
2. The andante [ahn-DAHN-tay] second movement of a piece by this composer opens with the theme “C-C-E-E-G-G-E.” Two muted violins are left playing after the other performers extinguish candles at the end of a symphony, signaling his departure from the (*) Esterházy [ESS-tur-HAH-zee] family’s palace. A loud G-major chord meant to “make the ladies jump” is included in a work by—for 10 points—what composer of symphonies nicknamed Farewell and Surprise? answer: (Franz) Joseph Haydn [“Hi-din”] <455658>

3. In this borough [‘burrow’], the artist Kara Walker exhibited a sculpture of a sphinx inside the original Domino Sugar Refinery. Wallabout [‘wall-about’] Bay contains a “navy yard” named for this borough. Nathan’s Famous Hot Dog Eating Contest is held in this borough’s (*) Coney [KOH-nee] Island. Jackie Robinson broke baseball’s color barrier when he joined this borough’s Dodgers. For 10 points—what borough is separated from Manhattan by a namesake bridge? answer: Brooklyn (accept Brooklyn Navy Yard or Brooklyn Dodgers or Brooklyn Bridge; do not accept or prompt on “New York (City)”) <452198>

4. Optical pumping is used to prepare these devices for use by energizing their gain medium. These devices are partly named for a process that was predicted in 1917 by Albert Einstein, and whose reverse is the process of absorption. A population inversion allows these devices to produce (*) coherent, collimated [KAH-luh-’mated’] output. For 10 points—name these devices that produce monochromatic [mah-noh-koh-MAT-ik] beams of light using stimulated emission. answer: lasers (accept masers; prompt on “population inversion(s)” before “prepare these devices”) <460407>

5. This man lost popular support after being named the Earl of Chatham [‘CHAT-un] and losing his nickname of the “Great Commoner.” Along with the Duke of Newcastle, he formed a coalition that led Britain during the Seven Years’ War. The renaming of Fort (*) Duquesne [doo-kayn] honored this man, whose son of the same name also served as British prime minister. For 10 points—what British politician inspired the name of a city in western Pennsylvania? answer: William Pitt the Elder (accept Fort Pitt; prompt on “Pittsburgh”; do not accept or prompt on “William Pitt the Younger”) <454466>
6. In this novel, two unnamed lovers making their way to the Chênière Caminada [chen-YAIR kah-mih-NAH-duh] for a Sunday mass are followed “at no great distance” by a “lady in black.” This novel’s protagonist is said to lack the qualities of a “mother-woman,” unlike her Creole friend Adèle Ratignolle [uh-DEL rat-teen-YOHL]. (*)

Robert Lebrun [roh-BAIR luh-BROON] abruptly ends a summer vacation at Grand Isle, much to the dismay of Edna Pontellier [pahn-tel-YAY], in—for 10 points—what novel by Kate Chopin [SHOH-pan]?

answer: The Awakening

7. Paul Lauterbur and Peter Mansfield used gradients in their development of this technique in 1970s. T1 and T2 weighted images can be generated using this technique, which often employs gadolinium-based contrast agents to improve visibility. People with (*) metal implants often cannot undergo this technique. For 10 points—name this medical imaging modality that uses a strong magnetic field.

answer: MRI or magnetic resonance imaging

8. Two architects from this country designed an innovative glass façade [fuh-SAHD] with fully glazed corners for the Fagus [FAY-gus] Factory. Architects who emigrated from this country designed Tel Aviv’s [TEL ah-VEE-AY’s] “White City” buildings. The Barcelona Pavilion and the Seagram Building were designed by a man from this country who used the motto “less is more.” (*) Walter Gropius [VAHL-tur GROH-pee-us] and Ludwig Mies van der Rohe [LOOT-veeg MEEZ van dair ROH-eh] were from—for 10 points—what home of the Bauhaus [‘BOUGH-house]?*.

answer: Germany (or Federal Republic of Germany or Bundesrepublik Deutschland or German Empire or German Reich or Deutsches Kaisersreich)

9. Frank Knight’s magnum opus argues that this quantity cannot be eliminated by competition due to the persistence of risk and uncertainty. This quantity is maximized at the point where “MR equals MC.” Opportunity cost is factored into the (*) “economic” type of this quantity, but not the “normal” type. Neoclassical economics usually assumes that firms maximize—for 10 points—what value equal to “revenue minus cost”?

