



1. The rate at which these events occur can be determined by dividing Wattersson's estimator by four times the effective population size. *E. coli* strains in which glycosylases are damaged are named for their high occurrence of these. Replica plated bacteria that were then subjected to a phage were used to show how these occurrences behave randomly in the Luria-Delbruck experiment. The ability of bacteria to live on media lacking histidine is the basis of the Ames method for testing a substance's ability to cause these. Repair enzymes can stop these from propagating to the next generation. These events provide the variation on which evolution acts by creating new alleles. For 10 points, name these events in which DNA changes because of errors in replications, noxious chemicals, or radiation.

ANSWER: mutations [or mutational events]

001-13-83-15101

2. William Laughead wrote about this man and named one of his companions in a series of Red River Pamphlets, one of which claimed he was from Westwood, California. The earliest printed story about this man was published by James MacGillivray in the *Detroit News-Tribune* under the title "The Round River Drive." Stories about this man may have spread as early as the Papineau Rebellion. This man found a creature during the Winter of the Blue Snow for which he created five watering holes. This man's clerk, Johnny Inkslinger, invented bookkeeping and the fountain pen. This man has been credited with creating the Grand Canyon and the Great Lakes. For 10 points, name this figure from American folklore who worked as a lumberjack with Babe the Blue Ox.

ANSWER: Paul Bunyan

023-13-83-15102

3. As part of this larger initiative, an attempt to kill the "Four Pests" was launched, causing crops to be devastated by locusts following the Kill A Sparrow Campaign. Under this program, wages were paid in work points instead of money, and plows dug to depths of two meters in an attempt to create deeper crop roots. This period grew out of a conference in the resort city of Qingdao and the Anti-Rightist Campaign. This project led to the creation of many backyard furnaces in an attempt to overtake Great Britain within fifteen years in steel production. For 10 points, name this 1958 to 1960 period in which millions of people died of famine as China attempted to rapidly industrialize.

ANSWER: Great Leap Forward [prompt on Second Five Year Plan; prompt on Great Famine]

030-13-83-15103

4. This author wrote the essay "Why Do I Fast?" about his time as a *persona non grata*; during that period he wrote "the man dies in all who keep silent in the face of tyranny" in a banned autobiography. One of his characters beats Shadrack in an election when his secretary Rebecca serves the voting prophets drinks in a play about his "Metamorphosis"; he introduced that charlatan preacher in an earlier play about his "Trials." This author wrote about a Westernized schoolteacher who refuses to pay the bride-price for Sidi in one play, and he focused another play on a suicide ritual carried out by Olunde in lieu of Elesin. For 10 points, name this Nigerian playwright of *The Lion and the Jewel* and *Death and the King's Horseman*.

ANSWER: Wole Soyinka

020-13-83-15104

5. Mountains located near this body of water include Mount Scott and Union Peak. This body of water is home to a namesake species of newt notable for its dark-colored underside. According to the Klamath Indians, this body of water was created when the gods Skell and Llao fought each other. This body of water is home to a rocky outcropping known as “Phantom Ship.” Notable landmarks in this body of water include “The Old Man of the Lake,” a wooden stump which has been floating in it for over a century without decomposing. This site of Wizard Island was created 7,700 years ago by Mount Mazama, a volcano. For 10 points, name this deepest lake in the United States, found in a caldera in Oregon.

ANSWER: **Crater** Lake

021-13-83-15105

6. In factor analysis, the sum of the squares of the common factor loadings for a variable, or communality, is how much of this value is shared with other variables. An assumption about the homogeneity of this measure can be evaluated using Hartley's F-max test. This measure is conventionally defined as the expected value of the square of a random variable minus the square of the expected value of a random variable, or the second moment of the distribution minus the square of the mean. The coefficient of determination, or R^2 , is the percentage of this value for one variable that is accounted for by this value for another variable. For 10 points, identify this statistical measure represented by sigma squared that is the square of standard deviation.

