 10 points each—

A. Name this point at which water vapor, ice, and liquid water can exist in equilibrium.

answer: triple point (of water)

B. This man's phase rule requires that in a single-component system, if three phases are in equilibrium, it must be a fixed point.

answer: J(osiah) Willard Gibbs Jr. (accept Gibbs's phase rule)

C. The lambda point on the phase diagram for this element is a discontinuity; below the lambda point, this element acts like a fluid with zero viscosity.

answer: helium (or He)

<SCI, CHEM>

12. For 10 points each—answer the following about ancient battles fought in Asia:

A. This Greek leader led his Hellenic League to victory over Darius III's [duh-RYE-uss “the third's”] Persian Empire in the 331 BC Battle of Gaugamela [gaw-guh-MEE-luh], which was fought in present-day Iraq.

answer: Alexander the Great (or Alexander III of Macedon or Aléxandros ho Mégas; prompt on “Alexander”)

B. Liu Bang's [lee-yoo “bang's”] victory in the 202 BC Battle of Gaixia [gye-shee-uh] traditionally marks the beginning of this Chinese dynasty that succeeded the Qin [“chin”].

answer: Han [hahn] dynasty (or Han cháo)

C. Han China fought the 119 BC Battle of Mobei [moh-bay] against the Mongolia-based Xiongnu [shung-noo], whose threat to China was the impetus for the construction of this extensive fortification.

answer: Great Wall of China (or Wanli Changcheng)

<HIST, OTHER>

13. This man's head became stuck between two oak branches during his army's defeat at the Battle of Ephraim's Wood. For 10 points each—

A. Name this handsome biblical figure whose rebellion against his father was retold in a John Dryden poem that pairs him with Achitophel [uh-KIT-uh-fell].

answer: Absalom [AB-suh-lahm] (accept Absalom and Achitophel)

B. Thomas Sutpen is disappointed that his child with Milly is a girl in this author's novel *Absalom, Absalom!*.

answer: William (Cuthbert) Faulkner (or William Cuthbert Falkner)

C. Stephen Kumalo's son Absalom murders Arthur Jarvis in this novel set in South Africa, by Alan Paton.

answer: Cry, the Beloved Country

<LIT, OTHER>

14. For 10 points each—name these authors who wrote ”autobiographies” of people other than themselves:

A. This author, who described a slave's voyage across the Atlantic in the novel *Roots*, conducted multiple interviews to write *The Autobiography of Malcolm X*.

answer: Alex Haley (or Alexander Murray Palmer Haley)

B. This novelist wrote about the activities of the mysterious V.F.D. organization in the “Unauthorized Autobiography” of his alter ego, Lemony [“LEMON”-ee] Snicket.

answer: Daniel Handler

C. This author, who popularized the term “Lost Generation,” wrote an autobiography in the guise of her lover Alice B. Toklas [“TOKE”-luss].

answer: Gertrude Stein

<LIT, OTHER>

15. This unit equals one joule [jool] per coulomb [KOO-lohm]. For 10 points each—

A. Name this unit used to measure battery strength.

answer: volt(s)

B. This phrase typically abbreviated “emf” [“E-M-F”] denotes the potential difference or output voltage produced by a battery.

answer: electromotive force

C. This man's loop rule for circuit analysis states that the signed sum of voltages around a circuit loop equals zero.

answer: Gustav (Robert) Kirchhoff [KEER-koff]

<SCI, PHYS>

16. This hero crossed the ocean in a single leap and burnt down the island fortress of Lanka after his tail was lit on fire. For 10 points each—

A. Name this god who brought a healing herb for Lakshmana [“luck”-shmuh-nuh] during a battle with the demon king Ravana [ruh-vuh-nuh].

answer: Hanuman [HAH-noo-mun]

B. Hanuman was the companion of Rama [RAH-mah], the seventh avatar of this Hindu preserver god who forms a trinity with Brahma [BRAH-mah] and Shiva [SHIH-vuh].

answer: Vishnu [VISH-noo] (or Visnu)

C. As a child, Hanuman was struck by one of these weapons when he tried to eat the Sun. They are produced by Mjolnir [M'YOHL-neer] in Norse myth, while in Greek myth they are forged by three Cyclopes [“SIGH”-kloh-peez].

answer: thunderbolts (accept lightning bolts)

<RMPSS, MYTH>

17. For 10 points each—name these 19th-century speakers of the House:

A. This Kentuckian who lost the 1832 and 1844 presidential elections served three different stints as speaker.

answer: Henry Clay (Sr.)

