



# HSAPQ

High School Academic Pyramid Questions

2008-2009  
ACF-Format Set #3

Round 7

Tossups

1. This author is asked “moved you not, restless, waiting for him?” in an “homage” to her by John Berryman. She laments “so it was, and so ‘twas just” after noting that her belongings were “now in the dust” in another poem. This author of “Upon the Burning of Our House” wrote a poem addressing an “ill-formed (\*) offspring of my feeble brain” in “The Author to Her Book.” For 10 points, name this author of “The Tenth Muse Lately Sprung up in America,” a seventeenth century American poet.

ANSWER: Anne Bradstreet

2. One person at the right of this painting grabs the thigh of a man who sits above him on some barrels, and that man is looking away from the viewer and waving a shirt. The artist of this work allegedly holed up with (\*) cadaver parts to produce this work. A man looks over his shoulder and points to the right below a sail in this painting, and dead bodies are scattered all around this canvas. For 10 points, name this work featuring survivors of a shipwreck drifting on the titular conveyance, a painting by Theodore Gericault.

ANSWER: *The Raft of the Medusa* [or *Le Radeau de la Meduse*]

3. For a heteronuclear particle, it is equal to the square root of the difference between the bond dissociation enthalpy and the enthalpy change of atomization. It can also be determined by dividing effective nuclear charge by the square of the covalent (\*) radius. The average of the first ionization energy and the first electron affinity is equal to this value according to Mulliken, and it can be used to determine the polarity of a bond. For 10 points, name this value that is highest for fluorine and represents the tendency of an atom to attract a shared electron pair.

ANSWER: electronegativity

4. This nation’s westernmost reaches constitute the historical region of Banat, whose primary city is Timisoara. Its western border is also home to the large river gorge known as the Iron Gate. This nation was the site of the Nazi internment camp known as Targu Jiu, which is now a major tourist attraction thanks to its sculptures by (\*) Constantin Brancusi. That city lies at the base of the Carpathian Mountains, which divide this nation’s regions of Moldavia and Wallachia from Transylvania. For 10 points, name this Eastern European country with capital at Bucharest.

ANSWER: Romania

5. This body first met in 1302 to support the king’s feud with Pope Boniface VIII. It was suspended for centuries after a contentious 1614 session, but reconvened when the *taille* (TIE-yuh) proved insufficient. Under the influence of a pamphlet by Abbé Sieyès, one of its (\*) components left in 1789 and formed the National Assembly instead. For 10 points, name this body composed of the priestly, noble, and peasant classes, whose summoning by Louis XVI to approve a tax increase led to the French Revolution.

ANSWER: the Estates-General [or States General; or Etats-généraux]

6. This poem laments that “old age shall this generation waste” after noting a creature with “silken flanks with garlands drest.” It claims that “breathing human passion far above...leaves a heart high-sorrowful and cloy'd, / a burning forehead, and a parching tongue” in a stanza that mentions a “happy melodist unwearied.” The title (\*) object is described as a “foster-child of Silence and slow Time” and a “still unravished bride of quietness,” and this poem concludes that “Beauty is truth, truth beauty.” For 10 points, name this John Keats work about some old pottery.

ANSWER: “Ode on a Grecian Urn”

7. This religion’s calendar consists of nineteen months of nineteen days each, and also commands men to fast for nineteen days. It operates a nine-sided temple in Wilmette, Illinois, and a “House of Justice” in Haifa, (\*) Israel, which is also the location of the tomb of this religion’s founder. That founder, whose real name was Siyyid Ali Muhammad, took a name meaning “the gate” and was executed by firing squad in 1850. For 10 points, name this religion founded by the Bab and carried on by Baha'u'llah.

