



# HSAPQ

High School Academic Pyramid Questions

Fall 2008  
ACF-Format Set #1

Round 3

Tossups

1. While studying the activities of lunar volcanoes one night, this man described them as greater in intensity than the nucleus of comets. He concluded that the Solar System is moving in the direction of the star Lambda Hercules, for which he coined the term "Solar Apex". He discovered the smallest known spherical astronomical object, Mimas, as well as Enceladus, two moons of Saturn. However, he is more famous for discovering Titania and Oberon, as well as the planet they orbit. For 10 points, name this German-British astronomer who discovered Uranus.

ANSWER: Sir Frederick William Herschel

2. In the leadup to this battle, the victor held a convention in Caen to assemble over 700 ships, which landed at Bulverhythe. The losing army consisted mainly of professional soldiers known as Housecarls, and their main defensive formation was the "shield wall." The losing commander of this battle had recently won the Battle of Stamford Bridge, and had crowned himself King Harold II Godwinson. Depicted on the Bayeux Tapestry, for 10 points, name this decisive engagement in the Norman conquest of England, a 1066 victory for William the Conqueror.

ANSWER: Battle of Hastings

3. This author wrote about a man who kills himself after his father sentences him to death by drowning in his short story "The Judgment." In another of his short stories, an official of a prison camp is killed by a device which uses knives to gouge literal sentences in his body. One of his novels begins with a chapter titled "The Stoker," and focuses on Karl Rossman. In addition to "In the Penal Colony" and *Amerika*, he wrote a short story about the transformation of Gregor Samsa into an insect. For 10 points, name this author of *The Trial* and "The Metamorphosis."

ANSWER: Franz Kafka

4. This work allows that a person could problematically conceive of a never-before-seen shade of blue if given all other shades of blue. It divides "Relations of Ideas" and "Matters of Fact" in drawing a contrast between analytic knowledge like algebra and synthetic knowledge of nature, a concept that is known as its author's namesake "fork." Drawn from its author's earlier *Treatise on Human Nature* and said to have awoken Immanuel Kant from his "dogmatic slumber," for 10 points, name this philosophical work about knowledge by David Hume.

ANSWER: An Enquiry Concerning Human Understanding

5. He was traded for a draft pick currently dropping passes for the Buccaneers, Troy Williamson, along with Napoleon Harris. Though he played basketball at DuPont High School with Miami guard Jason Williams, he set a 1997 record by receiving 25 passes from Chad Pennington at Marshall. He may be better known for an act performed in a January 2005 game against the Packers, and for his tenure with the Raiders, after which he was traded to the Patriots. For 10 points, name this receiver who caught 23 touchdown passes from QB Tom Brady in 2007.

ANSWER: Randall Gene "Randy" Moss

6. Lewis Mumford compared these entities to magnets and containers in his book about this concept "in history," and Jane Jacobs wrote about the "Death and Life of Great American" ones. Ernest Burgess developed a model for these using concentric rings that centers on the central business district, while Lincoln Steffens attacked their corruption in a book about the "shame" of these entities. Planned ones include Chandigarh, Astana, and Canberra. For 10 points, name these highly populated entities, whose American examples include Phoenix and Chicago.

ANSWER: **cities**

7. A 1998 work by Tracey Emin is entitled "My" one of these objects. One painting primarily set on one of these objects depicts a woman, a ghastly demon, and a horse emerging from a curtain, and was painted by Henry Fuseli. A large red one of these objects is found in Delacroix's *Death of Sardanapalus*, and the right side of Jan Van Eyck's *The Arnolfini Marriage* also contains a red one of these objects. For 10 points, name this piece of furniture, on which the title figures of the paintings *Olympia* and *Venus of Urbino* recline.

ANSWER: **beds**

8. In this novel, "Crazy Mary" threatens to "cut some of that shape off" with a corn knife while chasing a character who lives with Mr. Ordinsky and Colonel Raleigh before eventually settling down with Tiny Soderball. That character, Lena Lingard, befriends the title character while she works for the Harling family in Black Hawk. After the title character's violinist father commits suicide, she marries Anton Cuzak to help support the Shimerda family. For 10 points, name this novel about Jim Burden's relationship with the titular Bohemian girl, written by Willa Cather.

