

**Bulldog High School Academic Tournament XXI (2012): Oh God, Not the Spider Cows!**  
**Written by Yale Student Academic Competitions**  
**Edited by Matt Jackson, with John Lawrence, Ashvin Srivatsa, and Sam Spaulding**

**Round 2 Tossups**

1. The addition of sodium metal to ammonia yields this thing in solution, producing a deep blue color. In one form of mass spec, this substance may be thermionically emitted, and then multiplied in a vacuum tube via secondary emission. This substance is exchanged in dismutation reactions. When only one of them is present, the energies of transitions undergone by this non-element may be predicted by the Rydberg formula. Its energies are determined by the Aufbau principle, which governs its sorting into shells and orbitals. For 10 points, name this particle, formerly known as a cathode ray, which is released in beta decay and which is shared among covalently-bonded atoms.  
ANSWER: **electrons** [accept **electride**] <AS>

2. One of this author's protagonists is a puppeteer who mourns the loss of his former lover, Drenka. The assimilated Brenda Patimkin has an ill-fated summer fling with Neil Klugman in his breakout novella. Those works are *Sabbath's Theater* and *Goodbye Columbus*. The effect of Merry Levov's descent into terrorism on her father, The Swede, is narrated by recurring character Nathan Zuckerman in one of his novels. His most famous protagonist narrates to Dr. Spielvogel his exploits with girlfriends nicknamed "The Pilgrim", "The Pumpkin", and "The Monkey". For 10 points, name this Jewish-American author of *American Pastoral* and *Portnoy's Complaint*.  
ANSWER: Philip Milton **Roth** <JL>

3. In RTGs, the generation of a gradient of this quantity by radioactive decay is converted to a voltage via the Seebeck effect. This quantity can become negative in quantized spin systems. One scale for it is defined by the triple point of water. An ideal gas particle's kinetic energy is three-halves Boltzmann's constant times this quantity. Heat capacity is the ratio of heat added to the change in it. The third law of thermodynamics predicts a lower limit on this quantity, which is known as absolute zero. For 10 points, name this quantity, which is identical for any two bodies in thermal equilibrium, and which may be measured in degrees Kelvin.  
ANSWER: **temperature** [or **absolute temperature**; do not accept "heat" or "energy"] <SL>

4. The murder of this country's Emperor Iyoas led to an anarchic period called the Zemene Mesafint, which ended with the accession of Tewodros II. One dynasty in this country was overthrown by Mengistu and his Communist military government, the Derg, which in turn lost a civil war to an alliance of Tigrayan, Oromo, and Amharic rebels. This country won the Battle of Adowa under Emperor Menelik II, who claimed direct descent from the Biblical King Solomon, though it could not prevent Italian occupation under Mussolini. For 10 points, name this homeland of Haile Selassie from which Eritrea split, a never-colonized African nation.  
ANSWER: **Ethiopia** [or **'Itvoppva**; prompt "Abyssinia"] <SL>

5. Composer and work type required. Richard Wagner called one of these pieces the "apotheosis of the dance;" the second movement of that one is an A-minor *Allegretto* based on a repeated quarter-eighth-eighth-quarter-quarter rhythmic pattern. In the score to another of these works, their composer noted which birds are depicted by the flute, oboe, and clarinet. The "Scene by the Brook" and a thunderstorm are depicted in the sixth of these pieces. Another contains a C-minor funeral march and was originally dedicated to Napoleon. For 10 points, name this set of nine orchestral works including the *Eroica*, whose composer set the final movement of one to Schiller's "Ode to Joy."  
ANSWER: **symphonies** by Ludwig van **Beethoven** [or **Beethoven's symphonies**; prompt "symphonies," prompt "compositions by Beethoven"] <KK>

6. One of his poems begins: "I am old as all the memories / That fill the thousand drawers behind my eyes". One of his poems describes evil as a pillow to lie on. Another of his poems describes a sailor tapping his pipe on the beak of the title captured sea-bird to mock it. Another of his poems ends with the lines "Hypocrite reader - my likeness, my brother." Those poems, "The Albatross" and "To the Reader," are in a collection that opens with the section "Spleen and Ideal". For 10 points, name this father of French Symbolism, the poet of *Les Fleurs du Mal*.  
ANSWER: Charles Pierre **Baudelaire** <JL>

7. In this faith, it's an honor to wave a fan made of yak hair called a *chaur* in a house of worship; those temples have communal *langar* kitchens and right-triangular flags bearing a symbol of one circle and three blades. The corpse of this faith's founder turned to flowers. A ceremony using an iron bowl brings believers into its stricter Khalsa order. This faith's adherents venerate Arjun Dev, the compiler of a holy book once called *Adi Granth*, as the fifth of ten holy men in a series starting with Nanak. For 10 points, name this monotheist faith which reveres *gurus*, an Indian religion whose males were sometimes assaulted after 9/11 for their beards and turbans.