ANSWER: Baha’i

8. Sean Fennessy wrote an article in Vibe magazine outlining the seventy-seven best songs by this artist in 2007, naming his verse in DJ Khaled’s “We Takin’ Over” the best. He claims to be a Martian in the track “Phone Home,” and his single “You Ain’t Know” was from *Like Father Like Son*, a collaboration with Birdman. Another single has (\*) Bobby Valentino mimic a police siren, titled “Ms. Officer.” For 10 points, name this guest artist on T-Pain’s “Can’t Believe It,” the rapper behind “Got Money” and “Lollipop.”

ANSWER: Lil’ Wayne [or Dwayne Carter]

9. One character in this work laments that his Raphael paintings have dead colors and do not please him, while another character had her buttocks cannibalized despite being the daughter of the pope. In addition to meeting Lord Pococurante in Venice, the title character falls in with the dour Martin. The title character is (\*) tutored by a man whose theory that this is the best of all possible worlds is challenged by events like the Lisbon earthquake. For 10 points, name this novel about a man who loves Cunegonde and is taught by Pangloss, a satirical work of Voltaire.

ANSWER: Candide

10. For gas molecules, this quantity is related to three-halves times Boltzmann’s constant times temperature, via the equipartition theorem. For electrons in the photoelectric effect, a maximum value for it is Planck’s constant times frequency minus the (\*) work function. The rotational type of it is equal to one-half times moment of inertia times angular velocity, while in any isolated system its change is equal to the total work. It is given in linear systems as one-half times mass times velocity. For 10 points, identify this type of energy possessed by objects in motion.

ANSWER: kinetic energy

11. The speaker of this work imagines lying tangled in his lover’s hair. Entities in this poem like “Enlargéd winds, that curl the flood,” “birds that wanton in the air,” and “fishes that tipple in the deep,” know “no such (\*) liberty” as the speaker. The speaker of this poem will sing the glories of his king “like committed linnets,” and it begins “When Love with unconfined wings / Hovers within my gates.” For 10 points, name this poem that claims “Stone walls do not a prison make, / nor iron bars a cage,” a poem addressed from jail, by Richard Lovelace.

ANSWER: “To Althea, From Prison”

12. This man made Muhammad Hassanein Heikal the editor of *Al-Ahram*, and he mediated the 1970 Jordanian civil war. Muhammad Naguib was placed under house arrest for allegedly planning to assassinate this man, and his 1954 book *Philosophy of the Revolution* outlined his ruling aspirations. A founder of the Free Officers movement, he vetoed the proposal to execute King (\*) Farouq after a 1952 coup, and he founded the United Arab Republic in 1958. For 10 points, name this man who nationalized the Suez Canal, the president of Egypt from 1956 to 1970.

ANSWER: Gamal Abdel Nasser

13. A pair of brothers in this tradition instructed a skinned rabbit to bathe in the sea until it was saved by another character in this tradition who slept in rooms full of snakes and insects to win the approval of his father. That father slew an eight-headed dragon, and in another story in this tradition, hurled a pony at his sister and destroyed her (\*) rice fields. Those two figures were birthed from the face of another god in this tradition, who drew some islands with a jeweled spear. For 10 points, name this tradition with numerous kami, including Izanagi and Izanami.

ANSWER: Shinto myth system

14. These molecules have intrinsic hydrogen peroxide that generates enzymatic activity capable of killing bacteria, and when they have catalytic activity, they are known as abzymes. They possess four variable-region domains, and disulfide bonds link their heavy and light chains. They can be (\*) polyclonal or monoclonal depending on their epitope recognition, and they are secreted by plasma cells, which are differentiated B cells. For 10 points, immunoglobulin G constitutes the major class of what type of molecules that bind to antigens?

ANSWER: antibody

15. This man's capture of Fort Hindman restored his reputation after his defeat at Chickasaw Bluffs, and this man's adopted father, Thomas Ewing, was the first United States Secretary of the Interior. P.G.T. Beauregard and Braxton Bragg got him a job at the Louisiana military academy. He led the "Forlorn Hope" detachment at Vicksburg, and he lost to Joseph Johnston at (\*) Kennesaw Mountain before embarking on a scorched-earth campaign through Georgia. For 10 points, name this Union Civil War general who led the March to the Sea after burning Atlanta.