ANSWER: **My Antonia**

9. In this war, a warning by Laura Secord enabled Lieutenant FitzGibbon to win the Battle of Beaver Dams, and in its early stages, General Isaac Brock captured Fort Detroit, only to be killed leading a charge in the Battle of Queenston Heights. Tecumseh was killed during Battle of the Thames, and this war caused talk of secession at the Hartford Convention. It was supported by the War Hawks, and this war saw the burning of the District of Columbia. For 10 points, name this war nicknamed "Mr. Madison's War," formally named for the year in which it started.

ANSWER: the **War of 1812**

10. SNARE proteins facilitate reassembly of Golgi bodies during this event, and subpore complexes bind to partially decondensing chromosomes, resulting in several karyomeres. In plant cells, the creation of the new cell plate occurs during this stage, and in animals it generally produces a cleavage furrow, ultimately resulting in two identical daughter cells. Formation of nuclear envelopes also begins to occur during this event. Occurring between anaphase and cytokinesis, for 10 points, identify this stage of mitosis.

ANSWER: **telophase**

11. This work includes stories about a hunchback who chokes on a fish bone during a dinner with a tailor and a fisherman who draws a donkey from the sea. In another of its stories, the former slave girl Morgiana kills a man masquerading as an important guest. It describes a character who battles with the Old Man of the Sea during his seven voyages, and its frame story reveals that it is narrated by the sister of Dunayazad, Scheherazade. Containing stories about Sinbad, as well as "Ali Baba and the Forty Thieves," for 10 points, name this collection of Middle Eastern tales.

ANSWER: **One Thousand and One Nights** [or *The **Arabian Nights**' Entertainments*]

12. Some heterozygotes of this disease are resistant to *Salmonella typhi* bacteria. In addition, it affords carriers some protection against cholera. This disease is associated with an abnormality in its namesake transmembrane conductance regulator that is expressed in the mucus membrane lining of the intestines and lungs. This autosomal recessive disease is characterized by the disruption of chloride ion transfer across cell membranes. For 10 points, name this disease that is sometimes referred to as CF.

ANSWER: **cystic fibrosis** [accept **CF** before mentioned]

13. One film version of this work is set after the Chernobyl explosion and sees its director Jean-Luc Godard play "Professor Pluggy," a man obsessed with Xeroxing his own hand. Another film version of this play centers on the allocation of the First, Second, and Third Castles; in that version the treacherous Lady Kaede convinces Jiro to have Lady Sue (soo-WAY) killed. Kyoami was that film version's take on this work's Fool. Adapted into Akira Kurosawa's film *Ran*, for 10 points, name this Shakespeare play about three daughters of the ruler of Britain.

ANSWER: **King Lear**

14. The dwarf god Bes wore a crown of these objects, while Shu was depicted with a single one. Another object of this type served as a guideline for whether a person could venture to the Field of Reeds. Those who failed the test associated with this type of object would have their heart devoured by Ammit in accordance with the Book of the Dead. For 10 points, name this type of object possessed by Ma'at, against which Anubis balanced the weight of the heart during the Egyptian underground ritual.

ANSWER: **feathers**

15. Located in a namesake geologic basin that contains the Fountain Formation and the Pierre Shale, this city was the site of Montana City, and was the base for gangsters like Soapy Smith. Containing a downtown amusement park called Elitch Gardens, it was selected to hold, but never actually held, the 1976 Winter Olympics, and used to be the seat of Arapahoe County. Surrounded by suburbs including Lakewood, Littleton, and Aurora, for 10 points, identify this city on the South Platte River, the capital of Colorado.

ANSWER: **Denver**

16. In this novel, "Aged P" responds to all questions with "All Right John!" while living in a miniature castle designed by his son John Wemmick. One character torments the protagonist with a cane she calls "The Tickler." The protagonist falls into a trap laid by Orlick but is saved by Herbert Pocket, who is the beneficiary of the Satis House estate after the death of Miss Havisham, who trained Estella to break the hearts of men. For 10 points, name this novel about Pip, by Charles Dickens.

