

## 2015 Virginia Tech Academic Competition Occasion (VTACO)

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### Packet 6: Tossups

1. Specific types of this process include the “nested” and “touchdown” varieties. The LATE modification makes the asymmetric type of this process more efficient. This technique replaced Southern hybridization for forensic analysis, and it makes use of dNTPs as primers. Steps during this process include the denaturing, annealing, and extension/elongation steps. This process was invented by Kary Mullis, and it makes use of the Taq variety of the namesake enzyme. For 10 points, name this technique by which a small strand of DNA is copied many times.

ANSWER: Polymerase Chain Reaction

2. One response to this event combined a quote from Paul Meadlo and a photograph taken by Ronald Haeberle into a piece called *And babies*. The town in which this event took place was also called Pinkville, and Mendel Rivers denounced three men opposed to this event as “traitors”. The only man convicted after this event, Lt. William Calley, was given house arrest before receiving a presidential pardon from Richard Nixon. Also called the Son My massacre, for 10 points, name this 1968 event in which U.S. soldiers killed over 350 unarmed civilians in the namesake South Vietnamese town.

ANSWER: My Lai massacre [accept synonyms for massacre, accept Son My massacre until given]

3. A unique ellipse inscribed in these objects is named for Jakob Steiner, and their side lengths are related to another line segment by Stewart's theorem. Ceva's theorem deals with the concurrency of lines drawn in these objects, and some important points in these objects include the Nagel point and the nine-point center, which is passed through by the Euler line. Heron's formula is used to determine these objects' area. The sides of these objects divided by the sines of their opposite angle are set equal to each other in the law of sines, and the interior angles of these objects sum to one-hundred and eighty degrees. For 10 points, name these three-sided polygons.

ANSWER: Triangles

4. An ionized form of this element produces solar absorption lines called the H and K lines. Its hydroxide is used as a flocculant and is part of a solution which is used to test for the presence of carbon dioxide. Along with sodium carbonate, this element's chloride is produced by the Solvay process. Ions of this element, important in muscle contraction, are found in the sarcoplasmic reticulum. Its oxide is sometimes known as quicklime. For 10 points, name this alkaline earth metal that is an important structural element in teeth and bones.

ANSWER: Calcium [or Ca]

5. This country was once dominated by the Arpad dynasty, and its medieval power was stymied at the 955 Battle of Lechfeld. This country's ruler Matthias Corvinus was the son of the famous general John Hunyadi. This country was led by Miklos Horthy during World War II. Another leader of this country replaced Andreas Hegedus (“heh-GAY-doos”) and was replaced by Janos Kadar after its 1956 Soviet invasion. This country was forced to sign the Treaty of Trianon, which broke its alliance with a neighboring country. For 10 points, name this country formerly led by Imre Nagy (“NAJ”) that once formed a dual-monarchy with Austria.

ANSWER: Republic of Hungary [or Magyarország; or Transleithania; prompt on “Pannonia”]

6. This state's Mogollon Rim sustained damage from the so-called "Dude Fire" in 1990 and the Rodeo-Chediski Fire in 2002. Fort Whipple served as the capital of this state while it was still a territory, and this state's highest point is Humphrey's Peak, which lies near the Barringer Meteorite impact site. Along with Hawaii, this state does not observe Daylight Savings time. This state contains the Painted Desert, part of which extends into its Petrified Forest National Park. This state's Maricopa County is home to the cities of Chandler and Glendale. For 10 points, name this home state of the Grand Canyon with capital at Phoenix.

ANSWER: Arizona

7. This man fathered two *Minyae* children with the Queen of Lemnos, and he mistakenly helped to kill King Cyzicus. This figure killed the Harpies to free Phineas, and he became engaged to Creusa after being exiled to Corinth. This man was tasked with plowing a field with fire-breathing oxen, and, while he's not Cadmus, an army of warriors sprouted after this man sowed the teeth of a dragon into a field. This man accomplished these tasks pursuing a possession of King Aeetes of Colchis, and he was aided by his lover Medea. For 10 points, name this Greek hero who quested for the Golden Fleece and led the Argonauts.