ANSWER: William Tecumseh Sherman

16. This man showed a curled-up lion and dog sleeping in the foreground of his *St. Jerome in His Study*, and a pig-snouted spear-toting monster walks alongside a horse-riding man in his *Knight, Death, and the Devil*. He depicted John holding seven candlesticks in a series that also included a seven-headed dragon and the (\*) Whore of Babylon, and other works depict praying hands and a rhinoceros. For 10 points, name this artist of *The Four Horsemen of the Apocalypse* and *Melancholia I*, a German Renaissance engraver.

ANSWER: Albrecht Dürer

17. This problem's solution was aided by Ken Ribet's proving of the epsilon conjecture, which allowed mathematicians to restrict their attention to semi-stable elliptic curves. This problem was then attacked by associating triplets to elliptic curves, and noting that a counterexample would produce a curve contradicting the (\*) Taniyama-Shimura conjecture. It was finally solved in the mid-90s by Andrew Wiles. For 10 points, name this problem stating that  $n$  equals 2 is the largest integer so that there are non-zero solutions to  $a^n + b^n = c^n$ .

ANSWER: Fermat's Last Theorem [prompt on Fermat's theorem; or Fermat; accept Taniyama-Shimura conjecture until mentioned]

**18. One of the six quartets this man wrote for another composer is in C major and is known as the “Dissonant” quartet. The finale of his twentieth piano concerto begins with an arpeggiated D-minor chord starting on A, and his eleventh piano sonata ends with the A-minor (\*) “Rondo alla turca.” Franz Sussmayr composed the Sanctus movement of his last work, and his forty-first symphony ends with a double fugue and is titled *Jupiter*. For 10 points, name this composer who died while writing a *Requiem* and who wrote the four-movement serenade *Eine Kleine Nachtmusik*.**

ANSWER: Wolfgang Amadeus **Mozart**

**19. The four classes within this group included the chaplains, servants, and sergeants. They also acted as secure transporters of gold, earning them the wealth needed to purchase Cyprus from Richard the Lion-Hearted. Founded by Hugh de Payens, they displayed a red cross on a white background. Pope Clement V was pressured to condemn them, leading to the burning of their (\*) grandmaster Jacques de Molay, as part of a plot to seize their wealth by Philip the Fair of France. For 10 points, name this order which formed to protect Christian pilgrims to Jerusalem.**

ANSWER: Knights **Templar(s)** [or Poor **Knights of Christ and the Temple of Solomon**]

**20. One work by this founder of the school of institutional economics expressed his desire that the rule of technocrats would replace corporate power. This author of *The Engineers and the Price System* names products like caviar, diamonds, and luxury cars as examples of his namesake (\*) goods that have a positively-sloped demand curve. Another of his works contains a chapter on “The Belief in Luck” and discusses a group that practices pecuniary emulation and conspicuous consumption. For 10 points, name this social scientist of *The Theory of the Leisure Class*.**

ANSWER: Thorstein **Veblen**

**21. This author wrote about the painter Li Po, and he wrote of a student at Mariabronn who is encouraged to leave before becoming a woodcarver. This author of *Klingsor’s Last Summer* and *Narcissus and Goldmund* used the organist Pistorius to introduce the god Abraxas to Emil (\*) Sinclair in his novel *Demian*. This author wrote about Josef Knecht, who becomes the Magister Ludi in one of his works, and Mozart appears in Pablo’s hall of mirrors to Harry Haller in another. For 10 points, name this author of *The Glass Bead Game* and *Steppenwolf*.**