ANSWER: **variance**

066-13-83-15106

7. This poet asked, “What’s madness but nobility of soul at odds with circumstance?” in a poem ending, “The mind enters itself, and God the mind, and one is One, free in the tearing wind.” The speaker parenthetically observes, “I measure time by how a body sways” in his poem describing a person “lovely in her bones.” This poet of “In a Dark Time” and “I Knew a Woman” wrote an elegy beginning, “The whiskey on your breath could make a small boy dizzy,” as well as a villanelle concluding, “I learn by going where I have to go.” For 10 points, name this German-American poet of “My Papa’s Waltz” and “The Waking.”

ANSWER: Theodore **Roethke**

014-13-83-15107

8. This god once made the Fates drunk to get them to except his favorite mortal from death. According to Ovid, he allowed Cyparissus to transform into a cypress tree after that mortal accidentally killed a favorite stag. This god turned himself into a tortoise to seduce Dryope, then turned himself into a snake and raped her. Homer refers to this god by a mysterious epithet that may have to do with mice, "Smintheus." With Cyrene, he was the father of a beekeeping demigod, Aristaeus. Jealous of this god, the West Wind blew a discus off course so that it killed his male lover Hyacinthus. He gained a cult center after slaying the Python. For 10 points, name this Greek god of music and light.

ANSWER: **Apollo** [or **Apollon**]

080-13-83-15108

9. This composer gave a nod to Polish nationalism by quoting the song "Hej, Slavone!" in his D-major string quartet. In memory of this composer's death, the *Asrael Symphony* was composed by his former violin pupil and son-in-law Josef Suk, who, like this composer, composed an E major *Serenade for Strings*. A popular song warning people not to flush passenger train toilets when the train is in the station is set to the music of this composer's seventh *Humoresque*. His most famous piece contains a second-movement English horn solo and was based on African-American spirituals and Native American music. For 10 points, name this Czech composer of the *New World Symphony*.

ANSWER: Antonin Leopold **Dvorak**

020-13-83-15109

10. Although it is not enthalpy, in an adiabatic process, this quantity equals the heat capacity at constant volume times the initial temperature minus the final temperature. For an isothermal process, it equals number of moles times RT times the log of the ratio of the volumes. Carnot efficiency equals this quantity divided by the heat of the hotter reservoir. When applied with a torque, it is called "shaft." This quantity is given by the area inside a cycle on a PV diagram, so its differential equals pressure times the differential of volume. The change in internal energy equals heat minus it, which is positive when done by a system on its surroundings. For 10 points, name this quantity that is the amount of useful mechanical energy derived from a thermodynamic system.

ANSWER: thermodynamic **work**

190-13-83-15110

11. Over decades of work at Harvard, George Eman Vaillant outlined a large number of these phenomena that were incorporated into DSM-IV. They are classified into pathological, immature, neurotic, and mature levels. Object relations theory posits that the paranoid-schizoid position results in one of these known as "splitting." Twelve of these, including signal anxiety, were discussed in Anna Freud's book about *The Ego and these*. One of these, which results in positive actions or behavior, is known as sublimation. They also include somatization and acting out and are generally considered distinct from coping strategies. For 10 points, name these phenomena, such as projection, by which an unconscious mind distorts reality.

ANSWER: **defense** mechanisms [or mechanisms of **defense**]

020-13-83-15111

12. One member of this profession was the namesake of a law that provided ten dollars a month in extra pay for infantrymen and died after being hit by Japanese gunfire in Okinawa; that member of this profession was Ernie Pyle. Supporters of the Somoza regime killed a member of this profession, Bill Stewart, in Nicaragua. Two members of this profession made use of former FBI deputy director Mark Felt, who was later revealed to be "Deep Throat." For 10 points, name this profession, two members of which, Carl Bernstein and Bob Woodward, reported on the Watergate scandal for the *Washington Post*.