ANSWER: **Great Expectations**

17. An empirically obtained version of it uses three substance-specific components and is called the Antoine equation. A general version of this relation does not assume a constant change in enthalpy or entropy over a temperature range, and it is derived by assuming no change in Gibbs free energy. It states that the latent heat divided by the temperature times change in volume is the slope of a coexistence curve describing a phase change. For 10 points, identify this equation named for a German and French scientist.

ANSWER: **Clausius-Clapeyron** equation

18. One cause of this event, which was codenamed Operation Hummingbird, was Franz von Papen's speech at the University of Marburg, and this action was spurred on by an army which was limited to one hundred thousand men by the Treaty of Versailles. Its victims included Kurt von Schleicher and Gustav von Kahr, but its main attack was against Ernst Rohm and the SA. For 10 points, name this 1934 purge orchestrated by Hitler which purged his potential rivals out of the Nazi Party.

ANSWER: **Night of the Long Knives** [or **Nacht der langen Messer**]

19. He wrote a symphony that begins with a "Trauermarsch" and includes a rondo that references *Lob des hohen Verstandes*. In addition to that fifth symphony in C sharp minor which includes an Adagietto, his first symphony includes a contrabass playing a minor key adaptation of "Frere Jacques." This composer's eighth symphony begins with the hymn "Veni, Sancte Spiritus," and is named for the large ensemble required to play it. For 10 points, name this Austrian composer of the Titan Symphony, the Resurrection Symphony, and the Symphony of a Thousand.

ANSWER: Gustav **Mahler**

20. This polity first developed agriculture during its Mumun period. Its nobility was divided into classes called "sacred bone" and "true bone" during its rule by the Kingdom of Silla, and it was later ruled by the Gokoryo Dynasty established by Wang Kon. It defended itself from foreign invaders with hwachas and turtle ships during its final dynasty, the Choseon, and it was divided at the 38th Parallel in an agreement signed in its city of Panmunjeom. For 10 points, name this Asian location currently divided into countries led by Lee Myung-bak and Kim Jong-il.

ANSWER: **Korea** [do not accept or prompt on North Korea or South Korea]

21. Most of these particles are pseudoscalars and have 0 spin and negative parity. The decay of one of these resulted in the Tau particles and the Theta particles, which had identical masses but opposite parities, thus leading to CP violation. The most famous one of these was independently discovered by Richter and Ting, and is called the "charmonium" or the "J-psi" particle. For 10 points, identify these particles which are made of a quark-antiquark pair, and whose name comes from Greek for "middle."

ANSWER: **meson**

22. One work named for this character includes scenes where Astolfo rides a hippogriff to Ethiopia and then to the moon. That poem includes the knights Bradamant and Rinaldo, as well as the Chinese princess Angelica, who inspires a mad passion in this character. This character is the subject of an Ariosto poem where he is "furioso," and also names a poem about his betrayal by Ganelon in Rauncea pass. For 10 points, name this French knight who blows Oliphant to alert Charlemagne of his death in his namesake "Chanson," or song.

ANSWER: **Roland** [or **Orlando**]



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Bonuses

1. He was punished for killing his wife Megara and his children by being enthralled to his brother Eurystheus. For 10 points each:

[10] Name this Greek figure who had to perform such labors as cleaning the Augean stables and retrieving the cattle of Geryon.

ANSWER: **Heracles** [do not accept Hercules]

[10] The final labor of Heracles was to bring this three-headed guard dog of the underworld back to Eurystheus without using any weapons.

ANSWER: **Cerberus** [do not accept Cerebus]

[10] The first labor was to slay this beast with impenetrable skin, which Heracles wore for protection after accomplishing the feat.

ANSWER: the **Nemean Lion** [prompt on partial answer]

2. He satirized Euripides in his plays *Thesmophoriazusae* and *The Archarnians*. For 10 points each:

[10] Name this author of *Peace*, who satirized Cleon as the Paphlagonian in his play *The Knights*.

ANSWER: **Aristophanes**

[10] In this Aristophanes play, Strepsiades encourages his son Pheidippides to enroll in Socrates' school, called the Thinkery. It pokes fun at the Sophists.

