Ladue Invitational Spring Tournament IV

Written and edited by Ben Zhang, Jialin Ding, Kisan Thakkar, Enze Chen, Michael Prablek, and Sam Crowder

Round 13

Tossups

1. In one work by this author, a character pretending to be the Sultan of Turkey marries Lucille, thereby tricking her father Jourdain into thinking that he has entered the nobility. In another work, Argan allows his daughter Angelique to marry Cleante as long as he becomes a doctor. This author of *The Bourgeois Gentleman* wrote about a character who criticizes a sonnet by (*) Oronte and asks Célimène to run off with him into exile. A play by this author ultimately ends with the marriage of Valere and Mariane after Orgon is convinced that the title character is a religious hypocrite. For ten points, identify this French playwright of *The Imaginary Invalid*, *The Misanthrope*, and *Tartuffe*.
ANSWER: **Moliere** [or Jean-Baptiste **Poquelin**]
<KT>

2. Initiation of this process requires energy to cross the forbidden transition and convert a certain species from its triplet state to singlet state. Smoldering is one form of this process commonly tested on polyurethane. Palladium and platinum are typically used in one device to remove impurities formed by the (*) incomplete form of this process, which could yield nitrogen oxides and carbon monoxide. Exemplified by the reaction of hydrogen and oxygen to form water vapor, this type of reaction requires a fuel and oxidant, and typically produces carbon dioxide. For ten points, name this type of chemical reaction that colloquially is known as "burning."
ANSWER: **combustion** [prompt on "oxidation," "reduction," "redox," "exothermic," or, I suppose, "burning"]
<EC>

3. Photographer Gordon Parks created a parody of this painting that depicts cleaning woman Ella Watson with a broom and a mop. Two pots of flowers can be seen over the right shoulder of one figure in this painting, which was inspired by a trip to the town of Eldon. One figure in this painting wears a brown colonial print apron. The pointed (*) arch window of the Dibble House features prominently in this painting, whose artist used his sister Nan and his dentist as models for the two main figures. A man with a pitchfork and his daughter stand in front of a white Iowa farmhouse, for ten points, what iconic painting by Grant Wood?
ANSWER: *American Gothic*
<JD>

4. This character witnesses a man and a woman exchanging mouthfuls of a liquid in a nearby room, compelling him to ask Faith Cavendish out on a date. Earlier, he has a conversation with the mother of Ernest Morrow in which he pretends to be the janitor Rudolf Schmidt. This character is irritated by the poor hygiene of Ackley and (*) Stradlater, the latter of whom also dates his love interest, Jane Gallagher. Maurice later beats up this character, who dislikes "phonies" and is kicked out of Pencey Prep. For ten points, name this brother of Allie, D.B., and Phoebe, the main character of J.D. Salinger's novel, *The Catcher in the Rye*.
ANSWER: **Holden** **Caulfield** [accept either underlined portion]
<KT>

5. This property's namesake operators are applied in Kuratowski's axioms. According to the Heine-Borel theorem, a set is compact if it is both bounded and *this*, which means it contains all of its limit points. The Cantor set, despite containing only boundary points and lacking density, has this property. Because multiplying any two integers yields another integer, the set of (*) integers satisfies this property under multiplication. Intervals with this property include their end values and are denoted with square brackets, unlike their complement which uses parentheses. For ten points, identify this property in set theory contrasted with open.
ANSWER: **closed** sets/intervals [accept word forms like **closure** operators]
<EC>

6. The second movement of this musical piece borrows from a theme composed by Jean-Philippe Rameau. Two violins in another section of this work alternate between playing very high and low notes, and another movement features musicians practicing their scales. This composition, which features sections like (*) "People with long ears" and "Pianists", alludes to "Twinkle Twinkle Little Star" in a movement that uses the rattling of a xylophone to represent the noises of a skeleton and references its composer's earlier work, *Danse Macabre*. For ten points, identify this piece by Camille Saint-Saens with movements like "The Elephant," "Fossils," and "The Swan."
ANSWER: The ***Carnival of the Animals*** [or Le ***carnaval des animaux***]
<KT>