ANSWER: **journalists** [or reasonable equivalents such as **newspapermen**]

030-13-83-15112

13. In a novel by this author, the manipulative manager of an elderly widow's property marries her in spite of opposition from his son-in-law, Gusten Flod. This creator of Johannes Carlsson wrote about a journalist's meetings with bohemian artists in the title location in his novel about Arvid Falk. In one of his plays, the death screen is placed before the closet into which the Old Man, Jacob Hummel, is forced. This author of *The Red Room* wrote another play in which the title character commits suicide upon the return of her father, the Count, after sleeping with the valet Jean. For 10 points, name this Swedish playwright of *The Ghost Sonata* and *Miss Julie*.

ANSWER: August **Strindberg**

014-13-83-15113

14. This ruler's forces suffered a disastrous defeat under the command of Alfonso La Marmora in the Battle of Custoza. This man took the throne after his father abdicated following humiliating losses at Novara and an earlier battle at Custoza. Following that abdication, this ruler agreed to an armistice with Joseph Radetzky. The Peace of Villafranca confirmed the victories of this ruler at Solferino and Magenta when he allied with Napoleon III against Austria. This son of Charles Albert was excommunicated by Pius IX for taking the Papal States, a move supported by his adviser Count Cavour. For 10 points, name this first king of a unified Italy.

ANSWER: **Victor Emmanuel II** [prompt on **Victor Emmanuel**]

186-13-83-15114

15. According to some believers, the nafs of one of these beings dwells within a barrier called al-Barzakh. Usually, only a qiyaam and no tashahhud are required in a service devoted to these beings. A three-part or five-part kafan cloth is worn by these people, to whom a janazah ceremony is dedicated. These people are asked three questions by Munkar and Nakir. Though they're not converts, a believer should say the Shahada just before becoming this type of person, just as Jews aim to say the Shema before becoming one. For 10 points, name this type of person whose status, according to Islam, is reversed prior to divine judgment on the Day of Resurrection.

ANSWER: **dead** people [or **dead** Muslims; or **buried** Muslims; or human **souls**; prompt on **human**s or **people**]

104-13-83-15115

16. In the MK system, this type of star corresponds to class V. An important characteristic that defines these stars is chemical homogeneity. One way to determine the distance to a cluster is to vertically fit these type of stars on a CMD, which gives one the distance modulus. The age of a cluster can be determined by the age of this type of star at the turnoff point. "Zero age" is the point at which a star evolves from a protostar into this type of star. On a Hertzsprung-Russell diagram, stars on this track proceed along the diagonal from bottom right to top left in the area of highest density. For 10 points, given this term for stars that obtain their energy by fusing hydrogen to create helium in their core.

ANSWER: **main sequence** star [prompt on **dwarf** star]

066-13-83-15116

17. This painting inspired a later Claude Monet canvas with the same title that included portraits of Frederic Bazille and Gustave Courbet. The people in this painting resemble a group of river gods in a Marcantonio Raimondi engraving of Raphael's *Judgement of Paris*. In the background of this painting, two trees surround an empty boat facing the viewer, and a kneeling dark-haired woman puts her right fist on the ground, looking right. This painting's bottom left depicts a round loaf of bread, an overflowing fruit basket, and a pile of discarded clothes. For 10 points, name this painting which caused a stir at the 1863 Salon des Refuses because it depicted two fully clothed men and a nude woman, a painting by Edouard Manet.

ANSWER: *The **Luncheon on the Grass*** [or *Le **dejeuner sur l'herbe***; also accept *The **Bath*** or *Le **Bain*** before it is read]

020-13-83-15117

18. This poet responded to his wife's death with a poem whose speaker hopes to "bear the brunt, in a minute pay life's glad arrears of pain, darkness, and cold." He wrote, "This, I was worth to God, whose wheel the pitcher shaped," in a poem that responds to the hedonism of the *Rubaiyat of Omar Khayyam*. This author of "Prospice" wrote, "Let age approve of youth, and death complete the same!" in a poem beginning "Grow old along with me! The best is yet to be!" The line, "And yet God has not said a word!" concludes another of his poems, whose speaker strangles his beloved with her own hair. For 10 points, name this British poet whose dramatic monologues include "Rabbi Ben Ezra," "Porphyria's Lover," and "My Last Duchess."