ANSWER: Hermann **Hesse**

**22. The Cabochiens supported this polity in a war that it fought against Bernard VII and the Armagnacs. The Great Privilege ended its control of the Low Countries, and Maximilian I, the first Hapsburg Holy Roman Emperor, came to prominence by marrying this place’s heir, Mary the Rich. Its decline began after the Battle of Nancy saw the death of Charles the (\*) Bold, the son of Philip the Good, whose reign here saw the capture of Joan of Arc during this polity’s alliance with England in the Hundred Years’ War. For 10 points, name this duchy in eastern France.**

ANSWER: Duchy of **Burgundy**

**23. A disease caused by a defect in these is characterized by progressive limitation of eye movement and is known as Kearns-Sayre syndrome. This organelle contains cytochrome c, and, like the nucleus, this organelle has a double membrane, with the (\*) inner one featuring folds known as cristae. Like the nucleus and chloroplast, they also contain their own DNA. The site of the Krebs cycle and completion of the electron transport chain, for 10 points, name this organelle, the cell’s power source.**

ANSWER: **mitochondria** [accept **mitochondrion**]



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Bonuses

1. It often becomes weak and tears in sufferers of Marfan syndrome. For 10 points each:

[10] Arising from the left ventricle of the heart, name this largest artery in the human body.

ANSWER: **aorta**

[10] The aorta can be susceptible to this dilation of a blood vessel. The walls of the aorta get thin and can burst, causing sudden death if not treated immediately

ANSWER: an **aneurysm**

[10] The aorta contains one of these cavities named for Valsalva. The paranasal ones are air-filled spaces within the facial bones.

ANSWER: **sinuses**

2. It was a response to a 1789 missive adopted by the National Assembly. For 10 points each:

[10] Name this document, written by Olympia de Gouges, which argued for gender equality under a certain new government.

ANSWER: the **Declaration of the Rights of Woman** and the Female Citizen

[10] De Gouges participated in this lengthy political upheaval, which saw the Bourbon monarchs deposed as rulers of the namesake country in place of the Jacobins and, ultimately, Napoleon.

ANSWER: the **French Revolution**

[10] De Gouges was sent to the guillotine for allying with the Girondins during this September 1793 to July 1794 period, when many suspected anti-Jacobins were executed.

ANSWER: the Reign of **Terror**

3. It is separated from the Italian mainland by the Strait of Messina. For 10 points each:

[10] Identify this largest island in the Mediterranean Sea, the home of Mount Etna.

ANSWER: **Sicily** [or **Sicilia**]

[10] Sicily's northern shore lies on this arm of the Mediterranean. It is bounded on the east by Italy and on the west by Sardinia and Corsica.

ANSWER: **Tyrrhenian** Sea [or Mar **Tirreno**]

[10] The capital of Sicily is this city, which was known to the Romans as Panormus. It was also the focal point of the Sicilian Vespers uprising in 1282.

ANSWER: **Palermo**

4. For 10 points each, name some American rebellions.

[10] This western Pennsylvania uprising caused by high excise taxes was put down by George Washington, Lighthorse Harry Lee, and the Watermelon Army.

ANSWER: **Whiskey** Rebellion

[10] This 1787 Massachusetts rebellion of poor farmers and debtors resulted in increased calls for strengthening the federal government.

ANSWER: **Shays'** Rebellion

[10] This 1841 to 1842 Rhode Island rebellion was caused by that state's suffrage laws, which largely prohibited all but land owners to vote.

ANSWER: **Dorr's** Rebellion

5. Sarath Fonseka survived an assassination attempt by this group, which is noted for its suicide squads and is led by a man nicknamed Younger Brother. For 10 points each:

[10] Name this rebel organization currently fighting for its own state in northeastern Sri Lanka.

ANSWER: **Tamil Tigers** [or Liberation Tigers of Tamil Eelam]

[10] Abhisit [ah-PEE-siht] Vejjajiva [way-CHAH-chee-wah] is the current prime minister of this Asian country, which was home to a coup that overthrew Thaksin Shinawatra in 2006.