7. This poet commented that "Who are a little wise, the best fools be" in his poem, "The Triple Fool." The speaker of another of his works mentions how a firmness "makes me end where I begun" and begins with describing how "virtuous men pass mildly away". This author also wrote about how "our two bloods mingled be" after an insect (*) "sucks me first and now sucks thee", and another work mentions how a certain figure is a "slave to Fate, Chance, kings, and desperate men". For ten points, name this metaphysical poet of "A Valediction: Forbidding Mourning," "The Flea," and Holy Sonnet X, "Death be not proud."
ANSWER: John **Donne**
<KT>

8. It's not an amendment, but one of these pieces of legislation was enforced by a Force Bill passed in 1833. The first income tax during peacetime was implemented by one of these acts sponsored by William Wilson and Arthur Gorman. Woodrow Wilson first attacked the "triple wall of privilege" by passing one named after Oscar (*) Underwood, which reduced the rates of the Payne-Aldrich one. The Nullification Crisis was caused by the passage of one of these pieces of legislation in 1828 that was labeled as an "abomination" by South Carolinians. For ten points, give this term for taxes on imported goods.
ANSWER: **tariff**s [accept **duties**; prompt on "taxes" before mentioned]
<BZ>

9. In an air column with one end closed, the wavelength of the first harmonic equals this multiple of the length of the air column. The magnetic permeability constant equals this coefficient of pi times ten to the negative seventh, and a typical Wheatstone bridge contains this many (*) resistors. The Stefan-Boltzmann law relates the power of blackbody radiation to this power of temperature. Maxwell names a set of this many equations governing electromagnetism, which is one out of this many fundamental forces in nature. For ten points, identify this number equal to the atomic mass of an alpha particle, which contains 2 protons and 2 neutrons.
ANSWER: **four**
<EC>

10. In January 2013, this country arrested 11 journalists working for the BBC and Voice of America. During a 2012 speech to the U.N., one world leader protested this country's actions by drawing a red line on a cartoonish diagram of a bomb. That world leader later called an agreement concerning this country a "historic mistake." That six-month-long interim agreement signed in Geneva allowed for greater oversight by the (*) IAEA in this country, which agreed to dilute all uranium enriched beyond 5%. For ten points, identify this country led by Hassan Rouhani, which in November 2013 reached an international deal to limit its nuclear program.
ANSWER: Islamic Republic of **Iran** [or **Persia**]
<JD>

11. Alexis Carrel headed a "Foundation for the Study of Human Problems" during this regime, which sought to create a selective reproduction program. This government operated internment camps in Gurs and Drancy for Jews living under it. It adopted a new motto of "Work, Family, Fatherland" to replace that of the (*) Third Republic, which it succeeded. This regime, whose name derives from its capital located in a spa town, was headed by Pierre Laval and a hero of the Battle of Verdun named Philippe Petain. For ten points, name this French government which collaborated with Nazi Germany during World War II.
ANSWER: **Vichy** France or **Vichy** government [accept **French State** or **l'État français**]
<BZ>

12. The shunting-yard algorithm evaluates operators using this structure, which helps reduce memory access by leaving operators at the end of operands, a format known as reverse Polish notation. The x87 floating point architecture organizes 8 registers into this structure that uses FXCH instructions to swap registers, although it may still encounter its namesake (*) "overflows" common to flat registers. One method to inspect but not modify these structures is the peek operation, although they fundamentally run by push and pop from the top. For ten points, identify these last-in-first-out data structures.
ANSWER: **stack**
<EC>

13. This author wrote a novella in which the protagonist asks Ulises to kill her grandmother, who prostituted the title character to pay off a house she burned down. Besides *Innocent Erendira*, this author also wrote a work in which Bayardo San Roman chooses not to marry Angela Vicario after she is deflowered by (*) Santiago Nasar. Another work ends with a character understanding Melquiades' prophecy. The protagonist of that work by this author of *Chronicle of a Death Foretold* has seventeen children named Aureliano and is the founder of the town of Macondo. For ten points, name this author who wrote about Jose Arcadio Buendia in *One Hundred Years of Solitude*.
ANSWER: Gabriel José de la Concordia **García Márquez** [prompt on "Gabo"]
<KT>

14. This writer described eleven "pairs of opposites" of the Pleroma in one book. In another work, this thinker envisioned a black serpent, Philemon, and Salome visiting him while he employed "active imagination." This author of *Seven Sermons to the Dead* and the *Red Book* introduced the idea that two events can be meaningful and non-causal, which he termed (*) synchronicity. This author of *Psychological Types* differentiated between "introversion" and "extraversion" and created the idea of the collective unconscious. For ten points, name this Swiss founder of analytic psychology who once studied under Sigmund Freud.
ANSWER: Carl **Jung**
<KT>