ANSWER: Robert **Browning**

080-13-83-15118

19. The west face of this building is marred by two mismatched spires, one a Romanesque pyramid, the other a Flamboyant spire. Jamb sculptures of Old Testament kings and queens decorate its west entrance, which is therefore called the Royal Portal. The "cult of the Virgin" at this location was characterized as its own separate religion in a book written by Henry Adams. Stained glass windows in this building include the *belle verriere*, or Blue Virgin window, which references the *sancta camisa* in its crypt. This cathedral could support clerestory windows of unusual size because it was the first planned from the beginning with flying buttresses. For 10 points, name this Gothic cathedral in northwest France.

ANSWER: **Chartres** Cathedral

080-13-83-15119

20. Verrius Flaccus etched a still-extant one of these objects into a marble wall at Praeneste. Another of these objects was created with the help of Sosigenes of Alexandria to reduce manipulation by ambitious pontifices. These objects were used to mark the Regifugium and were based on fixed points like the Nones and Kalends. Ovid put a newly-created one into six books of heroic couplets in his *Fasti*. One system of segmenting these objects started on Nundinae and used the letters A through H to put eight days in each week. For 10 points, name this system that Julius Caesar reformed, and which might have told Julius Caesar that it was the Ides of March.

ANSWER: Roman **calendars** [or **Fasti** before it is read]

080-13-83-15120

21. Natalie Zemon Davis's article *The Rites of Violence* focuses on this event. The year before this event took place, a smaller-scale version was precipitated by the removal of a monument under a provision of the Peace of Saint Germain. Contemporary accounts of this event suggest that it was signaled by the ringing of a bell during the matins service. This event was precipitated by the wedding of Margaret of Valois. The wheels for this event were set in motion after Maurevert's failed assassination attempt resulted in a Guise-loyal mob murdering such leaders as Gaspard de Coligny. For 10 points, name this 1572 slaughter of Huguenots instigated by Catherine de Medici.

ANSWER: **St. Bartholomew's Day Massacre** [accept synonyms for **massacre**]

020-13-83-15121

22. This poet lamented that the "terror of night-prowlers" is "encased in an urn" in his Latin elegy for the Lord Chief Baron of the Exchequer, Roger Manwood. One of his characters states, "Nature, that framed us of four elements, warring within our breasts for regiment, doth teach us all to have aspiring minds," after overthrowing Cosroe. The speaker lists "a kirtle embroidered all with leaves of myrtle" and "a gown made of the finest wool which from our pretty lambs we pull" in his poem that begins with the speaker's request, "Come live with me and be my Love." For 10 points, name this English poet of "The Passionate Shepherd to His Love" and such plays as *Tamburlaine the Great* and *Doctor Faustus*.

ANSWER: Christopher **Marlowe**

030-13-83-15122

23. In this technique, the Patterson function can be used to solve the phase problem. Samples undergoing this technique often have selenium incorporated in order to take advantage of multi-wavelength anomalous dispersion. The raw data from this process is compared to the model in order to find the R-factor. This technique was used by John Kendrew on myoglobin derived from sperm whales, and in this technique, a pure, precipitated macromolecule is mounted on a goniometer and rotated while being bombarded by radiation. Maurice Wilkins was an expert in this technique who collaborated with Watson and Crick. For 10 points, name this technique which was used by Rosalind Franklin to image the structure of DNA.

ANSWER: **X-ray crystallography** [or **X-ray diffraction**]

048-13-83-15123



1. This effect is a third smaller than expected due to the universe expanding as the two-thirds power of time at the time of recombination, cancelling two-thirds of the observed redshift. For 10 points each:

[10] Name this effect which relates temperature fluctuations to gravitational potentials.