ANSWER: Sikhism [or Sikh faith; or Sikhs; prompt "Khalsa" until read] <MJ>

8. The last traces of a minaret formerly attached to this building were destroyed in 1832. One famous, no longer extant chryselephantine statue housed in this building depicted a goddess wearing a Sphinx helmet holding a smaller statue of Victory in her right hand. One part of this structure depicts Poseidon drawing water from the earth and Athena giving the gift of an olive tree. A frieze depicting a lengthy procession was designed for this building by Phidias. The majority of the Elgin Marbles were taken from this building. For 10 points, name this temple designed by Ictinus and Callicrates that sits on the Athenian Acropolis.

ANSWER: The Parthenon <JL>

9. Robert Graves equated one of these beings with Japheth, a son of Noah. Another of these figures employed a scorpion-tailed dragon-woman, Campe, to guard the Hecatonchires. One of these deities personified memory and was the mother of the nine Muses. The Omphalos stone was consumed by another of these deities who castrated his father with a sickle and tried to eat all of his own children. That deity is Cronus. For 10 points, name this group of Greek deities who were overthrown by the Olympians under Cronus's son Zeus.

ANSWER: the Titans <AD>

10. One side in these conflicts developed the "raven," an upright plank which could be lowered to board enemy ships, and the losers of the first one had to immediately fight the Mercenary War. At one battle in these conflicts, Varro and Paullus pushed forward, only to be flanked by double-envelopment at Cannae. One of these wars ended with a failed elephant charge at Zama, after which the general Scipio added Africanus to his name. The last one ended with the siege of a capital city in what's now Tunisia. For 10 points, name these three wars during which an Alpine crossing was made by Hannibal, which all ended with Rome defeating Carthage.

ANSWER: Punic Wars [prompt "First Punic War" until "Varro" is read; do not accept any one war afterward] <MJ>

11. In Hoodie Allen's song "WhiteGirlProblems" a song by this artist is briefly sampled. In one song, she asks her listener "If there's nothing missing in my life/ then why do these tears come at night?" Her ex-husband released an ill-fated rap album, "Playing with Fire," that now holds the lowest rating in Metacritic's database. Early singles had music videos in which she washed in a bath and danced in a sauna: "Everytime" and "I'm a Slave 4 U" respectively. More famously, in another song, this singer says she "played with your heart, got lost in the game" after uttering the title interjection. For 10 points, identify the Mississippi-born singer behind "Toxic," and "Oops...I Did it Again"

ANSWER: Britney Spears <SL>

12. A carpenter-turned-politician in this work is described as having the voice of a lion, but not knowing what to say with it. Mr. Carmichael takes a case *pro deo* in this novel, in which Mr. Napoleon teaches agriculture and another character receives the life savings of the priest Msimangu. In this novel, the white landowner James Jarvis works to restore the town of Ndotsheni after the murder of his son, Arthur. For 10 points, name this novel, in which Gertrude and her nephew, Absalom, are visited in Johannesburg by her brother, Stephen Kumalo, the most famous by South African author Alan Paton.

ANSWER: Cry, The Beloved Country <SJW>

13. Apoplastic loading in this tissue is facilitated by SUC2. Damage to this tissue leads to the deposition of callose in their plasmodesmata plates. According to the pressure flow hypothesis, bulk movement through this tissue is driven by positive hydrostatic pressure, while localized movement of solute occurs by active transport, in a process called translocation. It lies immediately interior to the sclerenchyma, outside a tissue that may make up wood. This tissue, which contains photosynthate, is primarily composed of parenchymous companion cells and conducting sieve-tube cells. For 10 points, name this plant vascular tissue which transports sugar and nutrients.