15. This city contains the Mexican neighborhood of Olvera Street. Three inclined hovertrains in this city's Brentwood neighborhood can be used to access its Getty Center. Panoramic views from this city can be seen from Griffith Observatory and along Mulholland Drive. Prehistoric animals trapped the (*) La Brea Tar Pits can be found in this city, which is home to a building constructed of twisted metal sheets designed by Frank Gehry. In addition to the Walt Disney Concert Hall, this city contains Grauman's Chinese Theater in its most famous neighborhood. For ten points, identify this California city home to Hollywood.
ANSWER: **Los Angeles**
<JD>

16. One incarnation of this game saw Roy Riegels recover a Georgia Tech fumble and infamously proceed to run in the wrong direction to his own 1-yard line. Due to a lopsided victory in its inaugural 1902 edition, this game was replaced by chariot races and didn't become an annual event until its second edition in (*) 1916. Wisconsin reached this game in the three years prior to its most recent edition, which saw Michigan State defeat Stanford. This game is traditionally played between teams from the Big Ten and the Pac-12. The 100th edition of this game was played on January 1, 2014. For ten points, identify this college football game played in a stadium of the same name in Pasadena, California.
ANSWER: **Rose Bowl** Game [prompt on "The Granddaddy of Them All"]
<JD>

17. One of these locations is the dominion of Supay and is named Uku Pacha. In Buddhism, Avici is a cube-shaped one of these that is part of Naraka. In Finnish mythology, an old woman used a copper rake to recover the body of a person who drowned while pursuing a swan in one of these places named (*) Tuonela. Before entering one named Irkalla, Ishtar had to remove one article of clothing for each of the seven gates that led to it. The Asphodel Fields are a part of another one of these places, which also contains the Isles of the Blessed and Elysium. For ten points, name these places where the spirits of the dead go, one example of which is ruled by Hades.
ANSWER: **underworld**s [accept **hell**s; accept **netherworld**s or equivalents]
 <BZ>

18. Fibrous dysplasia results in abnormal growths in this tissue, and a similar disease causes injured muscles to be replaced by this tissue instead of healing. The cancellous type of this tissue is found in the epiphyseal plates. Volkmann canals in this tissue run perpendicular to concentric lamellae, which surround (*) Haversian canals in the compact type of this tissue. A large portion of this tissue consists of hydroxyl-apatite crystals dispersed in a collagen matrix, which is produced by cells called osteoblasts. For ten points, name this tissue which is weakened in osteoporosis, and which comprises structures like the sternum and femur.
ANSWER: **bone** tissue or **osseous** tissue
<BZ>

19. While under colonial rule, this country's natives were forced into the *kipande* labor system. The Luo chieftain Oginga Odinga formed the Forum for the Restoration of Democracy in this country, whose leading nationalists were put on trial by Governor Evelyn Baring as the Kapenguria Six. Operation Anvil and a massacre at Lari were part of one uprising in this country that ended after the death of Dedan Kimathi. Its first leader, who promoted (*) *harambee*, or "pulling together," was succeeded by Daniel arap Moi. The native Kikuyu led this country's Mau Mau Rebellion. For ten points, identify this African country founded by Jomo Kenyatta, with capital at Nairobi.
ANSWER: Republic of **Kenya**
<JD>

4

20. Combinations of *sujud* and *ruku* are performed during this action, which can be divided into varieties like *fajr* and *isha* based on the time of day. *Qasr* is a shortening of this action due to travel constraints. *Wudu* is typically carried out before this action, which must be performed towards (*) *qibla*. The call to perform this action used to be made by *muezzins*, but is now typically made by loudspeakers installed on minarets. Practitioners of this action, mandated by the pillar of *salat*, prostrate themselves on special mats. For ten points, identify this action that Muslims perform five times a day in the direction of Mecca.
ANSWER: **prayer** [accept word forms like "**pray**ing"; accept **salat** or **salah** before mentioned; accept **namaz**]
<JD>