ANSWER: Jason [or Iason]

8. This book contains the story of the corrupt steward, which gave rise to the phrase "no servant can serve two masters." One story in this book depicts ten lepers being cured and cleansed, but only the Samaritan leper returning to thank Jesus. The author of this book also wrote Acts of the Apostles. In one parable contained in this gospel, a priest and a Levite ride past a man who has been beaten by robbers but do not assist him. That story is the parable of the Good Samaritan, and this book also contains the parable of the Prodigal Son. For 10 points, name this gospel, the third book of the New Testament.

ANSWER: Gospel/Book of Luke

9. A Picasso painting depicting robots and pregnant women in Korea was inspired by this earlier painting. In the background of this painting, a mob holding torches can be seen in front of a large town. One onlooker of the main scene in this painting is a friar in prayer. Three bloody bodies lie on the left side of this painting, and a different onlooker stands with his hands covering his face in its center. A light in the center of this painting shines on a man in white holding up his arms in fear. For 10 points, name this painting that depicts a firing squad executing civilians by Francisco Goya.

ANSWER: Third of May, 1808

10. This work opens with a warning from Brabantio, and it sees Roderigo tell the antagonist of his love for another character's wife. In this work, Emilia comforts a character who later sings the Willow Song. One character in this work is angered when his wife unintentionally loses the handkerchief he gave her. After discovering that his wife is innocent, the protagonist of this play stabs himself, stating that he loved her "not wisely, but all too well." For 10 points, name this Shakespearean tragedy in which Desdemona is suspected of having an affair with Cassio by the title Moor of Venice, who thereby falls for the scheme of Iago.

ANSWER: Othello, *Moor of Venice*

11. One representative from this state authored the failed Protect Interstate Commerce Act as an amendment to the House Farm Bill. One senator from this state introduced the Whistleblower Protection Act of 1989 and will become chairperson of the Senate Judiciary Committee in 2015. Those congressmen are Steve King and Chuck Grassley. This state's Senator Tom Harkin will be replaced by Joni Ernst, whose campaign ads likened cutting pork spending in Congress to her time spent castrating hogs. This state holds the first caucus in presidential election years. For 10 points, name this state whose governor Terry Branstad resides in Des Moines.

ANSWER: Iowa

12. A Ziegler column exhibits flutter instability induced by one type of this phenomenon, and Coulomb's Law of this phenomenon states that that type of it is independent of sliding velocity. This phenomenon, can be measured using a tribometer and is governed by Amonton's Laws. This phenomenon, which comes in a "dry" variety, is proportional to the Normal force, and its namesake coefficients are represented by the letter mu. This phenomenon has static and kinetic varieties, and its equivalent in fluid dynamics is drag. For 10 points, name this physical force that opposes the movement of two surfaces in contact with each other.

ANSWER: Friction

13. This man was attacked with a dessert knife by Margaret Nicholson, and he dismissed the "Ministry of All the Talents." The Earl of Bute was Prime Minister during the early portion of his reign, and James Hadfield shot but failed to kill this ruler at the Drury Lane Theater. Lord North served as Prime Minister during this man's reign, and this man battled William Pitt the Elder over Catholic Emancipation. This man was treated by Francis Willis for what was possibly porphyria, which resulted in his son becoming Prince Regent. For 10 points, name this British king during the American Revolution who was probably insane.

ANSWER: George III of Great Britain [or George William Frederick; or Georg Wilhelm Friedrich; prompt on "George" or "Georg"]

14. One member of this species was returned to his homeworld by Captain Archer after landing in Broken Bow, Oklahoma. On the space station K7, another member of this species attempted to assassinate Captain Kirk by planting a bomb inside of a tribble, which were earlier declared a mortal enemy of this species. The Khitomer Accords established a peace between this species and the Federation, and General Martok became this species' chancellor after he killed Gowron. This species venerates Kahless and utilizes *Bat'leths*. For 10 points, name this species in Star Trek with pronounced ridges on its forehead.