B. This “Continental Liar” from Maine served as speaker from 1869 to 1875, was secretary of state under three presidents, and lost the 1884 presidential election to Grover Cleveland.

answer: James G(illespie) Blaine

C. This Civil War-era speaker from Indiana was Ulysses S. Grant's first vice president. He was forced to resign in the Crédit Mobilier [moh-beel-yay] scandal.

answer: Schuyler Colfax [SKYE-lur KOHL-faks]

<HIST, AMER>

18. For 10 points each—answer the following about square roots:

A. Taking the square root of *x* is the same as raising *x* to this exponent.

answer: ½ (or 0.5)

B. One can prove by contradiction that if the square root of an integer is not an integer, it must be what other kind of number?

answer: irrational number (do not accept or prompt on “rational” or “transcendental”)

C. To one decimal place, what is the positive square root of 3?

answer: 1.7(32 . . .)

<SCI, OTHER>

19. This man wrote the controversial 1643 pamphlet *The Doctrine and Discipline of Divorce*. For 10 points each—

A. Name this 17th-century English poet, who reflected “On His Blindness” in a sonnet that concludes with the line ”they also serve who only stand and wait.”

answer: John Milton

B. Adam remarks to Eve that “from thy State / Mine never shall be parted, bliss or woe” in this Milton epic.

answer: Paradise Lost

C. Milton's relationship with his royalist wife is the subject of a book by this author of the historical novel *I, Claudius*.

answer: Robert Graves (or Robert von Ranke Graves)

<LIT, BRIT>

20. Nearly 60% of this country's population consists of indigenous ethnic groups, including the Quechuas [KESH-wuhs] and Aymaras [“eye”-MAR-uhs]. For 10 points each—

A. Name this landlocked South American nation whose major cities include La Paz and Sucre [SOO-crey].

answer: (Plurinational State of) Bolivia (or Estado Plurinacional de Bolivia)

B. A Quechua word for “hunting land” names this lowland region, which is partially located in Bolivia. This region was once thought to contain oil, sparking a namesake war in the 1930s.

answer: Gran Chaco (accept Gran Chaco War)

C. Bolivia fought the Gran Chaco War against this neighboring nation to the east.

answer: (Republic of) Paraguay (or República del Paraguay)

<HIST, WORLD>

21. Republican senator David Vitter lost this state's 2015 gubernatorial election, in part due to his involvement in a prostitution scandal. For 10 points each—

A. Name this southern state where Vitter was a candidate to succeed Bobby Jindal.

answer: Louisiana

B. Vitter lost to this man, who became the first Democrat in 7 years to win a statewide Louisiana election.

answer: John Bel Edwards

C. After the loss, Vitter declared he would not run for re-election to the Senate in 2016; this current mayor of New Orleans has not ruled out a run for Vitter's seat.

answer: Mitch Landrieu [LAN-drew] (or Mitchell (Joseph) Landrieu)

<CE, CE>

22. There is more than one way to define a hyperbola. For 10 points each—

A. One definition is that a hyperbola is the set of all points whose distances from two fixed points have a constant difference. Give the name of the two fixed points.

answer: foci [FOH-“sigh”] (or focuses or focal points)

B. A hyperbola is also the locus of points whose distance to a focus and distance to this line have a constant *ratio*, called the eccentricity, greater than one.

answer: directrix

C. For the general second-degree equation [no need to specify case of letters] *A* *x* squared plus *B* *x* *y* plus *C* *y* squared plus *D* *x* plus *E* *y* plus *F* equals zero, this expression must be negative for the equation's graph to be a hyperbola. Give an answer in terms of *A*, *B*, *C*, *D*, *E*, and *F*.

answer: B2 - 4AC (or -4AC + B2; case is irrelevant)

<SCI, OTHER>

23. It was founded by a one-time Unitarian minister named George Ripley. For 10 points each—

A. Name this attempt at communal living in West Roxbury, Massachusetts that briefly flourished during the 1840s.

answer: Brook Farm (accept Brook Farm Institute of Agriculture and Education)

B. Ripley served as an editor of *The Dial*, a leading magazine of this American philosophical movement, whose members include Margaret Fuller and the author of “Self-Reliance.”

answer: Transcendentalism (accept forms such as Transcendentalist)

C. During the 1840s, Massachusetts was also home to a utopian commune known as Fruitlands, which was founded by the father of this author of *Little Women*.

answer: Louisa May Alcott [It was founded by her father, Bronson Alcott.]

<LIT, AMER>

24. For 10 points each—answer the following about fundraisers to combat specific health conditions:

A. From 1966 to 2010 comedian Jerry Lewis hosted a Labor Day telethon to fight this condition that results in the weakening of the muscles.

answer: muscular dystrophy or MD

B. This charity was founded by Franklin Roosevelt to fight polio; it later expanded to include preventing premature births and birth defects.

answer: March of Dimes Foundation (accept National Foundation for Infantile Paralysis)

C. Charlie Sheen upended $10,000 on himself as part of this fundraiser, which garnered over $100 million for ALS research after it went viral in the summer of 2014.

answer: ice-bucket challenge

<CE, CE>