21. Soon after this leader's death, the Pact of Forgetting was created to avoid dealing with the actions of his regime. This leader forced political prisoners to build Carabanchel Prison and a mausoleum at the Valley of the Fallen. The Vertical Syndicate was the only trade union allowed under this man, who first gained military experience as the leader of the Foreign Legion during the Rif War. During his country's civil war, this man merged the (*) Carlists with the Falange Party of Primo de Rivera. That civil war saw this man use Hitler's Condor Legion to bomb Guernica. For ten points, identify this predecessor of Juan Carlos I, a fascist dictator who ruled Spain from 1939 to 1975.
ANSWER: Francisco **Franco** y Bahamonde
<JD>

22. This artist depicted a maid delivering the title message to a seated woman with a lute in *The Love Letter*. Other works by this artist include one in which the title green-robed figure inspects a globe and another in which a representation of the muse Clio is being painted. This painter of *The Astronomer* and *The* (*) *Art of Painting* also depicted a billowy cloud casting a shadow over a harbor in a painting of his hometown. His most famous painting depicts a woman in a blue turban turns back towards the viewer, thereby revealing the title piece of jewelry. For ten points, identify this Dutch artist of *View of Delft* and *Girl with a Pearl Earring*.
ANSWER: Jan **Vermeer** [or Johannes **Vermeer**]
<JD>

Bonuses

1. Bonus: He used George Fox's possible schizophrenia as an example of "medical materialism." For ten points each:
[10] Name this author of *The Varieties of Religious Experience* who examined the history of psychology in *Principles of Psychology*. He questioned whether or not a man was running around a squirrel in another work.
ANSWER: William **James**
[10] Along with Charles Peirce, William James is considered one of the founders of this school of philosophy which claims that the value of something is related to its practicality. James called it "A New Name for Some Old Ways of Thinking."
ANSWER: **pragmatism** [accept word forms like **pragmatist** philosophy]
[10] This American pragmatist philosopher believed that learning should reward a "continued capacity for growth" and argued for a strong schooling system in his work, *Democracy and Education*.
ANSWER: John **Dewey**
<KT>

2. Bonus: One character begins this story with a dollar and eighty-seven cents. For ten points each:
[10] Name this short story in which James sells his gold watch to buy a comb for his wife Della, who cuts her hair to buy a chain for James's gold watch.
ANSWER: "The **Gift of the Magi**"
[10] "The Gift of the Magi" is a short story written by this American author who also wrote "The Ransom of Red Chief."
ANSWER: **O. Henry** [or William Sydney **Porter**]
[10] This collection written by O. Henry has such stories as "The Gift of the Magi" and is named after New York's population at the time it was published.
ANSWER: *The **Four Million***
<KT>

3. Bonus: For ten points each, answer these questions about revolutions in 1848:
[10] During the Revolutions of 1848, the Frankfurt Assembly drafted a constitution that was presented to the fourth emperor of this name. A man with this name known as the "Great Elector" helped orchestrate Prussia's rise to power.
ANSWER: **Friedrich Wilhelm** or **Frederick William** [accept **Frederick Wilhelm**; do not accept or prompt on "Frederick" or "Friedrich", or "Wilhelm" or "William"]
[10] Lajos Kossuth served as the president of this country during the revolutions, though the Habsburg monarchy ultimately repressed them and built an armed fortress on Gellert Hill that overlooked the city of Budapest.
ANSWER: **Hungary** or **Magyarorszag**
[10] This "Citizen King" of France was unable to balance the interests of the bourgeoisie and the socialists, thus leading to his deposition in 1848. His predecessor, Charles X, was deposed in the July Revolution.
ANSWER: **Louis-Philippe** I
<BZ>

4. Bonus: Members of this group committed the Mountain Meadows Massacre. For ten points each:
[10] Identify this religious group that was led by Brigham Young to Utah following the death of its founder in Nauvoo, Illinois.
ANSWER: **Mormon**s [or Church of Jesus Christ of **Latter-Day Saints**; or **LDS** Church]
[10] This aforementioned founder of the Mormon church received a pair of golden plates from the angel Moroni and translated them into the Book of Mormon.
ANSWER: Joseph **Smith**, Jr.
[10] The Book of Mormon is one of the four "standard works" of the Mormon church, along with the Bible, the Doctrine and Covenants, and this book, which is named after an object that demonstrates the value of the Kingdom of Heaven.
ANSWER: **Pearl of Great Price**
<JD>

5. Bonus: Answer some questions about Venetian artists, for ten points each:

[10] This Venetian artist depicted a dog reclining at the feet of a reclining nude in his *Venus of Urbino*. He also painted *The Rape of Europa* and *Sacred and Profane Love*.