ANSWER: phloem <IP>

14. At the bottom right of this painting, a beaded crucifix hangs from one of the central figures' neck. To the right of a church in the background of this painting are five houses, two of which are upside-down. A woman is milking a goat on the left of this painting. At the top of this painting, an upside-down violinist is being approached by a right-side-up man with a scythe. For 10 points, name this painting, dominated by the green face of a man holding out a branch to a white sheep, by Marc Chagall.

ANSWER: **I and the Village** <MJ>

15. This country's Anambra state was home to an airstrip which delivered food to refugees; its Cross River State is home to drill monkeys around the city of Calabar, while it contains the majority of the Benue river as well as the Mambilla plateau. Its northern provinces of Sokoto and Kano are inhabited by the Hausa people. One brief breakaway state from this country named itself for the Bight of Biafra on its southern coast. This African country is inhabited by Igbo and Yoruba people. For 10 points, name this oil-producing African state which moved its capital to Abuja from the massive southern port city of Lagos.

ANSWER: Federal Republic of **Nigeria** <MJ>

16. This organization's last leader was Carmine diSapio. The Equal Rights Party, better known as the Locofocos, emerged to oppose this group. Its leaders were known internally as Grand Sachems, and led rituals in fake Native American costume. This group's affiliated judges were impeached by Governor Samuel Tilden to bust its leader's namesake "ring". Depicted by cartoonists such as Dr. Seuss and Thomas Nast as a tiger, it was run corruptly by Boss Tweed. For 10 points, name this pro-Irish Democratic political machine of 19th-century New York City.

ANSWER: **Tammany Hall** [or **Society of Saint Tammany**; prompt "Democratic Party"] <MJ>

17. The existence of a singular value decomposition for these objects is guaranteed by the spectral theorem. Multiplying them together corresponds to composing linear maps. The roots of the characteristic equation of one of these objects are its eigenvalues. Collections of derivatives named for Jacobi and Hesse are examples of them. Symmetric ones are equal to their own transpose. One property of these objects is computed by cofactor expansion or by row reduction. They may be produced by right-multiplying a column vector by a row vector, and have unique inverses if their determinants are nonzero. For 10 points, name these arrays of numbers with rows and columns.

ANSWER: **matrix** [or **matrices**; accept **Jacobian matrix**; accept **Hessian matrix**; accept **symmetric matrix**; accept **square matrix**] <AD>

18. This work ends with the goddess Hymen presiding over four marriages. Several characters in this play are sons of Sir Rowland de Boys, including the villainous Oliver, who tries to kill his brother through a fixed wrestling match. Speeches in this play, which features the characters Phebe and the shepherd Silvius, include Duke Senior's reflections on the advantages of the forest, and Jaques declaring, "All the world's a stage." For 10 points, name this play, set in the Forest of Arden, where Orlando is instructed in romance by the disguised Rosalind, written by William Shakespeare.

ANSWER: **As You Like It** <SJW>

19. These people centrally administered their territory by appointing three Landmasters, and they were opposed in Culmerland by the Lizard Union. Their taxes and customs were at issue before they lost the Thirteen Years' War, and they lost a battle on the frozen Lake Peipus to Aleksandr Nevsky. The Golden Bull of Rimini confirmed some land holdings of this group, which absorbed the Livonian Order. Their master Ulrich von Jungingen lost to Poland-Lithuania at the 1410 battle of Grunwald, also called First Tannenberg. Originally founded to help central European pilgrims go east, for 10 points, name this military order founded by Germans during the Crusades.

ANSWER: **Teutonic** Knights [or **Teutonic** Order; accept Order of **Brothers of the German House** of Saint Mary in Jerusalem; or Haus der Ritter des **Hospitals Sankt Marien** der Deutschen zu Jerusalem; or **Domus Sanctae Mariae** Theutonicorum in Jerusalem; prompt "Deutscher Orden"; prompt "Deutscher Ritter-Orden"] <MJ>

20. This man incorporated the "home market effect" into his New Economic Geography. In recent writings, this man likened austerity supporters to believers in a magic "confidence fairy." He wrote on the effects of the speed-of-light limit upon a future galactic economy in *A Theory of Interstellar Trade*. This man argues from his study of Japan that America's Great Recession is a liquidity trap, and altered a Barry Goldwater title for his political book *The Conscience of a Liberal*. For 10 points, identify this Princeton professor, a winner of the 2008 Nobel Prize in Economics who is also an outspoken columnist for the *New York Times*.