answer: profit(s) (accept net income; accept normal profit(s) or economic profit(s) or operating profit(s); accept or Risk, Uncertainty, and Profit; do not accept or prompt on “income” or “revenue”)

10. In an 1822 book analyzing this physical process, Joseph Fourier [zhoh-SEF foo-ree-AY] introduced Fourier series, and argued that this process is governed by a diffusion equation. Microscopic collisions carry energy from hot to (*) cold regions in this process, which is how we know an ice cube is cold when we touch it. For 10 points—name this form of heat transport that is contrasted with radiation and convection.

answer: conduction (or heat or thermal conduction; prompt on “heat flow” or “heat transport” before “heat”; do not accept or prompt on “heat” or “heat or thermal conductivity”)

11. In one novella by this author, a hermit who steals a gold basin, sets fire to a house, and drowns a teenager is eventually revealed to be an angel. This author of Zadig [zhah-DREEG] also wrote a novella in which red sheep transport treasure out of El (*) Dorado [doh-RAH-doh], where the title character travels after leaving the castle of Thunder-ten-Tronckh. For 10 points—what French author created the eternally optimistic Dr. Pangloss [PAN-‘gloss’] in Candide [kan-DEEED]?*

answer: Voltaire [vohl-TAIR] (or François-Marie Arouet [ah-roo-AY])

12. In 1941 Herbert Sorrell led a strike against a company named for this man, who later testified that Sorrell was a communist. This man founded the Laugh-O-Gram Studio in Kansas City. He teamed with Ub Iwerks [ubb “EYE-works”] to create a 1928 short depicting a chaotic (*) river journey. For 10 points—name this animation pioneer whose film Steamboat Willie popularized the characters of Minnie and Mickey Mouse.

answer: Walt Disney (or Walter Elias Disney; accept Disney animators' strike or Walt Disney Studios)

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13. This element has the highest atomic number of any primordial element. In the late 1800s, Henri Becquerel noticed spots on a photographic plate exposed to salts of this element isolated from pitchblende. This element’s concentrated powder form is called (*) yellowcake; this element undergoes neutron capture and beta decay to form plutonium. For 10 points—name this element whose isotope ["EYE"-suhtohp] 235 is used in nuclear power plants.

answer: uranium (or U)  

14. This poem’s speaker declares “the voices just can’t worm through” because “the black telephone’s off at the root.” The last stanza of this poem states that “the villagers never liked” the title figure, who wore a “ neat mustache” and is called a (*) “panzer-man.” The line “you do not do, you do not do” opens this poem, which claims “every woman adores a fascist.” For 10 points—name this Sylvia Plath poem about a male family member.

answer: Daddy  

15. Two major cyber espionage groups are named after “fancy” and “cozy” examples of these animals. One of these animals walks under a white, red, and blue flag in the logo of the majority party in the State Duma. A prime minister who is often represented as one of these animals in cartoons annexed (*) Crimea ["cry-uh-ME-uht") in 2014. Dmitri Medvedev’s [med-VAY-dyeufs] surname derives from—for 10 points—what animal often used to symbolize Russia?

answer: bears (or Ursidae; accept Russian bear or Eurasian brown bears or Ursus arctos arctos; accept Fancy Bear or Cozy Bear; accept medved before “Dmitri”)  

16. In 2017 this NBA team’s ownership sold its WNBA ["W-N-B-A"] team, which became the Las Vegas Aces. R. C. Buford is the general manager of this team. In 2014 this team made Becky Hammon the first woman to be a full-time NBA coach. This team un-retired Bruce (*) Bowen’s jersey number in 2015 for former Portland Trailblazer LaMarcus Aldridge. Kawhi [kuh-WYE] Leonard is coached by Gregg Popovich ["POP-uht-witch") on—for 10 points—what NBA team from Texas?

answer: San Antonio Spurs (accept either underlined portion)  