ANSWER: Klingons

15. In this work's prologue, a character dressed as Taddeo addresses the audience in the song "Si può?...Si può?". After being threatened in "Qual fiamma avea nel guardo", a different character in this work is comforted by the birdsong "Stridono lassu." In this opera, Beppe disarms the protagonist shortly before he sings "Vesti la giubba," or "Put on the costume." After Silvio's affair with Nedda is exposed in this opera, Canio stabs and kills both before exclaiming that "La Commedia è finita!". For 10 points, name this verismo opera by Ruggero Leoncavallo about the title circus performers.

ANSWER: I Pagliacci [accept *The Clowns*]

16. One of this man's poems asserts "I am the doubter and the doubt," and another of his poems declares "beauty is its own excuse for Being." Another work by this author of "Brahma" and "The Rhodora" advises against becoming "the parrot of other men's thinking." This man described becoming a "transparent eye-ball" in one work, and he stated that "a foolish consistency is the hobgoblin of little minds" in an essay that advises "Trust thyself." For 10 points, name this American transcendentalist behind the speech "The American Scholar" and essays like "Nature" and "Self-Reliance."

ANSWER: Ralph Waldo Emerson

17. In his most famous post, this man fired Leroy Walker as Secretary of War and Robert Toombs as Secretary of State. This man was defeated by Henry S. Foote for the Mississippi governorship after returning from a foot wound at the Battle of Buena Vista. This man negotiated the Gadsden Purchase as Franklin Pierce's Secretary of War, and Judah Benjamin became this man's Secretary of State. This man, who served alongside Vice President Alexander Stephens, removed his Commander-in-Chief of the Army in favor of Robert E. Lee. For 10 points, name this first and only president of the Confederate States of America.

ANSWER: Jefferson Davis

18. One suite by this composer consists of six movements labeled with a verse from the Song of Solomon. In addition to *Flos Campi*, this composer included the tunes "A Bold Young Sailor" and "The Captain's Apprentice" in his *Norfolk Rhapsody*. This man composed the score for the biopic *Scott in the Antarctic*, much of which he later reused in his *Sinfonia Antartica*. This man's most famous work was included in the *The English Hymnal*. For 10 points, name this English composer of *The Lark Ascending* and *Fantasia on a Theme of Thomas Tallis*.

ANSWER: Ralph Vaughan Williams

19. One novel by this author sees Kim Capran travel to Nairobi and rename herself "Hillela." In addition to *A Sport of Nature*, another novel by this author sees Rosa leave Conrad and attempt to come to terms with her father Lionel's membership in the SACP. In another novel by this author, Mehring is haunted by a buried corpse that resurfaces following a flood. This author's most famous work ends with Maureen chasing a helicopter and sees the Smales family flee Johannesburg and travel to the native village of their black servant. For 10 points, name this female South African author of *Burger's Daughter* who also wrote *The Conservationist* and *July's People*.

ANSWER: Nadine Gordimer

20. This author wrote about Nemov urging Lyuba to break off her sexual relationship with the doctor Mereshchun in his play *The Love-Girl and the Innocent*. Another work by this author depicts Vera and Zoya as love interests of the protagonist and sees Oleg visit a zoo upon being released from the title institution. In addition to writing *Cancer Ward*, this author wrote a novel in which Tiurin is the head of the 104th, a team of "zeks" to which Gopchik, Alyosha, and Shukhov belong. For 10 points, name this Russian author behind *One Day in the Life of Ivan Denisovich* who detailed the horrors of the Soviet penal system in his *The Gulag Archipelago*.