ANSWER: Paul Robin **Krugman** <SSp>

**[STOP HERE]**

[You have reached the end of the round. Do not continue reading unless the game is tied or a tossup was thrown out earlier in the round.]

21. In this novel, the ghost of a baby floating in a “bar’l” down a river in a storm haunts a raft of drunken soldiers. The protagonist retrieves a love note from a Bible in a church pew for Sophia, whose brother Buck joins the rest of the Grangerfords in hating the Shepherdsons. Near the end, that title character finds a companion in Sally Phelps’ household who he’d earlier lost track of in heavy fog. The protagonist flees the alcoholic Pap and later meets two conmen, the Duke and the Dauphin, who sell a character once owned by Widow Douglas, the slave Jim. For 10 points, name this novel about travels down the Mississippi by a namesake friend of Tom Sawyer, by Mark Twain.

ANSWER: *The Adventures of Huckleberry Finn* <MJ>

## Round 2 Bonuses

1. Ludwig Wittgenstein popularized analyzing this quality and its opposite in namesake “tables.” For 10 points each:  
[10] Name this quality important to philosophers. If a claim has this property, that claim is factually correct.

ANSWER: truth [or true]

[10] Assessing the truth of claims is a key part of this field of study, which determines the validity and soundness of argument and the rules governing rational thought.

ANSWER: logic [or predicate logic; or formal logic; or modal logic; or syllogistic logic]

[10] These logical laws relate conjunction and disjunction. One of them says the negation of quantity p OR q logically equals not p AND not q; the other says that the negation of quantity p AND q equals not p OR not q.

ANSWER: DeMorgan’s laws <MJ>

2. The Beveridge report suggested that the United Kingdom adopt this practice as a key pillar of its Welfare State. For 10 points each:

[10] Name this system whose single-payer variant was enacted there in 1948, ensuring that all citizens of the UK have their medical expenses paid. The United States lacks this system.

ANSWER: [single-payer] national health insurance plan [or universal health care; or National Health Service; prompt “NHS”]

[10] This Labor Prime Minister instituted Britain’s National Health Service three years after he attended the Potsdam conference and succeeded Winston Churchill.

ANSWER: Clement Attlee

[10] This Liberal Prime Minister enacted Canada’s national health system, called Medicare, and during his term Canada adopted the maple-leaf flag. He earned a Nobel Peace Prize for helping ease the Suez Crisis.

ANSWER: Lester Bowles Pearson, PC, OM, CC, OBE [or Mike Pearson] <MJ>

3. The relationship between a remora and its host is often taken to be this type of relationship. For 10 points each:

[10] Name this type of relationship in which one partner benefits from the other, while the other is unharmed.

ANSWER: commensalistic [or word forms like commensalism or commensal]

[10] This term describes any long-term relationship between organisms of two or more different species.

Commensalism is one type of it, as is parasitism.

ANSWER: symbiosis [or word forms]

[10] Symbiotic organisms undergo this type of evolution, in which each member exerts selective pressure on the other. Parasitic relationships may be described by the Red Queen’s Hypothesis, which also describes this process.

ANSWER: co-evolution <RB>

4. This co-author of the Contract with America oversaw the Republican take-over of Congress during 1994 midterm elections. For 10 points each:

[10] Name this man who resigned as Speaker of the House in 1998, a candidate for the 2012 Republican presidential nomination.

ANSWER: Newt[on] Leroy Gingrich

[10] Gingrich’s opponents say his 2012 campaign is using this two-word political tactic pioneered by Lee Atwater, which gets white voters in a certain region of the country. Some liberals attribute its success to race-baiting.

ANSWER: “Southern strategy”

[10] On March 13th, Gingrich nonetheless lost in the primaries of these two Southern states to Rick Santorum. Name both states.

ANSWER: Alabama and Mississippi [either order is acceptable] <BH>

5. He wrote a musical that intertwines several fairytales by the Brothers Grimm, *Into the Woods*, as well as another about the title “demon barber of Fleet Street.” For 10 points each:

[10] Name this Broadway composer and lyricist who wrote *Sweeney Todd*, *Company*, and *A Little Night Music*.