ANSWER: **Thailand**

[10] Nika Gilauri [ghee-lah-OO-ree] is the new prime minister of this country, which has recently been in conflict with Russia over its South Ossetia region.

ANSWER: **Georgia**

6. This author claimed that "a good book is the precious life-blood of a master spirit, imbalm'd and treasured up on purpose to a life beyond life" in *Areopagitica*. For 10 points each:

[10] Name this poet of "L'Allegro" and "Il Penseroso," who asserted "they also serve who only stand and wait" in a sonnet "on his blindness."

ANSWER: John **Milton**

[10] Milton described "Eden raised in the waste Wilderness" in this four-book epic poem about the temptations of Jesus in the desert.

ANSWER: **Paradise Regained**

[10] In *Paradise Regained*, Jesus is tempted by this fallen angel, who leads a rebellion against God in *Paradise Lost*.

ANSWER: **Satan** [or Lucifer]

7. It is marked by the formation of eddies and the generally chaotic movement of a fluid. For 10 points each:

[10] Identify this phenomenon from fluid dynamics, the opposite of laminar flow.

ANSWER: **turbulence** [or turbulent flow]

[10] Turbulence occurs at high values of this dimensionless quantity, the ratio of inertial and viscous forces in a fluid.

ANSWER: **Reynolds number**

[10] For Newtonian fluids, laminar and turbulent flow are both modeled via these partial-differential equations. They are the subject of one of the CMI's seven Millennium Problems.

ANSWER: **Navier-Stokes** equations

8. A golden one that serves as Frey's mount is called Gullinbursti. For 10 points each:

[10] Name this type of creature, one of which is driven into thick snow and caught after a visit to Pholus. Eurystheus begs Heracles to get rid of that Erymanthian variety of this animal.

ANSWER: **boars** [prompt on **wild pigs**]

[10] Another boar, the Calydonian variety, was first wounded by an arrow of this huntress, much to the chagrin of Toxeus and Plexippus. She also loses a footrace to the lovestruck Melanion.

ANSWER: **Atalanta**

[10] Atalanta and Melanion made the mistake of making love in one of this god's temples. His own amorous conquests include Europa in the form of a bull and Leda in the form of a swan.

ANSWER: **Zeus** [do not accept "Jupiter"]

9. Its denominations include Zen, Pure Land, and Mahayana. For 10 points each:

[10] Name this Eastern religion.

ANSWER: **Buddhism**

[10] The first of this collection of Buddhist teachings is that life leads to suffering. The last states that following the way laid out by the Buddha leads to an escape from suffering.

ANSWER: The **Four Noble Truths**

[10] In Mahayana Buddhism, this is a figure who has gained enlightenment but stays back to help others escape Samsara.

ANSWER: **Bodhisattva**

10. For 10 points each, name these Jewish American authors.

[10] This author of *Portnoy's Complaint* and *Goodbye, Columbus* wrote about the Lindbergh Administration in *The Plot Against America*.

ANSWER: Philip Milton **Roth**

[10] This author of *The Fixer* and *The Assistant* met his greatest success writing about Roy Hobbes playing baseball for the Knights in *The Natural*.

ANSWER: Bernard **Malamud**

[10] This author of the Picaresque *Adventures of Huckleberry Finn* wrote about Charlie Citrine basing a screenplay on the title character in *Humboldt's Gift*.

ANSWER: Saul **Bellow**

11. This country's literary tradition was expounded in the essay "In Praise of Shadows." For 10 points each:

[10] Name this country that has spawned novels like *Some Prefer Nettles* and *The Tale of Genji*.

ANSWER: **Japan** [accept **Nippon**]

[10] Japan's foremost novelist is probably this Nobel-winner, who wrote *The Sound of the Mountain*, *Snow Country*, and *Thousand Cranes*.

ANSWER: Yasunari **Kawabata** [accept in either order]

[10] This contemporary Japanese author has penned works like *A Wild Sheep Chase*, *Kafka on the Shore*, and *The Wind-Up Bird Chronicle*.