ANSWER: *The Clouds*

[10] In this play, Euelpides and Pithetaeru flee Athens and persuade the title characters to found Cloudkookooland, but the city keeps sacrificial smoke from reaching the Gods.

ANSWER: *The Birds*

3. When reasonable amounts of acid or base are added to these solutions, they resist any changes in pH. For 10 points each:

[10] Give the term applied to such solutions, usually composed of a strong acid and its conjugate base or vice versa.

ANSWER: **buffer**

[10] Such behavior may be easily explained by this effect, wherein the presence of a salt suppresses the dissociation of an acid or base.

ANSWER: **common-ion** effect

[10] The common-ion effect is a special case of this general prediction that stabilizing systems maintain an equilibrium to counteract an applied stress.

ANSWER: **Le Chatelier's** principle

4. It was opposed only by Senators Ernest Gruening and Wayne Morse. For 10 points each:  
[10] Name this 1964 resolution that authorized the president to send military force to Southeast Asia without a formal declaration of war.

ANSWER: **Gulf of Tonkin** Resolution

[10] The Gulf of Tonkin Resolution was passed during the presidency of this former Senate Majority Leader, who also promoted domestic programs like Medicare as part of the Great Society.

ANSWER: **Lyndon Baines Johnson**

[10] Two years after repealing the Gulf of Tonkin Resolution, Congress passed this 1973 act requiring presidents to obtain congressional approval 90 days after sending troops into combat.

ANSWER: **War Powers** Act of 1973 [or **War Powers Resolution**]

5. Identify these keys that famous works have been written in, for 10 points each.

[10] J. S. Bach wrote a mass in this minor key that has 2 sharps.

ANSWER: **B** minor [do not accept "D major"]

[10] Georges Bizet wrote his only symphony in this note's major key, which has no sharps or flats. One key on the piano is usually called "middle" this.

ANSWER: **C**

[10] Franz Liszt wrote his first piano concerto in this key, the relative major to C minor.

ANSWER: **E flat** major

6. For 10 points each, name these Italian authors.

[10] He wrote about his love for Beatrice in *La Vita Nuova*, and created an epic poem consisting of the Inferno, the Purgatorio, and the Paradiso, *The Divine Comedy*.

ANSWER: **Dante** Alighieri

[10] This humanist wrote *Teseide* and *On Famous Women*, as well as a collection of stories narrated by seven women and three men waiting out the plague.

ANSWER: Giovanni **Boccaccio**

[10] This playwright fictionalized the death of Giuseppe Pinelli in *Accidental Death of an Anarchist*. His other plays include *Archangels Don't Play Pinball* and *Mistero Buffo*.

ANSWER: Dario **Fo**

7. For 10 points each, answer the following about Enver Hoxha, who managed to get the entire world to hate him.

[10] Enver Hoxha was the Communist dictator of this country from 1944 until his 1985 death. An Italian invasion in 1939 had previously forced the abdication of King Zog.

Answer: **Albania**

[10] In 1961, due to Hoxha's crazy anti-Khrushchev rhetoric, Albania got kicked out of this organization of Communist states established in 1955.

Answer: **Warsaw Pact**

[10] In 1978 this last remaining ally of Albania cut off aid after Hoxha dissed Chairman Mao and attacked this country's outreach to the United States, including Richard Nixon's visit here.

Answer: People's Republic of **China**

8. Typically interpreted, they frequently are used to control the behavior of an application, either externally or internally. For 10 points each:

[10] Identify this class of languages, one of which, released by Ecma International, resembles Java and is named for it.

ANSWER: **scripting** languages [or **script** language or **extension** language]

[10] This family of scripts includes the language one uses on the command line in Windows or the terminal on a Mac.

ANSWER: **shell** scripts

[10] This shell, written in 1977, is still the shell of choice on many Unix implementations. GNU has since developed an extended version of it called bash.

ANSWER: **Bourne** shell [or **sh**]

9. Identify the following about a religion, for 10 points each.

[10] This religion was founded by Baha'u'llah, and its main institution is the Universal House of Justice located in Haifa, Israel.