ANSWER: Stephen **Sondheim**

[10] Sondheim also wrote the lyrics for this Leonard Bernstein musical based on *Romeo and Juliet*. In this musical made into 1961 film, Tony and Maria fall in love in spite of affiliations with rival gangs the Jets and the Sharks.

ANSWER: **West Side Story**

[10] Sondheim also wrote the music and lyrics for this show about the slave Pseudolus, set in Rome and inspired by the comedies of Plautus.

ANSWER: **A Funny Thing Happened on the Way to the Forum** <KK>

6. One location in this novel is populated by giant people over seventy feet tall, who capture the protagonist and exhibit him for money. For 10 points each:

[10] Name this novel, whose title character encounters horse-people named Houyhnhnms and people six inches tall in the kingdom of Lilliput.

ANSWER: **Gulliver's Travels** [accept **Travels into Several Remote Nations of the World, in Four Parts. By Lemuel Gulliver, First a Surgeon, and then a Captain of Several Ships** with a mixture of awe and contempt]

[10] *Gulliver's Travels* is by this Irish satirist who suggested feasting on babies in *A Modest Proposal*.

ANSWER: [Dean] Jonathan **Swift**

[10] Gulliver also visits this island, which is dedicated to the arts and sciences being employed uselessly.

ANSWER: **Laputa** <JL>

7. These books, often erroneously lumped in with apocryphal books, include the books of Tobit, Judith, Wisdom, and First Maccabees. For 10 points each:

[10] Identify this group of books generally included in Catholic and Orthodox Old Testaments, but rejected from the Hebrew Bible as used by Jews and some Protestants.

ANSWER: **deuterocanonical** books

[10] This Hebrew Bible book often has a deuterocanonical substory, about Bel and the dragon, excised. Its title figure interprets the “writing on the wall” at Belshazzar’s feast after Shadrach, Meshach, and Abednego are thrown in a fire.

ANSWER: Book of **Daniel**

[10] One objection to deuterocanonical texts is that they’re written in Greek, not Hebrew, much like these New Testament narratives written by Matthew, Mark, Luke, and John.

ANSWER: the Four **Gospels** [or **evangelion**] <MPG/MJ>

8. This leader killed his brother Bleda to take sole power after years of joint rule. For 10 points each:

[10] Name this warlord, the most powerful leader of the invading Huns.

ANSWER: **Attila** the Hun

[10] Attila’s huns were defeated by a combined Roman-Visigoth force at this 451 AD battle in modern-day France.

ANSWER: Battle of **Chalons** [or Battle of the **Catalaunian Plains**]

[10] This other invading tribe sacked Carthage in the 430s, cutting off the supply of grain from North Africa to Rome. They carried out the *second* fifth-century Sack of Rome, in 455 AD, under Genseric.

ANSWER: **Vandals** <MJ>

9. These mathematical objects describe the location of an electron in an atom, and may be described by the quantum numbers n, l, and ml [“m sub L”]. For 10 points each:

[10] Name these objects, which may be linearly combined to approximate molecular forms of them.

ANSWER: atomic **orbitals** [prompt on “molecular orbitals”]

[10] This is the maximum number of electrons that an s-orbital can contain, because it is the number of possible values for the spin quantum number. It is also the preferred oxidation state of zinc.

ANSWER: **two** [accept plus **two**]

[10] In a Lewis acid-base reaction, this molecular orbital of the base interacts with the LUMO of the acid. The energy of this molecular orbital is large in strong Lewis bases.

ANSWER: **highest occupied** molecular orbital [or **HOMO**] <Ashvin>

10. The myth system of this people includes a god depicted with a smoking obsidian mirror embedded in his chest or foot, and their present was the age of the fifth sun. For 10 points each:

[10] Name this people whose gods included Tezcatlipoca and the water god Tlaloc, to whom they sacrificed babies.

ANSWER: Aztecs [or Nahua]

[10] This good Aztec god gave maize to mankind and sailed away on a raft of serpents. Some Mormon scholars compare or equate this “feathered serpent” god with Jesus.

ANSWER: Quetzalcoatl

[10] This Aztec war god’s name translates as “left-handed hummingbird.” His father was a ball of feathers placed in the waistband of Coatlicue.