17. One of these structures is regulated by a negative feedback mechanism called attenuation. They can be “negative inducible” or “positive inducible” depending on what their inducer molecules bind to. The first of these structures to be discovered was found in (*) E. coli by Jacob [juh-KOHB] and Monod [muh-NOH]. Clusters of genes controlled by a single promoter make up—for 10 points—what units of DNA, examples of which include “lac” ["lack"] and “trp” ["trip"]?

answer: operons  

18. In an often-omitted scene from Romeo and Juliet, a Capulet ["CAP-uht-yoo-let"] servant of this name argues with musicians. This is the first name of the man who helms the production of Pyramus and Thisbe [PEER-uht-miss "and" THILZ-bee] in A Midsummer Night’s Dream. A mother swears she “saw a face at the (*) window” at the beginning of a 1904 play about a boy with this first name. For 10 points—what is the first name of the flying boy who guides Wendy Darling to Never Land?

answer: Peter (accept Peters; accept Peter Quince or Peter Pan or Peter Pan; or, the Boy Who Wouldn’t Grow Up)  

19. A character in this film notes that “ignorance is bliss” after describing the taste of a steak. While being interrogated, this film’s protagonist suddenly finds that his mouth is missing. Hugo Weaving appears as this film’s suit-wearing, generically-named antagonist. A (*) slow-motion effect called “bullet time” was popularized in—for 10 points—what 1999 film by the Wachowskis [wuht-"CHOW-skeez") that starred Keanu [kee-AH-noo] Reeves as the hacker Neo?

answer: The Matrix [Hugo Weaving plays Agent Smith.]
20. This country has disputed its eastern border on the Essequibo [ay-say-KEE-boh] River since the 1800s. A waterfall atop a “tepui” [“tape”-WEE], or table-top mountain, in this country is named for an American aviator [AY-vee-ate-ur]. In what is now this country, indigenous people constructed stilt houses that reminded Amerigo Vespucci [ah-meh-REE-goh veh-SPOO-chee] of (*) Venice, thus giving this country its name. Angel Falls is in—for 10 points—what South American country whose capital is Caracas [kah-RAH-kahs]?

answer: Venezuela (or Bolivarian Republic of Venezuela or República Bolivariana de Venezuela) [Angel Falls is named after the aviator Jimmie Angel.]

21. Congress overrode this president’s veto of a bill punishing South Africa for apartheid [“apart-hide”]. The situation of U.S. medical students at St. George’s University led this man to order Operation Urgent Fury, the invasion of Grenada [greh-NAY-duh]. Oliver North testified that this man’s administration funded (*) Nicaraguan rebels via illegal arms sales to Iran. For 10 points—what president told Mikhail Gorbachev [GOR-buh-choff] to ”tear down this wall”?

answer: Ronald (Wilson) Reagan [Reagan demanded the removal of the Berlin Wall.]

22. In 2017 a special election in this U.S. state was lost by the writer of the country song “America . . . Pass It On,” which was first-time Democratic candidate Rob Quist. A controversial contract to repair Puerto Rico’s power grid was awarded to a company from this state called (*) Whitefish Energy, which is based in the hometown of Interior Secretary Ryan Zinke [ZING-kee]. For 10 points—name this Western state governed from Helena [HEL-uh-nuh].

answer: Montana

23. The nth of these numbers is the quantity 1 plus root 5 to the n, minus the quantity 1 minus root 5 to the n, all over 2 to the n times root 5. In the book Liber abbaci [LEE-bair ah-BAH-chee], these numbers are used to model rabbit populations. The (*) ratio of the n-plus-first term of these numbers to the nth approaches the golden ratio. For 10 points—name this sequence in which each value after the first two [pause] is the sum of the prior two values.

answer: Fibonacci [fib-uh-NAH-chee] sequence (or Fibonacci numbers)

24. Friedrich von Goetz [“gets”] chronicled this event, at which a meaningless protocol agreement was signed by the Marquis [“mar”-KEE] of Labrador [LAB-ruh-dor]. Krakow [“CRACK-ow’] was affirmed as a free city at this conference, which ceded the former Grand Duchy of Warsaw to Russia. The Duke of (*) Wellington left this event to fight Napoleon after the latter’s return from Elba. Clemens von Metternich [MET-ur-nik] led—for 10 points—what 1814 international diplomatic congress?