ANSWER: Haruki **Murakami** [accept in either order]

12. When William Herschel discovered it in 1781, he attempted to name it for King George III. For 10 points each:

[10] Name this planet with a retrograde orbit, the seventh from the Sun.

ANSWER: **Uranus**

[10] The only spacecraft to visit Uranus was this one in 1986. It was able to directly image Uranus' ring system and discovered its skewed magnetic axis.

ANSWER: **Voyager 2** [prompt on **Voyager**]

[10] The surface of this largest moon of Uranus contains numerous valleys. One theory claims that it was once hot enough to be liquid.

ANSWER: **Titania**

13. He depicted his first wife in the painting *The Woman in the Green Dress*, and painted a series of water lilies in his own garden at Giverny. For 10 points each:

[10] Name this Frenchman who also painted the Impressionist series *Haystacks*.

ANSWER: Claude **Monet**

[10] In 1877, Monet created eleven paintings of this train station in Paris.

ANSWER: Gare **Saint-Lazare**

[10] This American painter depicted Claude Monet "Painting by the Edge of a Wood." His other works include *The Daughters of Edward Darley Boit* and *Portrait of Madame X*.

ANSWER: John Singer **Sargent**

14. Name some southern authors, for 10 points each.

[10] This Mississippian penned *The Optimist's Daughter*, *Delta Wedding*, and *Why I Live at the P.O.*

ANSWER: Eudora Alice **Welty**

[10] This author told of Richard, nicknamed "Sockerteas," in *The Morning Watch*, and of Jay Follet's demise and a miraculous butterfly landing on his coffin in *A Death in the Family*.

ANSWER: James Rufus **Agee**

[10] This author of the novel *Wise Blood* told of the Misfit murdering an entire family in "A Good Man is Hard to Find."

ANSWER: Mary Flannery **O'Connor**

15. He refused the governorship of Chile after his victory at Chacabuco, preferring that the position go to Bernardo O'Higgins. For 10 points each:

[10] Name this South American revolutionary leader of the nineteenth century who was made protector of Peru upon that nation's independence in 1821.

ANSWER: Jose de **San Martín**

[10] San Martín met in 1822 with Simon Bolivar in this city, prompting San Martín to retire from military service. This is the largest city in present-day Ecuador.

ANSWER: **Guayaquil**

[10] San Martín is a hero of this nation. Under the Galtieri regime, this nation fought a war against Great Britain in 1982 over the Falkland Islands.

ANSWER: **Argentina**

16. Some haystacks can be seen in the background of this painting, while the title figures are hunched over in the foreground. For 10 points each:

[10] Name this painting, whose title figures can be seen picking up leftover scraps of wheat from the ground.

ANSWER: *The Gleaners*

[10] This artist of *The Angelus* and co-founder of the Barbizon school painted *The Gleaners*.

ANSWER: Jean-Francois Millet

[10] This contemporary of Millet painted the funeral of a peasant in *Burial at Ornans* and also painted *The Stone Breakers*.

ANSWER: Gustave Courbet

17. It relates the reaction rate constant to the temperature and the Boltzmann constant. For 10 points each:

[10] Name this equation of chemical kinetics that contains a pre-exponential factor, which takes into account molecular collisions that lead to a reaction. It is named for a Swede.

ANSWER: Arrhenius equation

[10] The Arrhenius equation also contains this value, which represents the energy difference between the reactants and the transition-state configuration. It can be decreased by a catalyst.

ANSWER: activation energy

[10] While the Arrhenius equation is restricted to gas reaction kinetics, this other equation of reaction kinetics applies to mixed-phase systems and is based on a transition state model.

ANSWER: Eyring equation

18. This composer of the oratorios *La redemption* and *Mors et vita* commemorated the anniversary of the coronation of Pope Pius IX in his *Marche Romaine*. For 10 points each:

[10] Name this French composer of the opera *Romeo et Juliette* as well as the orchestral *Funeral March of a Marionette*.