ANSWER: **Sachs-Wolfe** effect

[10] The Sachs-Wolfe effect relates temperature anisotropy in this thing, which was studied by the COBE experiment, to density fluctuations.

ANSWER: **CMBR** [or **cosmic microwave background** radiation; or **CBR**; or **MBR**; or **relic** radiation]

[10] The Integrated Sachs-Wolfe effect is one piece of evidence for this thing. This thing constitutes most of the mass-energy of the universe and is the cause of the universe's accelerating expansion.

ANSWER: **dark energy**

066-13-83-15201

2. In one story from this collection, William Stendhal reconstructs the mansion from "The Fall of the House of Usher" and rigs it with traps to murder the visiting "Moral Climate Monitors." For 10 points each:

[10] Name this collection, containing stories like "Night Meeting" and "There Will Come Soft Rains," all vaguely about the colonization of a certain place.

ANSWER: *The **Martian Chronicles***

[10] *The Martian Chronicles* was written by this science fiction author who also wrote *Dandelion Wine* and *Fahrenheit 451*.

ANSWER: Ray **Bradbury**

[10] In this story from Bradbury's *The Illustrated Man*, the children Peter and Wendy lock their parents George and Lydia inside a virtual reality nursery, where they are devoured by lions.

ANSWER: "The **Veldt**"

020-13-83-15202

3. This hormone is produced in the zona fasciculata of the adrenal gland. For 10 points each:

[10] Name this "stress hormone," too much of which can cause Cushing's syndrome.

ANSWER: **cortisol**

[10] This hormone stimulates the production of cortisol. Elevated levels of this hormone are found in people with Addison's disease.

ANSWER: **ACTH** [or **Adrenocorticotropic** hormone; or **corticotropin**]

[10] This NADPH-dependent enzyme reduces cortisone to the active form of cortisol. It is inhibited by carbenoxolone.

ANSWER: **11 beta HSD1** [or **11 beta hydroxysteroid dehydrogenase type 1**]

149-13-83-15203

4. The last sentence of this story warns that "A false alarm on the night bell once answered...cannot be made good." For 10 points each:

[10] Name this story, whose title character lies to a dying boy about his wound and is guilt-ridden over having left his servant Rosa behind with a lecherous groom.

ANSWER: "A **Country Doctor**" [or "Ein **Landarzt**"]

[10] In this other story by the author of "A Country Doctor," the Officer is killed by his favorite machine, which was supposed to inscribe the words "Be Just" on his skin.

ANSWER: "**In the Penal Colony**" [or "**In der Strafkolonie**"]

[10] "A Country Doctor" and "In the Penal Colony" were written by this author who wrote about Gregor Samsa in "The Metamorphosis."

ANSWER: Franz **Kafka**

020-13-83-15204

5. This type of policy is pursued by central banks when interest rates are near zero. For 10 points each:

[10] Name this policy by which central banks attempt to stimulate the economy by pumping money into the economy by purchasing government bonds.

ANSWER: **quantitative easing** [or **QE**]

[10] Quantitative easing is sometimes proposed as a solution to escape this situation in which interest rates are low and savings rates are high, causing monetary policy to be ineffective.

ANSWER: **liquidity trap**

[10] This economist and *New York Times* columnist argued that Japan was in a liquidity trap in the 1990s in his book *The Return of Depression Economics*. He also proposed a "new economic geography" to explain the location of new jobs and increasing rates of urbanization.

ANSWER: Paul **Krugman**

030-13-83-15205

6. This character was inspired by its author's stint in a counterintelligence operation to crush an Indian-German alliance during World War I. For 10 points each:

[10] Name this secret agent who takes advantage of Chandra Lai's relationship with Giulia Lazzari to arrest the former in a 1928 collection of linked stories. An unrelated character with his last name is the narrator of the novel *Cakes and Ale*.