answer: Congress of Vienna (or Wiener Kongress; accept Congress of Vienna after “congress”)
1. Lobbyists Steve and Vicki Hart claimed they resorted to changing the locks on their condominium to force this man to leave. For 10 points each—
   A. Name this official also accused of abusing the Safe Drinking Water Act to give large raises to favorite subordinates.
   answer: (Edward) Scott Pruitt
   B. Pruitt is the head of this federal regulatory agency that enforces the Clean Air Act.
   answer: Environmental Protection Agency or EPA
   C. Pruitt previously served as attorney general for this state. A senator from this state, Jim Inhofe [IN-hawf], infamously used a snowball as evidence that global warming was a hoax.
   answer: Oklahoma

2. A step function is a function whose graph has several constant parts, so it looks like steps of a staircase. For 10 points each—
   A. Step functions are typically defined in this fashion, meaning different definitions are specified for different parts of the domain.
   answer: piecewise(-defined) function
   B. This step function is also called the greatest integer function because it returns the largest integer less than or equal to the input.
   answer: floor function (prompt on “integer part (function)"
   C. This contrasting step function returns the smallest integer greater than or equal to the input.
   answer: ceiling function

3. The proposed state of Deseret [DEH-zuh-ret] would have encompassed what is now this U.S. state. For 10 points each—
   A. Brigham [BRIG-um] Young was the first governor of the territory that is now what state?
   answer: Utah (accept Utah Territory)
   B. Under the terms of a compromise named for this year, the Utah Territory was granted popular sovereignty to decide its stance on slavery.
   answer: 1850 (accept Compromise of 1850)
   C. In this 1857 massacre, over 100 members of the Baker-Fancher wagon train were killed by a Utah militia.
   answer: Mountain Meadows Massacre
4. In one appearance, this character deduces that a historic sword is fake because it refers to a battle as “Bull Run,” rather than “Manassas” [muh-NASS-us]. For 10 points each—
A. Name this young detective, whose nickname is a reference to his vast knowledge.
answer: Encyclopedia Brown (or Leroy Brown; accept any underlined portion)
B. Encyclopedia Brown often foils this bully, who leads a gang called the Tigers.
answer: Bugs Meany (accept either underlined portion)
C. This author of the Encyclopedia Brown series died in 2012, shortly before the release of the series’s 29th and final book.
answer: Donald J. Sobol [SOH-bul]

5. A painting of this type by Joseph Ducreux [duh-KROO] depicts its subject “in the guise of a mocker,” laughing and pointing at the viewer. For 10 points each—
A. Name this type of painting. A notable one by Albrecht Dürer [AHL-brekt DOO-rur] shows its subject touching the fur lining of a coat.
answer: self-portraits (accept all answers that clearly indicate an artist is painting or depicting themself; accept Portrait de l’artiste (sous les traits d’un moqueur) or Self-Portrait at 28 Years Old)
B. This Dutch Post-Impressionist’s numerous self-portraits include one showing him with a bandaged ear.
answer: Vincent (Willem) van Gogh
C. This artist showed himself clutching his hair, with a wide-eyed stare, in his self-portrait The Desperate Man. His other paintings include A Burial At Ornans.
answer: Gustave Courbet [cORE-BAY] (or Jean Désiré Gustave Courbet)

6. For 10 points each—name these seas in East Asia:
A. The ports of Qingdao [cheeng-dow] and Inchon are on this colorfully named sea, which separates Korea from China.
answer: Yellow Sea
B. To the northeast of the Yellow Sea is this sea separating the Korean Peninsula from the islands of Kyushu [kee-yoo-shoo] and Honshu.
answer: Sea of Japan
C. Further to the northeast, this sea separates Russia’s Kamchatka [kam-CHAT-kuh] Peninsula from the Siberian mainland. The island of Sakhalin [SAK-uh-leen] lies at the southern end of this sea.
answer: Sea of Okhotsk [ah-KOHTSK]