ANSWER: Alexander Solzhenitsyn

TB. This author collected many Depression-era photographs in the collection *One Time, One Place*. This author wrote about the Peacock family in *The Ponder Heart*, and one of this author's short stories sees Phoenix Jackson travel into town to buy medicine for her grandson. This author wrote a novel in which the legendary Mike Fink is defeated by a bandit named Jamie Lockhart, who promptly kidnaps and marries Rosamund. This author of "A Worn Path" and *The Robber Bridegroom* also wrote about Laurel's journey to New Orleans to care for her father, Judge McKelva, in another novel. For 10 points, name this female author of *The Optimist's Daughter*.

ANSWER: Eudora Welty

## Packet 6: Bonuses

1. The epigraph to this novel simply states "Only connect..." For 10 points each:

[10] Name this novel in which Henry Wilcox burns the will of his wife Ruth but ultimately has a change of heart and gives the title estate to his second wife, Margaret Schlegel.

ANSWER: Howards End

[10] This British author, who wrote about the disappointment of Lucy Honeychurch and Charlotte Bartlett upon being unable to see the Arno in *A Room with a View*, wrote *Howards End*.

ANSWER: Edward Morgan Forster

[10] This is perhaps Forster's most famous novel. It sees Adela Questad falsely accuse Dr. Aziz of sexual assault following a visit to the Marabar Caves.

ANSWER: A Passage to India

2. He worked with Pericles Sakellarios to design the US Embassy in Greece, and, while in America, he formed an architectural firm, The Architects' Collaborative. For 10 points each:

[10] Name this founder of the Bauhaus behind the Pan Am Building who designed the Fagus Factory with Adolf Meyer.

ANSWER: Walter Gropius

[10] The last director of the Bauhaus was this man, who also designed the Lake Shore Drive apartments and collaborated with Philip Johnson on the Seagram Building.

ANSWER: Ludwig Mies van der Rohe

[10] Both Gropius and Mies were originally from this country. Its Reichstag building was wrapped in 1995 by Christo and Jean-Claude.

ANSWER: Federal Republic of Germany [or Bundesrepublik Deutschland]

3. The stags Dáinn, Dvalinn, Duneyrr and Duraprór eat from its branches. For 10 points each:

[10] Name this massive tree that connects the nine realms in Norse mythology. Some scholars theorize that Lif and Lifthrasir hid in it to survive Ragnarok.

ANSWER: Yggdrasil

[10] This dragon gnaws at the root of Yggdrasil. Its name may be derived from chewing the corpses of the inhabitants of Náströnd.

ANSWER: Nidhogg [or Níðhöggr]

[10] With a name translating to "drill-tooth," this squirrel is responsible for running up and down Yggdrasil, carrying messages to Nidhogg at its roots and the unnamed eagle perched atop it.

ANSWER: Ratatoskr

4. This battle saw the capture of the *Caledonia* under Lieutenant Daniel Turner, and it also saw Jesse Elliott command the *Niagara*. For 10 points each:

[10] Name this battle during the War of 1812 that saw the defeat of a British fleet under Robert Heriot Barclay and Robert Finnis that occurred near Put-in-Bay, Ohio.

ANSWER: Battle of Lake Erie

[10] This commodore, who had previously served in the West Indies during the Quasi Wars, led the United States fleet by commanding the *Lawrence* at the Battle of Lake Erie.

ANSWER: Oliver Hazard Perry [prompt on partial]

[10] Oliver Hazard Perry later commanded the *Java* during the Second Barbary War, a conflict whose aim was to crush people of this profession. Historical examples include Edward Teach, also known as Blackbeard.

ANSWER: Pirates [accept word forms]

5. This work outlines means to avoid man's nature of "a war of all against all." For 10 points each:

[10] Name this work arguing for a social contract and absolute monarchy that asserts life is "solitary, poor, nasty, brutish, and short."

ANSWER: Leviathan, or *The Matter, Forme and Power of a Common Wealth Ecclesiasticall and Civil*

[10] This English Enlightenment philosopher, who provided an incorrect proof of squaring the circle in his *De Corpore*, wrote *Leviathan*.