ANSWER: John **Ashenden** [or **John** Ashenden]

[10] Ashenden was created by this English author, best known for writing *Of Human Bondage*.

ANSWER: W. Somerset **Maugham**

[10] Maugham fictionalized the life of Paul Gauguin in this novel about the stockbroker-turned-artist Charles Strickland.

ANSWER: *The **Moon and Sixpence***

020-13-83-15206

7. Answer the following about Christian relics, for 10 points each.

[10] The narrator of the Old English poem "The Dream of the Rood" sees a vision of this relic, the object upon which Christ was crucified.

ANSWER: true **cross**

[10] The Holy Grail was supposedly entrusted to this man, who donated the tomb used to bury Jesus.

ANSWER: **Joseph of Arimathea** [prompt on "Joseph"]

[10] Hans Memling painted a gilded shrine containing the relics of this saint, a Christian British princess who was killed by the Huns during a pilgrimage of Europe.

ANSWER: Saint **Ursula**

020-13-83-15207

8. One entity that supposedly performed this feat was "Ajeeb," which was destroyed in a 1929 fire. For 10 points each:

[10] Name this activity supposedly engaged in by the Mechanical Turk. However, the Turk, like most of the similar devices, required an operator hiding inside to actually work.

ANSWER: playing **chess**

[10] The Turk was created by Wolfgang von Kempelen to impress this ruler, whose succession was set up by the Pragmatic Sanction of 1713.

ANSWER: **Maria Theresa** [or **Maria Theresia**]

[10] Eugene de Beauharnais, the Italian Viceroy, so enjoyed the Turk he offered to buy it. Eugene's mother was this woman, who also gave birth to the Queen consort of Holland, Hortense.

ANSWER: **Josephine** de Beauharnais [or Marie-Josephe-Rose **Tascher** de la Pagerie; prompt on J. **Bonaparte**]

052-13-83-15208

9. An unstable chord opens and closes the A-minor allegretto in the second movement of this symphony, which is often performed on its own. For 10 points each:

[10] Name this symphony, which was composed in the spa town of Teplice and was premiered at a charity concert for wounded soldiers.

ANSWER: Ludwig van **Beethoven's Symphony No. 7 in A Major, Op. 92**

[10] In his Ninth Symphony, Beethoven set this Friedrich Schiller poem about a "Daughter of Elysium" to music.

ANSWER: "**Ode to Joy**" [or "**Ode an die Freude**"]

[10] Beethoven's Seventh Symphony was the first and the last piece conducted by this man, the 16-time Grammy winner who directed the New York Philharmonic.

ANSWER: Leonard **Bernstein**

020-13-83-15209

10. After this event, Gene Kranz addressed his staff, saying "from this day forward," they would be known by two words: "tough and competent." For 10 points each:

[10] Name this February 21, 1967, disaster that killed Roger B. Chaffee, Edward White, and Gus Grissom in Florida.

ANSWER: **Apollo 1** fire [or **Apollo Saturn-204** fire; or **AS-204** fire]

[10] An Apollo 1 mission patch was left on the Moon by this Apollo 11 crew member, the first man to walk on the moon.

ANSWER: Neil Alden **Armstrong**

[10] Gus Grissom was one of the original Mercury Seven astronauts. This other Mercury Seven astronaut was the commander of Apollo 7 and was the only person to fly Mercury, Gemini, and Apollo missions.

ANSWER: Wally **Schirra** [or Walter Marty **Schirra, Jr.**]

052-13-83-15210

11. Original productions of this ballet company include *Les Rendezvous* and an adaptation of Turgenev's *A Month in the Country*. For 10 points each:

[10] Name this English company, founded by Dame Ninette de Valois, long-directed by Sir Frederic Ashton. At its peak, many of its performances were dominated by Margot Fonteyn and Rudolf Nureyev.

ANSWER: The **Royal Ballet**

[10] In 2008, the company won two awards for their premiere of *Jewels*, a ballet created by this Georgian-born choreographer who founded the New York City ballet.