7. For 10 points each—answer the following about Hartwell House in Buckinghamshire [BUCK-ing-im-shur], England:
A. Hartwell House is first mentioned in this census of England conducted by William the Conqueror in 1086. This “Book” is named for the final day of reckoning.
answer: Domesday [domesday] Book
B. For three centuries the house belonged to this family, which produced an American Confederate general and an actor, Christopher, who played Saruman.
answer: Lee family (accept Christopher Lee or Robert E. Lee)
C. During the French Revolution this future king of France, the brother of Louis XVI [loie the sixteenth] and Charles X [the tenth], spent six years in exile in Hartwell House.
answer: Louis XVIII [the 18th] of France (prompt on “Louis”)
8. The “multi-hit hypothesis” states that cancer formation generally requires more than one of these events. For 10 points each—
   A. Name this general class of heritable changes in an organism’s DNA sequence.  
   answer: (genetic) mutations (do not accept or prompt on more specific answers)  
   B. The single most common mutation seen in cancers is one that deactivates this tumor suppressor protein, named after its apparent molecular weight, that can initiate DNA repair.  
   answer: p53 ['P fifty-three'] (accept tumor (suppressor) protein p53)  
   C. The mutations that makes most cancers “immortal” cause inappropriate activation of this enzyme that maintains the ends of chromosomes ['CROW-muh-sohms'].  
   answer: telomerase [tuh-LAH-muh-'RACE'] (do not accept or prompt on “telomere(s)”)  

9. This military veteran is a scholar of Indian dialects who has written a book titled Spoken Sanskrit. For 10 points each—  
   A. Name this colonel who pays for the education of a flower girl after losing a bet.  
   answer: Colonel Pickering  
   B. An afterword to this 1913 play reveals that Colonel Pickering eventually helps Eliza Doolittle to open her own flower shop.  
   answer: Pygmalion ['pig-MALE'-yun] (do not accept or prompt on “My Fair Lady”)  
   C. This Irish playwright wrote Pygmalion.  
   answer: George Bernard Shaw

10. For 10 points each—answer the following about the Arrowhead Region:  
   A. The iron-rich Arrowhead Region forms the northeast part of this Midwestern state, the “Land of Ten Thousand Lakes.”  
   answer: Minnesota  
   B. This Great Lake adjacent to Minnesota forms the southeastern border of the Arrowhead Region.  
   answer: Lake Superior  
   C. This port city on the western tip of Lake Superior is adjacent to Superior, Wisconsin, and was once a transportation hub for the area’s iron mining industry.  
   answer: Duluth

11. Pencil and paper ready. Let y equal the product of the quantity x plus 1 times the quantity x plus 2. For 10 points each—  
   A. Express y as a polynomial [pah-'ihh-NOH-mee-ul] in terms of x.  
   answer: \( y = x^2 + 3x + 2 \) ['x squared plus 3x plus 2”] (accept terms in any order) [Using the FOIL method, \((x + 1)(x + 2) = x^2 + 2x + x + 2 = x^2 + 3x + 2\).]  
   B. What is the value of y when x equals negative 10?  
   answer: \( y = \frac{72}{9} \) \( y = (-10 + 1) \times (-10 + 2) = -9 \times -8 = 72 \)  
   C. What is the value of x when y equals 110? You have 10 seconds, and either of two answers will be accepted.  
   answer: \( x = 9 \)  
   \( x = \frac{12}{9} \) (do not accept or prompt on “12”) \( y = x^2 + 3x + 2 = 110, \) so \( x^2 + 3x - 108 = 0, \) so \( (x + 12)(x - 9) = 0, \) and \( x = -12 \) or \( x = 9 \)
12. A large example of one of these objects is the title object in Halo. For 10 points each—
A. Name these objects that are used as bases in many science fiction stories, examples of which include Babylon 5 and the Death Star.
   answer: space stations (accept equivalents describing structures in space unattached to any natural body, such as orbitals or habitats)
B. This space station commanded by Benjamin Sisko is the title setting of a Star Trek series.
   answer: Deep Space Nine (accept Star Trek: Deep Space Nine; prompt on “Terok Nor”)
C. Much of Star Trek: Deep Space Nine concerned the Federation’s war with this powerful empire, which is ruled by shapeshifters, and uses soldiers called the Jem’Hadar [jem huh-DAR].
   answer: Dominion (accept Dominion War)