ANSWER: Thomas Hobbes

[10] Hobbes' views on the brutality of natural law were likely influenced by this Dutchman, who argued for the freedom of the seas in his *Mare Liberum*.

ANSWER: Hugo Grotius [or Huig de Groot; or Hugo Grocio; or Hugo de Groot]

6. Answer the following about the Apartheid in South Africa, for 10 points each.

[10] These uprisings occurred because of the introduction of Afrikaans as the language of teaching in local schools. Because Afrikaans was so deeply associated with the Apartheid, most black South Africans preferred English.

ANSWER: Soweto Uprisings [or 16 June Uprisings; accept equivalent words for uprising]

[10] This first fully-democratically elected President of South Africa served from 1994-1999 after spending 27 years in prison. His tenure marked the end of the Apartheid era, and he died in 2013.

ANSWER: Nelson Rolihlahla Mandela [prompt on "Madiba;" prompt on "Tata"]

[10] This white predecessor of Mandela shared the 1993 Nobel Peace Prize with him for his role in bringing about the end of the apartheid. He served as one of Mandela's deputy presidents during the early portion of his tenure.

ANSWER: Frederik Willem de Klerk

7. It was empowered by Pope Sixtus IV's bull *Exigit Sinceras Devotionis Affectus*. For 10 points each:

[10] Name this institution established by Ferdinand and Isabella in 1478 near the end of the Reconquista. It saw the Alhambra Decree as part of its attempts to force Jews and Muslims to leave its namesake country.

ANSWER: Spanish Inquisition [or Tribunal of the Holy Office of the Inquisition; or Inquisición Española; or Tribunal del Santo Oficio de la Inquisición]

[10] This major supporter of the Alhambra Decree was the first Grand Inquisitor of the Spanish Inquisition. He reorganized the Inquisition from a single tribunal at Seville into twenty-four Holy Offices across Spain.

ANSWER: Tomás de Torquemada [Thomas of Torquemada]

[10] This is the name given to the ritual of public penance of condemned heretics and apostates during the Spanish Inquisition. Meaning "act of faith," the term ultimately became synonymous with burning convicts at the stake.

ANSWER: Auto-da-fé [or Auto-de-fé]

8. They were shown running naked through Los Angeles in the video for their song "What's My Age Again," and their self-titled album included the songs "I Miss You" and "Feeling This." For 10 points each:

[10] Name this pop-punk band behind "Adam's Song" and "All the Small Things."

ANSWER: **Blink-182**

[10] Mark Hoppus and Travis Barker of Blink-182 also formed this group, named for the British international dialing code. They released the singles "Lycanthrope" and "Baby Come On," as well as the title track off of *When Your Heart Stops Beating*.

ANSWER: **+44** [pronounced "plus forty-four"]

[10] Blink-182 and +44 were founded in this state, also featured in a Tupac song titled after "[This State's] Love" and a Katy Perry song about "[This State's] Gurls."

ANSWER: **California**

9. Answer the following about Canada, eh? - for 10 points each.

[10] This French-speaking province has frequently tried to secede from Canada, with notable referendums in 1980 and 1995. Its largest city is Montreal.

ANSWER: **Quebec**

[10] This other Canadian province with capital at Edmonton held the 1988 Winter Olympics in its largest city of Calgary.

ANSWER: **Alberta**

[10] Immediately east of Alberta lies this province, which contains the cities of Moose Jaw, Prince Albert, and its capital Regina.

ANSWER: **Saskatchewan**

10. Spitzenkörper are responsible for mediating the growth of one component of these organisms. For 10 points each:

[10] Name this kingdom involved in the decomposition of organic matter that contains yeasts, molds, and mushrooms.

ANSWER: **Fungi** [or **Fungus**]

[10] A prominent distinction of fungi is that their cell walls contain this substance, which also makes up crustacean exoskeletons.