ANSWER: George **Balanchine** [or Giorgi Melitonovitch **Balanchivadze**]

[10] One of the company's greatest productions was a 1962 adaptation of this riot-causing Stravinsky ballet, in which a girl known as the Chosen One dances herself to death.

ANSWER: *The Rite of Spring* [or *Le Sacre du printemps*; or *Vesna svyashchennaya*]

020-13-83-15211

12. This river rises in the Cambrian Mountains and flows through Shropshire and Worcestershire. For 10 points each:

[10] Name this waterway. Its former namesake is now known as the Bristol Channel, and it is the longest river the United Kingdom.

ANSWER: River **Severn**

[10] The River Severn flows south of this forest region in western Gloucestershire. Once encompassed by the Hundred of St. Briavels, it is bounded by the River Wye on two sides.

ANSWER: Forest of **Dean**

[10] This other river, the longest contained within England, flows through London.

ANSWER: River **Thames**

192-13-83-15212

13. Answer these questions about people who painted rather basic two-color canvases and made lots of money doing it, for 10 points each.

[10] This Latvian émigré painted blurry rectangles of adjoining colors in his Color Field paintings, such as those in the Four Seasons restaurant in the Seagram building and those in his namesake chapel in Houston.

ANSWER: Mark **Rothko**

[10] Joseph Albers painted color studies consisting of these shapes embedded within another, called *Homage to [this shape]*. Kazimir Malevich also painted a “black” one during the heyday of Suprematism.

ANSWER: the **square**

[10] This artist painted irregular black shapes above over 100 white backgrounds in his *Elegy to the Spanish Republic* series.

ANSWER: Robert **Motherwell**

104-13-83-15213

14. The value of one of these things equals the coefficient of the negative first term of a function's Laurent series. For 10 points each:

[10] Name these complex numbers, the value of a contour integral on a path containing a function's singularity.

ANSWER: **residue**

[10] The residue theorem was proven by this mathematician. Terms in his namesake sequence become arbitrarily close to each other and, with Schwarz, he names an inequality which states that the modulus of the inner product of two vectors is less than or equal to the product of the vector's norms.

ANSWER: Augustin-Louis **Cauchy**

[10] Cauchy sequences converge to a limit in a metric space if the space has this property. The rationals do not have this property, but the real numbers do.

ANSWER: **completeness**

121-13-83-15214

15. This man's video rental history was controversially published, and it included such movies as *A Day at the Races*. For 10 points each:

[10] Name this man, a former Solicitor General, who was described by Ted Kennedy in 1987 as a man who wanted "a land in which women would be forced into back-alley abortions" and a place where "the doors of the Federal courts would be shut" on millions.

ANSWER: Robert Heron **Bork**

[10] The head of the Judiciary Committee during the Bork nomination was this man, a Senator from Delaware from 1973 until 2009, when he took a higher position in the executive branch.

ANSWER: Joseph Robinette **Biden**

[10] Ronald Reagan's second-consecutive failed pick for a Supreme Court justice was Douglas Ginsburg, who withdrew his nomination after it was revealed he engaged in this behavior while a Harvard professor.

ANSWER: used **marijuana** [prompt on **drug use**; accept any and all euphemisms including **jazz cigarettes**]

052-13-83-15215

16. Answer the following about John C. Slater, for 10 points each:

[10] Slater orbitals are used in this method of constructing molecular orbitals by summing scalar multiples of atomic orbitals. Hartree-Fock is used to find the constants involved in this procedure.

ANSWER: **linear combination** of **atomic orbitals** [or **LCAO**]

[10] The variational parameter in a Slater orbital is this quantity, which decreases due to shielding of inner electrons. Values of this quantity, symbolized Z star, are given by Slater's rules.

ANSWER: **effective nuclear charge** [or **Z-eff**; or **Z-effective**]

[10] Slater determinants provide a linear combination of orbitals which are antisymmetric under exchange of electrons, a requirement of this principle, which gives zero probability of two electrons in the same orbital with the same spin.