13. For 10 points each—Name these seasons of the Roman Catholic liturgical calendar:
A. This season begins on the Sunday nearest November 30, and ends with the beginning of Christmastide.
   answer: Advent
B. This season begins on Ash Wednesday and continues for 40 days, during which Catholics are supposed to fast or give up something.
   answer: Lent
C. This is the season of the liturgical calendar during which there are not special preparations for major holidays.
   answer: Ordinary Time

14. This text is located below an image of a man being given a rod by Shamash [SHA-hah-mahsh]. For 10 points each—
A. Name this text that was partly inspired by the principle of lex talionis ["lex’ tal-ee-OH-niss]. It orders the execution of builders who construct houses that collapse.
   answer: Code of Hammurabi [hah-moo-RAH-bee] (or Hammurabi’s Code; prompt on answers that mention “Hammurabi” but not “code”)
B. The principle of lex talionis is commonly described using a quote from Leviticus [leh-VIT-uh-kuss], which mentions “a tooth for a tooth” along with an even exchange of these body parts.
   answer: eye(s) (accept an eye for an eye)
C. The Code of Hammurabi was written using cuneiform ["cue-NAY-uh-form"] script in this language, which is named for an empire ruled by Naram-Sin.
   answer: Akkadian [uh-KAY-dee-un] language (or akkadû) [The empire was Akkad.]

15. These astronomical events were first detected in 1967 by satellites designed to monitor nuclear weapons tests.
   For 10 points each—
A. Name these extremely bright emissions of the most energetic type of light.
   answer: gamma ray bursts (accept short or long GRBs or short or long gamma ray bursts)
B. In 2005 NASA detected a gamma ray burst from when the universe was less than 1 billion years old, in the direction of this zodiac [ZOH-dee-ak] constellation depicting fish.
   answer: Pisces [PIE-sees]
C. Members of this project, which attempts to find sentient [SEN-tee-ent] life not on Earth, have theorized gamma ray bursts could contain data from alien civilizations.
   answer: SETI [SEH-tee] or the Search for Extra-Terrestrial Intelligence
16. This poem’s second stanza addresses a “harsh surrounding cloud that will not free my soul.” For 10 points each—
   A. Name this elegy [EL-uh-je], whose speaker proclaims that he “shall mourn with ever-returning spring” for the “sweetest, wisest soul of all my days and lands.”
   answer: When Lilacs Last in the Dooryard Bloom’d
   B. This poet commemorated Abraham Lincoln in “When Lilacs Last in the Dooryard Bloom’d,” as well as in “O Captain! My Captain!”
   answer: Walt(er) Whitman
   C. This 20th-century author described how Lincoln “lingers where his children used to play” in his poem “Abraham Lincoln Walks at Midnight.”
   answer: (Nicholas) Vachel [VAY-chul] Lindsay

17. This meeting’s participants debated whether the Eucharist [YOO-kuh-rist] involved the literal or figurative presence of Christ. For 10 points each—
   answer: Marburg Colloquy [KAH-luhr-kwhee]
   B. This man defended the real presence at the Marburg Colloquy. He had earlier begun the Protestant Reformation with his 95 Theses [THEE-seez].
   answer: Martin Luther
   C. Luther’s theses attacked the sale of these documents by the Catholic Church. They allowed partial forgiveness of the buyer’s sins.
   answer: indulgences (accept plenary indulgences or papal indulgences)

18. This man convinced his wife to throw his naked corpse into a public square, then used the incident to convince Persephone [pur-SEH-fuh-nee] to allow him to leave the underworld. For 10 points each—
   A. Name this man who, as punishment for repeatedly cheating death, was sentenced to eternally roll a boulder up a hill.
   answer: Sisyphus [SISS-uh-fuss] (or Sisuphos)
   B. Sisyphus temporarily ended all death on Earth when he chained up this demigod, the personification of death.
   answer: Thanatos [THAN-uh-tohss]
   C. Sisyphus was the brother and rival of this king of Elis [EE-liiss]. Zeus [zooss] killed this man for using a bronze chariot and torches to impersonate him.
   answer: Salmoneus [sal-MOH-nay-us] (or Salmoneos)