ANSWER: **Chitin**

[10] These structures in fungi are made up of hyphae. In fairy ring systems, they expand outward as the center uses up its food.

ANSWER: **Mycelium** [or **Mycelia**]

11. Before execution, programs in this language are compiled into bytecode and run through a namesake Virtual Machine. For 10 points each:

[10] Name this object-oriented programming language developed by James Gosling at Sun Microsystems and named after coffee.

ANSWER: Java

[10] These constructs in Java repeat a section of code. The “while” type involves specifying a test, and the “for” variety adds an increment and a control variable.

ANSWER: Loops

[10] When declaring a variable in Java, one must also declare one of these corresponding to it. Common ones include int, double, and boolean.

ANSWER: Types

12. Compton scattering describes the transfer of energy from either an X-ray or this type of radiation to an electron. For 10 points each:

[10] Name this type of radiation produced in the nucleus during its namesake decay, typically after alpha or beta decay. It sees the emission of high-energy photons.

ANSWER: Gamma Rays/Radiation

[10] Two or more gamma rays are produced when this antiparticle and an electron annihilate each other. They are produced during beta-plus decay, and a form of medical tomography relies on their emission.

ANSWER: Positron

[10] This form of electromagnetic radiation occurs when matter exceeds the phase velocity of light in the dielectric medium through which it is travelling. It causes the distinctive blue glow of nuclear reactors.

ANSWER: Cherenkov Radiation

13. The recreated version of this painting is known as *Man, Controller of the Universe*. For 10 points each:

[10] Name this fresco that was ordered to be destroyed by Nelson Rockefeller because of its depictions of Lenin and a Soviet May Day Parade. A fist holding an orb reaches out in its center.

ANSWER: Man at the Crossroads

[10] The artist of *Man at the Crossroads*, Diego Rivera, hailed from this country. This country was also home to his wife Frida Kahlo.

ANSWER: Mexico [or United Mexican States; or Estados Unidos Mexicanos]

[10] This series of twenty-seven murals by Rivera depict laborers at Ford Motor Company's River Rouge Plant. They also show Henry Ford teaching an engineering class and byproducts being turned into fertilizer.

ANSWER: Detroit Industry Murals

14. In this novel, Mr. Ramsay is upset when the poet Augustus Carmichael asks for a second serving of soup at a dinner party. For 10 points each:

[10] Name this novel that sees Mr. Ramsay finally make the title journey along with his children James and Camilla as well as the sailor Macalister in its third section.

ANSWER: To the Lighthouse

[10] This author of the novel *Mrs. Dalloway* and the semi-autobiographical *Orlando* wrote *To the Lighthouse*.

ANSWER: Virginia Woolf

[10] This extended essay by Virginia Woolf was derived from lectures she gave at Newnham College and Girton College. It encourages women to hold a place in the literary community.

ANSWER: A Room of One's Own



15. This instrument represents the cat in *Peter and the Wolf*. For 10 points each:

[10] Name this single-reed woodwind instrument. A notable glissando for this instrument is contained in *Rhapsody in Blue*, and players of it include Artie Shaw and Benny Goodman.

ANSWER: Soprano **Clarinet** [do not accept "alto clarinet," "contra-alto clarinet," "bass clarinet," or "contrabass clarinet"]

[10] This American composed the aforementioned *Rhapsody in Blue*. His studies in France with Nadia Boulanger led him to compose his *An American in Paris*.

ANSWER: George **Gershwin** [or Jacob **Gershwine**]

[10] This Gershwin work features a theme influenced by the song "Echale Salsita" and makes use of bongos, claves, gourd, and maracas. It was originally titled *Rumba*.

ANSWER: **Cuban Overture**

16. Christina Maslach called for an end to this event, which lasted only six days rather than the planned two weeks. For 10 points each:

[10] Name this experiment conducted by Philip Zimbardo in which some students were assigned the role of "guard," conducted at a namesake university.