ANSWER: Huitzilopochtli <AD>

11. Despite its title subject’s “painted women under the gas lamps luring the farm boys” and the “marks of wanton hunger” on the faces of its women and children, the author still defends it. For 10 points each:

[10] Name this 1916 poem concerning a “Tool Maker,” “Hog Butcher,” and “Player of Railroads.”

ANSWER: “Chicago”

[10] Name the author of “Chicago,” who also wrote “Grass,” “Fog”, and “Ready to Kill.”

ANSWER: Carl Sandburg

[10] Sandburg won three Pulitzer Prizes in his lifetime; one was for a biography of this American president. Robert Sherwood also won a 1939 Pulitzer for a play about this president.

ANSWER: Abraham Lincoln <CSM>

12. Hunt, Millais, and Rossetti attempted to undo the stylistic contributions of this artist. For 10 points each:

[10] Name this High Renaissance painter of works like *Madonna of the Meadow* and a *Marriage of the Virgin* modeled after a Perugino work.

ANSWER: Raphael (or Raffaello Sanzio)

[10] This Raphael fresco depicts a massive gathering of classical philosophers, with Plato and Aristotle at center.

ANSWER: *The* School of Athens

[10] *The School of Athens* is located in the *Stanza della Segnatura* across from this other fresco, which depict a debate over transubstantiation and includes portraits of Dante Alighieri and Savonarola.

ANSWER: Disputation of the Holy Sacrament [or *La Disputa del sacramento*] <JG>

13. Charles Gould declares the protagonist of this novel to be incorruptible. For 10 points each:

[10] Name this novel, in which Giovanni Battista Fidenza earns the title nickname while working in a silver mine in the fictional country of Costaguana.

ANSWER: Nostromo

[10] Kurtz’ last words are “The Horror!” in this work by the author of *Nostromo*, in which Marlow makes a journey into the Congo.

ANSWER: Heart of Darkness

[10] *Nostromo* and *Heart of Darkness* are works by this author of *The Secret Agent*.

ANSWER: Joseph Conrad [or Jozef Korzeniowski] <JL>

14 One composer from this country commemorated Kristallnacht with the oratorio *A Child of Our Time*, Michael Tippett. For 10 points each:

[10] Name this country that also produced the composer of the *Enigma Variations* as well as a piece commonly heard at graduations, the first march from his *Pomp and Circumstance*, Edward Elgar.

ANSWER: England [or: either underlined part of “United Kingdom of Great Britain and Northern Ireland”; prompt “Britain”]

[10] This other English composer is best known for an orchestral suite that contains the movements “Mars, the Bringer of War” and “Jupiter, the Bringer of Jollity,” *The Planets*.

ANSWER: Gustav Holst

[10] Holst’s friend Ralph Vaughan Williams composed a fantasia on a theme by this Tudor-era composer, best known for the forty-part motet *Spem in alium*.

ANSWER: Thomas Tallis <KK>

15. Manchester United lost the 1994-95 English Premier League title after a goalless draw with West Ham United on the final day of the season. For 10 points each:

[10] Identify the winning team in that season, the only team other than United, Arsenal, and Chelsea to win an EPL title, a team which plays at Ewood Park and today features Paul Robinson, Junior Hoilett, and “Yak” Yakubu.

ANSWER: **Blackburn Rovers** (accept either underlined part)

[10] Cinderella stories happen in American football too. After he replaced Kyle Orton, this Denver Broncos quarterback won 6 of his first seven games, including three in overtime, and defeated the Steelers with an 80-yard first play pass in the playoffs.

ANSWER: Tim **Tebow**

[10] In the 2005-06 NCAA men’s basketball tournament this university from the Colonial Athletic Association reached the Final Four, defeating Michigan State, North Carolina, Wichita State and University of Connecticut as a number 11 seed.

ANSWER: **George Mason Patriots** (accept either underlined part) <MPG>

16. The upper boundary of this layer of the earth is the Moho, which separates it from the crust. For 10 points each:

[10] Name this layer, which contains discontinuities at 410 kilometers and 660 kilometers, which separate its upper and lower parts.

ANSWER: **mantle** [accept **upper mantle**; prompt on “asthenosphere”]

[10] Mantle plumes are believed to give rise to these volcanic locations. Because they are relatively stationary, the drift of the overlying tectonic plates gives rise to island arcs like Hawaii.