ANSWER: **Pauli** exclusion principle [or Pauli **exclusion** principle]

190-13-83-15216

17. For 10 points each, answer the following about Hamlet in Russian literature.

[10] This novelist complained that Bardolatry had blinded scholars to the absurdly inconsistent characterization of Hamlet in a scathing critique of Shakespeare. He is better known for writing *War and Peace*.

ANSWER: Leo **Tolstoy** [or Lev Nikolayevich **Tolstoy**]

[10] The short story "Hamlet of the Shchigrovsky District" is found in this short story collection by Ivan Turgenev. This collection also includes "The District Doctor."

ANSWER: A **Sportsman's Sketches** [or **Zapiski Ohotnika**]

[10] When considering "To be or not to be", the title character of this novel stands up to think, but lays back down after he does not have any slippers handy. This novel was written by Ivan Goncharov.

ANSWER: **Oblomov**

190-13-83-15217

18. Answer the following about the Spartan king Agesilaus II, for 10 points each.

[10] Agesilaus II belonged to this dynastic line, which, with the Agiad, claimed descent from Heracles.

ANSWER: **Euryponid** Dynasty

[10] Agesilaus's army won the Battle of Coronea during the war named for this city-state, which was ruled by Periander and controlled the *diolkos*.

ANSWER: **Corinth** [or **Korinthos**]

[10] When asked how wide Sparta's territory was, Agesilaus II lifted one of these weapons and said "as far as this can reach." Macedonian phalanxes used one of these called a sarissa.

ANSWER: **spears** [or **lances**; or **pikes**]

020-13-83-15218

19. This man called William F. Buckley a "crypto-Nazi" in a debate aired by ABC News during the 1968 Democratic National Convention. For 10 points each:

[10] Name this writer of historical fiction who shocked the literary public with his straightforward depiction of homosexuality in *The City and the Pillar* and with his transsexual satire *Myra Breckinridge*.

ANSWER: Gore **Vidal**

[10] The first of Vidal's "Narratives of Empire" is about this man, who employs the apprentice Charlie Schuyler to ruin Martin Van Buren's political career by spreading rumors that he's his bastard son.

ANSWER: Aaron **Burr**

[10] Another of Vidal's novels describes the presidency of this man, whose death was mourned in Walt Whitman's "O Captain, My Captain!"

ANSWER: Abraham **Lincoln**

020-13-83-15219

20. In this myth system, the sky is held up by four variously-colored giant children of Itzamna and Ixchel, the Bacabs. For 10 points each:

[10] Name this myth system whose stories are found in the *Popol Vuh*.

ANSWER: **Mayan** mythology

[10] In the *Popol Vuh*, the Hero Twins avoid death by transforming their wicked uncles into this kind of animal. In the *Ramayana*, Sugreeva and Vali clash for the kingship of these animals.

ANSWER: **monkeys** [or Howler **monkeys**]

[10] In the *Popul Vuh*, this is the third earth giant encountered and defeated by the Hero Twins. He dies after being tricked into eating a bird covered in poisonous mud.

ANSWER: **Cabrakan**

080-13-83-15220

21. An editorial by William White was broadcast from a capital city during this conflict and was titled "The Last Christmas Tree." For 10 points each:

[10] Name this war in which one side set up defenses at the Mannerheim Line. It was followed a year later by the Continuation War.

ANSWER: **Winter** War [accept but do not read **Russo-Finnish** War]

[10] The Winter War was a loss for what country that was forced to give up land along Lake Ladoga to the Soviet Union?

ANSWER: Republic of **Finland** [or **Suomi**; or **Suomen Tasavalta**; or Republiken **Finland**]

[10] The Winter War overlapped with this lull in World War II on the Western Front, during which no major fighting occurred between the Germans, French, and English.

ANSWER: **Phony** War [or **Sitzkrieg**; or **Twilight** War]

052-13-83-15221