ANSWER: **Titian** [or Tiziano **Vecelli**o]

[10] Tintoretto painted a depiction of this scene, in which angels surround twelve figures seated at a diagonally-oriented table. A more famous version of this scene was painted by a Florentine artist.

ANSWER: the **Last Supper**

[10] The Last Supper is likely the subject of *The Feast in the House of Levi*, which is a painting by this Venetian artist, whose other biblical scenes include *The Wedding at Cana*.

ANSWER: Paolo **Veronese**

<JD>

6. Bonus: Hippolyte writes an "Essential Statement" in this work. For ten points each:

[10] Name this novel in which Prince Myshkin finds the dead body of Nastasya in Rogozhin's bed.

ANSWER: *The **Idiot***

[10] In this novel, which was written by the same author of *The Idiot*, Sonya convinces Raskolnikov to finally confess to his murder of an old pawnbroker. As a result of this, he his later forced into exile in Siberia.

ANSWER: ***Crime and Punishment***

[10] This Russian author wrote *The Idiot* and *Crime and Punishment*.

ANSWER: Fyodor Mikhailovich **Dostoevsky**

<KT>

7. Bonus: Hermes' caduceus features two of these animals coiled around a staff. For ten points each:

[10] Name these reptiles which formed the hair of Medusa.

ANSWER: **snake**s [or **serpent**s]

[10] This blind prophet was turned into a woman after he hit a pair of mating snakes with a stick. This native of Thebes lived for seven generations and advised kings like Cadmus, Laius, and Oedipus.

ANSWER: **Tiresias**

[10] This other prophet rescued some orphaned snakes and was able to understand animals after they licked his ears clean. This man also shared the fact that Midas had donkey ears after he overheard some birds talking about it.

ANSWER: **Melampus**

<BZ>

8. Bonus: Mozart wrote 16 of them. For ten points each:

[10] Name these types of chamber music, examples of which include the "American" one by Dvorak and the "Rasumovsky" ones by Beethoven. Another composer wrote "Sun" and "Erdody" ones.

ANSWER: **string quartet**s

[10] This Austrian "Father of the String Quartet" was also a prolific symphony writer who composed such works as the *Farewell*, *Surprise*, and *London* symphonies.

ANSWER: Franz Joseph **Haydn**

[10] This D-major symphony by Joseph Haydn is the ninth of his *London* symphonies and its popular name refers to the "ticking" rhythm in its *Andante* movement.

ANSWER: ***Clock*** *Symphony* [accept ***Symphony No. 101*** *in D major*]

<KT>

9. Bonus: These objects flow by basal slip and erode the land to form cirques. For ten points each,
[10] Identify these large masses of compressed snow and ice that can be found near the polar ice caps.
ANSWER: **glacier**s
[10] Moving glaciers pick up unsorted till and leave these trails of soil and rock that come in terminal, medial, and lateral types.
ANSWER: **moraine**s
[10] Glaciers also form these small hills comprised of till that are steep on one side and tapered on the other, pointing towards the direction of ice movement.
ANSWER: **drumlin**s
<EC>

10. Bonus: The speaker of this work claims, "An aged man is but a paltry thing." For ten points each:
[10] Identify this poem which states that a certain place is "no country for old men" and whose speaker asks sages to "consume my heart away".
ANSWER: "**Sailing to Byzantium**"
[10] "Sailing to Byzantium" was written by this Irish poet, who also wrote that "Things fall apart; the centre cannot hold" in his poem, "The Second Coming."
ANSWER: William Butler **Yeats**
[10] This poem by W.B. Yeats describes some "Chinamen" carved in the title blue stone that have "ancient, glittering eyes" and over whom "flies a long-legged bird".
ANSWER: "**Lapis Lazuli**"
<KT>