ANSWER: **hot spots**

[10] When lava escapes from a volcano through channels other than the main lava conduit, it tends to form these structures, which are cross-cutting intrusions. Unlike sills, they are discordant.

ANSWER: **dikes** <AD/AS>

17. One author from this country described the title character’s failed attempt to understand Christianity in *Barabbas*. For 10 points each:

[10] Name this country of origin of Par Lagerkvist, as well as the most recent winner of the Nobel Prize in Literature, Tomas Tranströmer.

ANSWER: The Kingdom of **Sweden** [or Konungariket **Sverige**]

[10] Sweden’s most famous author is probably this playwright of *The Father*, who wrote about the title daughter of a count’s and her relationship to her manservant Jean in *Miss Julie*.

ANSWER: [Johan] August **Strindberg**

[10] The satanic Hummel tries to entrap the student Arkenholz in a Strindberg play whose title mentions these beings. Helene Alving reveals the legacy of her husband’s infidelity in another author’s play about these beings.

ANSWER: **ghost(s)** <JL>

18. This quantity is the SI unit of force. For 10 points each:

[10] Name this unit, which is named for the discoverer of three laws of motion. He also was president of the Royal Society and discovered that white light was composed of all the colors of the spectrum.

ANSWER: **newton** [accept Sir **Isaac Newton**]

[10] These diagrams are pictorial representations of all the distinct forces and constraints acting on an object, with arrows indicating their directions. They are a common pedagogical tool.

ANSWER: **free body** diagrams [accept **FBDs**; prompt on “force diagrams”]

[10] This subfield of mechanics is concerned with the study of loads and forces in systems that are not in motion. The study of trusses and beams is also part of this field, often studied by structural engineers.

ANSWER: **statics** <DSteinberg>



19. A tragedy which occurred here, thirteen days after Sitting Bull's shooting, was inspired by paranoia about the Ghost Dance religious movement. For 10 points each:

[10] Name this site where at least a hundred fifty Sioux, including women and children, were massacred by the U.S. 7th Cavalry Regiment in 1890.

ANSWER: **Wounded Knee**, South Dakota [prompt "Pine Ridge Indian Reservation"]

[10] Fourteen years earlier, Crazy Horse had led the Sioux in this decisive native victory, in which they killed the Seventh Cavalry Regiment's leader George Custer.

ANSWER: Battle of [the] **Little Bighorn** [or Battle of **Greasy Grass** Creek; prompt "Custer's last stand"]

[10] In 1973, this native rights group demonstrated by taking over Wounded Knee. One leader of it, Russell Means, has more recently declared the secession of large parts of the Midwest under the Republic of Lakotah.

ANSWER: **AIM** [or **American Indian Movement**] <MJ>

20. The CIA doesn't seem to be terribly popular in Latin America. For 10 points each, answer these questions about its activities there.

[10] This South American country's democratically-elected leftist leader Salvador Allende died of a gunshot wound during a 1973 CIA-backed coup. After that, military dictator Augusto Pinochet took power.

ANSWER: Republic of **Chile** [or República de **Chile**]

[10] The CIA's Operation PBSUCCESS helped oust Jacobo Árbenz Guzmán in this country after he nationalized land that was owned by the United Fruit Company.

ANSWER: Republic of **Guatemala** [or República de **Guatemala**]

[10] The CIA helped Bolivian troops hunt down and kill this Argentine-born Marxist revolutionary in late 1966. This author of "Motorcycle Diaries" had earlier helped to overthrow Fulgencio Batista.

ANSWER: Ernesto "Che" **Guevara** <CSM>

21. This thinker's work forms the basis of the Myers-Briggs personality test, which among other things measures introversion and extraversion. For 10 points each:

[10] Name this Swiss psychologist and alchemy fan. He broke with Freud and proposed the collective unconscious.

ANSWER: Carl Gustav **Jung**

[10] The collective unconscious is composed of many of these symbolic psychic images. They include the Shadow and the Persona.

ANSWER: **archetypes**

[10] To Jung, archetypes explain the meaning of these narratives and their similarity across all societies. Joseph Campbell's *The Hero with a Thousand Faces* traces their similarity to a "mono" one about the hero's journey.

ANSWER: **myths** [or **mythology**; prompt "fables," "folk tales," "legends," or "folklore"] <SSp>