ANSWER: **Baha'i**

[10] The house of Bahauallah's father Mirza Abbas, was located in this country before it was destroyed in 2004. Along with Iraq, it is the other country where Shia Islam is prominent.

ANSWER: Islamic Republic of **Iran**

[10] This is the name given to the Bahai religious text. It quotes the Quran and the Bible among other things to show the relatedness between the monotheistic religions.

ANSWER: The **Book of Certitude** [or **Kitab-i-Iqan**]

10. This man grew copious white facial hair and adopted the identity of alternative health evangelist Dragan Dabic while continuing to live in Belgrade. For 10 points each:

[10] Name this accused Serbian war criminal, who was captured in 2008 and will stand trial for incidents that occurred in Srebrenica and Sarajevo in 1995.

ANSWER: Radovan **Karadzic**

[10] Karadzic will be tried at the International Criminal Tribunal for the Former Yugoslavia, an adjunct of the World Court in this city.

ANSWER: The **Hague** [or Den **Haag**]

[10] Karadzic's forfeiture of power and surrender to the international tribunal was a condition of this 1995 agreement, signed in the namesake Ohio city, which ended the Bosnian War.

ANSWER: **Dayton** Accords

11. It borders the Baltic sea and lies between Sweden and Russia. For 10 points each:

[10] Name this country.

ANSWER: Republic of **Finland** [or **Suomi**]

[10] This body of water is the northernmost arm of the Baltic Sea and lies between Finland and Sweden. The Gulf of Finland lies to its southeast.

ANSWER: **Gulf of Bothnia**

[10] This lake located in the once-Finnish area of Russian Karelia is the largest in Europe. It was a crucial trade route for Scandinavia, Russia, and the Byzantines.

ANSWER: Lake **Ladoga**

12. For 10 points each, name some Roman military leaders.

[10] This Roman general and dictator wrote about his victory over Vercingetorix at the Battle of Alesia before getting stabbed on the Ides of March.

ANSWER: Gaius Julius **Caesar**

[10] This general earned his famous agnomen after routing Hannibal's forces at the battle of Zama.

ANSWER: Publius Cornelius **Scipio Africanus** Major

[10] This fabulously wealthy aristocrat was defeated by numerically inferior Parthians at the Battle of Carrhae. He was also a member of the first triumvirate.

ANSWER: **Crassus**

13. Identify the following about leaves, for 10 points each.

[10] Literally meaning "middle leaf" this region, located between the upper and lower epidermis, contains palisade cells. It is also the region where photosynthesis occurs.

ANSWER: **mesophyll**

[10] Analogous to mitochondria, these organelles found in plants contain chlorophyll. The fluid contained in them is called the stroma.

ANSWER: **chloroplast**

[10] These are the interconnected, sac like structures found in chloroplasts. When they are stacked, they are called grana.

ANSWER: **thylakoids**

14. The title character is forced to hang a kitten because it was keeping his father awake at night, and moves to Chicago with his Aunt Maggie. For 10 points each:

[10] Name this autobiographical novel, whose first section, "Southern Night" describes the author dealing with racism while growing up in a small town in Mississippi.

ANSWER: **Black Boy**

[10] This author of *Black Boy* also wrote *Savage Holiday* and *Native Son*.

ANSWER: Richard **Wright**

[10] Richard Wright also wrote a collection named for the "children" of this character, who originally appeared in a 19th century novel about George Shelby and Simon Legree.

ANSWER: **Uncle Tom**

15. They were led by men such as Julius Martov and George Plekhanov. For 10 points each:

[10] Name these anti-Leninist members of the Russian Social-Democratic Workers' Party who opposed Lenin's revolutionary views and wanted to work within a democratic system.

ANSWER: **Mensheviks**

[10] The Mensheviks were opposed by these followers of Lenin, who led the October 1917 revolution.

ANSWER: **Bolsheviks**

[10] This socialist revolutionary became prime minister in July of 1917. He was opposed by Lavr Kornilov prior to the Bolshevik coup and ultimately emigrated to the United States.