ANSWER: **Stanford Prison** Experiment

[10] In his book *The Lucifer Effect*, Zimbardo recounted citing the Stanford Prison Experiment during his legal defense of Chip Frederick, a guard at this prison in Iraq.

ANSWER: **Abu Ghraib** Prison [or **Baghdad Central** Prison]

[10] Another Zimbardo experiment compared unattended cars in the Bronx and in Palo Alto to study this theory. Defined by Kelling and Wilson, it states that preventing small crimes like vandalism will in turn prevent more serious ones.

ANSWER: **Broken Windows** Theory

17. His brother was Bleda, and he legendarily died of a nosebleed on his wedding night. For 10 points each:

[10] Name this "Scourge of God" who led the Huns on military conquests into the Roman Empire.

ANSWER: **Attila** the Hun

[10] In 452, Emperor Valentinian III sent this pope to meet with Attila near Mantua, where this pope legendarily convinced him to turn back. This pope also issued a namesake tome following the Council of Chalcedon.

Answer: Pope **Leo I** [prompt on "Leo"]

[10] Earlier, Attila clashed with the Roman general Flavius Aetius and this king of the Visigoths in the 451 Battle of Châlons. Despite his forces ultimately defeating Attila, this king died during the battle.

ANSWER: **Theodoric I** [prompt on "Theodoric"]

18. It uses radio waves to excite hydrogen nuclei in molecules and measures their decay to the ground state. For 10 points each:

[10] Name this technique that can provide structural information from both the chemical shift and proton-proton coupling.

ANSWER: Proton **NMR** or **Nuclear Magnetic Resonance**

[10] To avoid massive solvent peaks in proton NMR, hydrogen atoms are replaced by this isotope containing both a proton and a neutron.

ANSWER: **Deuterium**

[10] Another form of NMR uses this element's 100% abundant 19 amu isotope. This halogen is common in many pharmaceuticals.

ANSWER: **Fluorine**

19. This novel sees Kitty marry Konstantin Levin, and another character in it is injured after his horse Frou-Frou trips during a race. For 10 points each:

[10] Name this novel that centers around Count Vronsky's affair with the title character, who ultimately throws herself in front of a train.

ANSWER: Anna Karenina

[10] This Russian author wrote the novella *The Death of Ivan Ilyich* as well as the long novels *War and Peace* and *Anna Karenina*.

ANSWER: Leo Tolstoy

[10] In this Tolstoy short story, a group of Bashkirs make a deal with Pahom, who drops dead after a long run. This short story ironically answers its own title question with "six feet."

ANSWER: "How Much Land Does a Man Need"

20. She wrote about Jean Marie Latour's attempts to bring a cathedral to Santa Fe in her novel *Death Comes for the Archbishop*. For 10 points each:

[10] Name this author, who wrote about Thea Kronborg becoming a renowned opera singer in Dresden in her novel *The Song of the Lark*.

ANSWER: Willa Cather

[10] This most famous novel by Cather sees Jim Burden, a native of Black Hawk, Nebraska, develop a strong bond with the title Bohemian immigrant.

ANSWER: My Antonia

[10] The title character of this Cather short story flees to New York after working at Carnegie Hall in Pittsburgh. However, when his father finds out, he throws himself in front of a train rather than going back.

ANSWER: "Paul's Case"

TB. This element comes in black, red, white, and Hittorf's violet forms. For 10 points each:

[10] Name this element whose white form is usually stored underwater, as it reacts with air. Its red form is scraped from matchbooks in illicit methamphetamine labs.

ANSWER: Phosphorus [or P]

[10] Carbon also has several naturally occurring varieties, such as diamond, graphite, and the various fullerenes. This is the term for the differing physical forms of an element.

ANSWER: Allotrope

[10] This other allotrope of carbon is a flat sheet made up of a two-dimensional array of hexagonal units. It can be produced by the "Scotch Tape" method.

ANSWER: Graphene