11. Bonus: One candidate in this election was attacked in the "Revolving Door" ad. For ten points each:
[10] Name this presidential election, in which the negative publicity about the Massachusetts furlough program generated by Willie Horton's crimes contributed to the defeat of the Democratic candidate.
ANSWER: Election of 19**88**
[10] Michael Dukakis was defeated in the election by this former Vice President under Reagan, and father of a president who won the 2000 election against Al Gore.
ANSWER: George **H**erbert **W**alker **Bush** [accept answers indicating the **elder Bush**; prompt on "Bush" or "George Bush"; do not accept or prompt on "George W. Bush" or "George Walker Bush"]
[10] George HW Bush's inability to keep this promise, made at the 1988 Republican National Convention, led to his defeat in the 1992 election. It was broken in 1990 due to budget problems.
ANSWER: Read my lips: **no new taxes** [accept answers indicating that he was **not going to raise taxes**]
<BZ>

12. Bonus: Ramzan Kadyrov currently leads this republic. For ten points each:
[10] Name this federal subject of Russia, which fought two wars for independence in 1994 and 1999..
ANSWER: **Chechnya** [or **Chechen** Republic of Ichkeria]
[10] This pair of Chechen Islamists built pressure cooker bombs and detonated them in an April 2013 marathon.
ANSWER: Dzhokhar and Tamerlan **Tsarnaev**
[10] The bombings took place during an annual marathon in this city.
ANSWER: **Boston**
<BZ>

13. Bonus: The Kennedy-Thorndike experiment tested this theory, wherein Lorentz transformations may be used to account for phenomena such as length contraction. For ten points each,
[10] Identify this theory that has a well-known mass-energy equivalence and corrects classical mechanics for situations involving motion near the speed of light.
ANSWER: **special** theory of **relativity** [prompt on "relativity"; do NOT accept "general relativity"]
[10] Special relativity explains the relationship between space and this property, whose namesake "dilation" was confirmed in the Ives-Stilwell experiment. It has been tested by measuring atomic clocks in aircraft.
ANSWER: **time**
[10] This man names the four dimensional spacetime in which special relativity is formulated. His namesake diagram maps the results of Lorentz transformations and shows the light cones of certain events.
ANSWER: Hermann **Minkowski**
<EC>

14. Bonus: He is born with a bright piece of jade in his mouth. For ten points each:
[10] Name this character who, despite once having loved Lin Daiyu, eventually marries his cousin Xue Baochai, whose golden locket complements his jade. He is the heir to the Rongguo House.
ANSWER: **Jia Baoyu** [accept either name]
[10] Jia Baoyu is the central character of this novel written by Cao Xueqin. It describes the various misfortunes of the Jia family.
ANSWER: *Dream of the Red Chamber* [or *Hóng Lóu Mèng*]
[10] *Dream of the Red Chamber* is one of the four great classical novels of this country. Other novels from this modern nation include *Romance of the Three Kingdoms* and *Water Margin*.
ANSWER: People's Republic of **China** [or **Zhōngguó**]
<KT>

15. Bonus: Attractions on this island include the Tivoli Gardens and the statue of the Little Mermaid. For ten points each:
[10] Identify this island connected to Funen by the Great Belt Bridge and to Sweden by the Oresund Bridge. Copenhagen lies on this island, and it is also the namesake of a certain Southern Hemisphere country.
ANSWER: **Zealand**
[10] Zealand is an island belonging to this smallest Scandinavian country, whose mainland is comprised of the peninsula of Jutland and whose capital is the aforementioned city of Copenhagen.
ANSWER: Kingdom of **Denmark**
[10] Mainland Denmark is separated from Sweden by this area of water, which, along with Skagerrak, connects the Baltic Sea to the North Sea.
ANSWER: the **Kattegat**
<JD>

16. Bonus: Since this value for two numbers is always greater than the square root of their product, it shows that a square has the smallest perimeter for rectangles of equal area. For ten points each,
[10] Identify this measure which for two numbers equals their sum divided by two.
ANSWER: **arithmetic mean** [prompt on "mean" or "AM" or "average"]
[10] One way to prove the AM-GM inequality is to apply the trivial inequality, which states that the square of a value will always be greater than or equal to this number.
ANSWER: **zero**
[10] This other inequality states that the dot product between two vectors is less than or equal to the product of their magnitudes. Consequences of this statement include the triangle inequality and Holder's inequality.
ANSWER: **Cauchy-Schwarz**-Bunyakovsky inequality
<EC>