19. For 10 points each—an answer following about TV shows with African-American casts:
   A. Phylicia Rashad played Clair Huxtable on a series named for this man, who has since faced numerous sexual assault allegations.
   answer: Bill Cosby (or William Henry Cosby Jr.; accept The Cosby Show)
   B. Charlie Murphy and Donnell Rawlings appeared in a number of sketches on this Comedy Central series, on which the title comedian played the black white supremacist Clayton Bigsby.
   answer: Chapelle’s Show
   C. George and Louise, the title couple of this sitcom that aired in the 1970s and ’80s, were played by Sherman Hemsley and Isabel Sanford.
   answer: The Jeffersons
20. According to a disputed 15th-century account, a Jewish physician performed a crude version of this medical procedure on Pope Innocent VIII, using young boys as unwilling donors. For 10 points each—

A. Name this procedure. In modern medicine it is subject to the risk of agglutination, in which incompatible erythrocytes clump together.

answer: blood transfusion(s) (accept transfusing blood or other forms; prompt on partial answers; prompt on “receiving blood”; do not accept or prompt on “blood donation” or “giving blood”)

B. This Christian denomination, which rejects blood transfusions, publishes the magazine The Watchtower.

answer: Jehovah's Witnesses

C. The “negative” form of this blood type is called the “universal donor,” since it can be transfused into nearly any individual.

answer: type O (Rh D) negative

21. At the end of this novel, the landowner Nikolai Kirsanov [KEER-suh-nawf] defies convention to marry the servant Fenechka [feh-NETCH-kuh]. For 10 points each—

A. Name this 19th-century Russian novel that depicts Arkady’s [ar-KAH-dee’z] friendship with the aspiring doctor Yevgeny Bazarov [yev-GAY-nee BAH-zah-rawf].

answer: Fathers and Sons (or Ottsy i Dety or Fathers and Children)

B. Fathers and Sons popularized this term for the philosophical viewpoint held by Bazarov. Its name comes from the Latin word for “nothing.”

answer: nihilism (or nihilism; accept nihilists or nihilistic)

C. Fathers and Sons was written by this author, who described his hunting trips in A Sportsman’s Sketches.

answer: Ivan (Sergeyevich) Turgenev [tur-’GAH-nee-ef]

22. This composer’s brass-heavy Requiem [REK-ree-um] was written to memorialize Alessandro Manzoni [ah-leh-SAHN-droh man-ZOH-nee]. For 10 points each—

A. Name this Italian composer whose late-career operatic successes included his Shakespeare adaptations Otello [oh-TEL-loh] and Falstaff.

answer: Giuseppe Verdi [joo-ZEP-pay VAIR-dee] (or Giuseppe Fortunino Francesco Verdi)

B. The title character of this 1871 Verdi opera is an Ethiopian princess captured by the Egyptians, who falls in love with the Egyptian commander Radames [rah-dah-MAYS].

answer: Aida [’eye-EE-dah]

C. The second act of this middle-period Verdi opera opens with a group of Roma singing “Vedi! Le fosche notturne” [VAY-dee lay FOH-say noh-TOOR-nay], also known as the “Anvil Chorus.”

answer: Il Trovatore [ill troh-vuh-TOR-ay] (accept The Troubador)

23. This quantity’s “depression” is proportional to the cryoscopic [’cry-oh-SKAH-pik] constant. For 10 points each—

A. Name this temperature at which a liquid becomes a solid.

answer: freezing point (accept freezing point depression)

B. Freezing point depression is one of this class of properties that only depends on the concentration of a solute [SAHL-yool] and not on its nature.

answer: colligative [kuh-LIG-uh-tiv] properties

C. Freezing point depression is also proportional to a “factor” named after this Dutch chemist who won the first Nobel Prize in Chemistry.

answer: Jacobus Henricus van’t Hoff (Jr.) (accept van’t Hoff factor)
24. For 10 points each—answer these questions about national anthems of the British Commonwealth:
   A. The title head of the commonwealth is celebrated in this national anthem of the United Kingdom.
      answer: **God Save the Queen** (accept **God Save the King**)
   B. In the 1980s this song officially replaced “God Save the Queen” as the national anthem of Australia.
      answer: **Advance Australia Fair**
   C. This commonwealth nation, whose anthem repeats the phrase “we stand on guard for thee,” is titled simply “O”
      **this country**.
      answer: **Canada** (accept **O Canada**)

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