ANSWER: Fyodorovich **Kerensky**

16. He sued John Ruskin for comparing his painting *Nocturne in Black and Gold* to "flinging a pot of paint in the public's face." For 10 points each:

[10] Name this American artist who notably painted his mother wearing black and sitting in a chair.

ANSWER: James McNeill **Whistler**

[10] Whistler was influenced by this mid-19th century English artistic movement led by John Everett Millais, which took its name from the artist of the *Sistine Madonna*.

ANSWER: **Pre-Raphaelite Brotherhood**

[10] Whistler depicted Joanna Hiffernan in his painting *Symphony in this color*. A Kazimir Malevich painting depicts a square of this color inside a field of this color.

ANSWER: **white**

17. It was first published in Latin as an anagram in 1676. For 10 points each:

[10] Name this law which states that the force exerted by a spring is proportional to the distance which the spring is compressed or stress, and points in the opposite direction.

ANSWER: **Hooke's Law**

[10] The generalized form of Hooke's law includes this quantity as a proportionality constant. It is named after a British scientist who performed a notable double-slit experiment.

ANSWER: **Young's Modulus**

[10] This modulus, symbolized K, can be used to find the change in volume of a material with change in pressure.

ANSWER: **Bulk** Modulus

18. Name these authors of British picaresque novels, for 10 points each.

[10] He described the adventures of a many-times-married woman in *Moll Flanders*. His other works include the *Journal of the Plague Year* and *Robinson Crusoe*.

ANSWER: Daniel **Defoe**

[10] This author of the *History of a Watch Coat* wrote two novels about adventurous protagonists, *A Sentimental Journey* and *Tristram Shandy*.

ANSWER: Laurence **Sterne**

[10] In addition to writing *The Temple Beau*, this mid-eighteenth century author created such fortunate heroes as Joseph Andrews, Tom Thumb, Jonathan Wild, and Tom Jones.

ANSWER: Henry **Fielding**

19. High barriers to entry and a product with no ready substitutes are necessary conditions for this type of market structure to emerge. For 10 points each:

[10] Name this market condition in which a firm tends to produce at the minimum of the long run average total cost curve, and there is effectively only one seller.

ANSWER: **monopoly**

[10] This type of monopoly arises when average total cost is constantly decreasing with quantity produced, due to extremely high barriers to entry. A telephone network is one example.

ANSWER: **natural** monopoly

[10] The market for labor in a factory town where all residents work for one firm is an example of this inverse condition, a market structure with many sellers but only one buyer.

ANSWER: **monopsony**

20. The vocal form of this technique is known as scat singing. For 10 points each:

[10] Identify this jazz technique in which a performer creates a new melody using provided chords or a particular mode.

ANSWER: **improvisation** [accept word forms]

[10] The technique of using a mode instead of fixed chords to improvise was innovated by this trumpet player, whose recordings include *Sketches of Spain* and *Kind of Blue*.

ANSWER: Miles **Davis**

[10] This jazz saxophone player, who recorded *Anthropology*, *Ornithology*, and *Confirmation*, was an important figure in developing bebop improvisation.

ANSWER: Charlie **Parker**

21. He faced the Addled Parliament and weathered the Gunpowder Plot and the Thirty Years War. For 10 points each:

[10] Name this monarch known for producing a namesake bible.

ANSWER: **James I** of England [or **James VI** of Scotland]

[10] James I of England was a member of this ruling family, whose other members included Charles I.

ANSWER: **Stuart**

[10] In 1628 Parliament presented Charles I with this document which made it illegal to levy taxes without their consent and impose martial law among other restrictions.

ANSWER: **Petition of Right**

22. Name these layers of the Earth's atmosphere, for 10 points each.

[10] Weather patterns occur in this atmospheric layer, which borders the stratosphere at its namesake "pause."

ANSWER: **troposphere**

[10] Located inside the thermosphere, this layer of the atmosphere contains the Appleton layer. The namesake charged particles in this layer can bounce radio waves back down to Earth.

ANSWER: **ionosphere**

[10] At this layer's namesake "base," also called the critical level, the Knudsen number equals roughly one. This is the outermost layer of the atmosphere.

ANSWER: **exosphere**