17. Bonus: The crucifixion of Spartacus and his followers occurred along one of these structures, for ten points each:
[10] Identify these man-made structures, examples of which include the aforementioned Via Appia, which stretched from Rome to Brundisium, and one connecting Asia and Europe that was named after its importance to the silk trade.
ANSWER: **road**s [accept equivalents like "route" or "street"]
[10] A Roman road that stretched from Rome to Castrum Truentinum was named after this commodity, which was allegedly part of a soldier's pay. It was nicknamed "white gold" due to its powers of preservation.
ANSWER: **salt** [or Via **Salaria**]
[10] This was the name given to the ancient highway that connected Susa to Sardis in the Persian Empire. This was also the name given by the Spanish to the more notable parts of the Inca road system.
ANSWER: the **Royal Road** [or el **Camino Real**]
<JD>

18. Bonus: Name some of Matthew Broderick's famous roles, for ten points each:
[10] In this classic film, Broderick stars as the title character who, along with his girlfriend Sloane and friend Cameron, deceives his parents and Edward Rooney to explore downtown Chicago.
ANSWER: *Ferris Bueller's Day Off*
[10] Broderick also played Colonel Robert Shaw in this movie depicting the 54th Massachusetts and their assault on Fort Wagner. In one scene, he rips his paycheck when he finds out the black soldiers were getting unequal pay.
ANSWER: *Glory*
[10] Broderick starred as this character from the Mel Brooks musical *The Producers*. This character schemes with his friend Max Bialystock to raise two millions dollars, but later ditches him for his love, Ulla.
ANSWER: **Leopold** "**Leo**" **Bloom** [accept any part]
<EC>

19. Bonus: This element is triple bonded to carbon to form the cyanide anion, and it also triple bonds with itself to form a diatomic gas. For ten points each,
[10] Identify this element, the most abundant gas in the Earth's atmosphere. Bacteria also fix this element for biosynthesis.
ANSWER: **nitrogen** [accept **N**]
[10] Nitrogen bonds with three hydrogen atoms to form ammonia, a compound industrially produced in this process. It uses an iron catalyst, and yield can be increased by removing ammonia from the system.
ANSWER: **Haber**-Bosch process
[10] Nitrogen amides can easily link together to form compounds with high tensile strength, such as this product developed by DuPont and used in tires and body armor.
ANSWER: **Kevlar**
<EC>

20. Bonus: An agreement made in this city was described by Neville Chamberlain as "peace for our time." For ten points each:
[10] Identify this city which was the location of Hitler's failed Beer Hall Putsch and saw eleven athletes and coaches massacred at the 1972 Summer Olympics.
ANSWER: **Munich** [or **München**]
[10] The eleven people massacred in the 1972 Munich Olympics were all citizens of this country. This primarily Jewish country has often ran into trouble with its Arab neighbors, as exemplified by such conflicts as the Six Day War.
ANSWER: State of **Israel**
[10] The perpetrators of the massacre were a part of this Palestinian terrorist group, named after the civil war in Jordan. Several of its members were tracked down and eliminated by the Israeli Mossad in Operation Wrath of God.
ANSWER: **Black September**
<JD>

21. Bonus: Examples of these include src ["sarc"] and Ras, which mediate cell receptor signaling. For ten points each:
[10] Give this term for genes whose mutation may result in cancer.
ANSWER: **oncogene**s
[10] A tumor considered cancerous is given this term, contrasted with benign. Cells from this type of tumor often metastasize and spread to other parts of the body.
ANSWER: **malignant**
[10] Mutations in the gene that codes for this tumor-suppressor protein, called the "guardian angel of the human genome", can cause it to become an oncogene due to its importance in cell maintenance and repair.
ANSWER: **p53**
<BZ>

22. Bonus: For ten points each, answer the following about monarchs who may have suffered from mental illness:
[10] This member of the House of Hanover may have had porphyria, which resulted in his eventual madness. His refusal to reconcile with the American Colonies led to the Revolutionary War.
ANSWER: **George III** [prompt on "George"]
[10] Charles VI of France was a notable victim of this medieval psychological disorder, whose sufferers believed that they were made of the namesake substance and refused to be touched.
ANSWER: **glass delusion**
[10] In one of his bouts of anger, this Tsar killed his heir, resulting in the accession of the mentally ill Feodor to the throne.
ANSWER: **Ivan the Terrible** or **Ivan IV** [accept **Ivan Grozny**; prompt on "Ivan"]
<BZ>