ANSWER: Charles-Francois Gounod

[10] Gounod wrote an opera about this character, who was the subject of an oratorio by Berlioz about his "Damnation" through the temptation of Mephisto.

ANSWER: Faust

[10] Gounod also set this text, which is simply the Latin version of the "Hail Mary," for a singer accompanied by a harp, with music lifted directly from Bach's *Well-Tempered Clavier*.

ANSWER: Ave Maria

19. The secret police force of this former country was the feared Stasi. For 10 points each:

[10] Identify this country whose leaders included Walther Ulbricht and Egon Krenz. It merged with a neighbor in 1990.

ANSWER: East Germany [accept GDR; or DDR; or German Democratic Republic; or Deutsche Demokratische Republic; do not accept or prompt on "Germany"]

[10] This man was put in charge of building the Berlin Wall in 1961, and he became the leader of East Germany in 1971. He held that position until 1989, when he was forced to resign.

ANSWER: Erich Honecker

[10] This socialist leader of West Germany and former mayor of West Berlin initiated the Ostpolitik policy that resulted in the recognition of the government of East Germany in 1972.

ANSWER: Willy Brandt [or Herbert Ernst Karl Frahm]

20. Together with Gerard Debreu, he names a model that shows the existence of a multi-market equilibrium in which there is no excess demand or supply. For 10 points each:

[10] Name this American economist who wrote *Social Choice and Individual Values*, which contains a discussion of his namesake impossibility theorem.

ANSWER: Kenneth **Arrow**

[10] Arrow also introduced the CES function, in which the letter E stands for this value, which is high when demand responds quickly to changes in price.

ANSWER: **elasticity**

[10] Kenneth Arrow shared the 1972 Nobel Prize in Economics with this Brit, who is the namesake of a demand function and developed the IS-LM model with Alvin Hansen.

ANSWER: John Richard **Hicks**

21. She wrote about Godfrey St. Peter in *The Professor's House*. For 10 points each:

[10] Name this Nebraskan author who wrote about life on the plains in works like *One of Ours* and *Song of the Lark*.

ANSWER: Willa Sibert **Cather**

[10] The title character of this Cather novel is a Bohemian member of the Shimerda family who meets Jim Burden after moving to Blackhawk.

ANSWER: **My Ántonia**

[10] This first book in Cather's "Prairie Trilogy" features Alexandra Bergson, whose brother Emil is killed along with Maria Shabata by Maria's husband Frank.

ANSWER: **O Pioneers!**

22. Answer the following about a concept from calculus, for 10 points each.

[10] This concept is used in the definition of the derivative, and describes the behavior of a function  $f(x)$  as  $x$  approaches a certain point.

ANSWER: **limit**

[10] This rule named for a Frenchman is used to calculate limits of quotients that equal zero over zero or infinity over infinity by taking the derivative of both functions

ANSWER: **L'Hopital's** rule (loh-pee-tal)

[10] The formal definition of a limit was invented by Karl Weierstrass, and makes use of these two Greek letters.

ANSWER: **epsilon** and **delta** definition of a limit

23. This man faced a revolt of unpaid troops known as the Mercenaries' War following his return to Africa, and he drowned in the Jucar River while fleeing a Celtiberian army. For 10 points each:

[10] Name this commander of the Carthaginian forces in Sicily during the First Punic War.

ANSWER: **Hamilcar** Barca

[10] Hamilcar Barca was the father of this Carthaginian general who lost the Battle of Zama during the Second Punic War and who crossed the Alps with elephants.

ANSWER: **Hannibal**

[10] The historian Polybius called this man "almost the most famous man of all time." Name this Roman general whose defeat of Hannibal at Zama ended the Second Punic War.

ANSWER: **Scipio Africanus** the Elder [or **Scipio Africanus** Major; or Publius Cornelius **Scipio Africanus**]