



High School Academic Pyramid Questions

Fall 2008
ACF-Format Set #2

Round 11

Tossups

1. This book was inspired by the real-life actions of Karl Jerusalem. The protagonist leaves for the central location after Leonore falls in love with him, and the protagonist later falls in love with a woman who plays a counting game at a ball. This epistolary novel's title character expresses his love for Homer and the poetry of Ossian after moving to Wahlheim. Eventually, because Albert is betrothed to Charlotte, the title character kills himself. For 10 points, name this 1774 tragic novel about an artist who commits suicide, written by Goethe (GUR-tuh).

ANSWER: *The Sorrows of Young Werther*

2. This man led the American League in times caught stealing in 2008, and his brother bowled over Kaz Matsui during the 2007 NLCS after being made the top pick of the 2005 draft by the Diamondbacks. Despite being benched three times in 2008 for lack of hustle, this player hit seven home runs in the first two rounds of the playoffs while batting between Akinori Iwamura and Carlos Pena. For 10 points, name this Tampa Bay Rays center fielder whose given names are Melvin Emanuel, but who is known by an acronym for his nickname "Bossman Junior."

ANSWER: B.J. Upton [or Melvin Emanuel Upton]

3. The 26th of Nisan marks this man's yahrtzeit, which is held at Kifl Hares. He set up a great stone under an oak after taking leave of his followers, and the verse "He that waits on his master shall be honored" is usually attributed to him. Another of his feats saw him make the moon stand still in the valley of Ajalon so he could destroy an Amorite alliance in daylight. His house's cut of conquered Canaan was a forested mountain area, and he besieged Ai and a city where Rahab lived. For 10 points, name this conqueror of Jericho, an Israelite leader who succeeded Moses.

ANSWER: Joshua [or Jehoshuah; or Yehoshua]

4. One of these, created by Joseph Jastrow and named for two animals, was discussed in relation to paradigm shifts in Kuhn's *Structure of Scientific Revolutions*. The one named for Franz Müller-Lyer involves arrows, and the one named for Hermann Ebbinghaus involves the size of two circles. One of these associated with Gestalt involves being shown stationary objects in rapid succession, and is known as the phi phenomenon. For 10 points, name these phenomena in which a visual image is deceptive.

ANSWER: optical illusions [prompt on illusions]

5. Ones named for Hermite are solution to the quantum harmonic oscillator and are orthogonal, with e^{-x^2} as their weight function. The eigenvalues of a 2 by 2 matrix can be calculated using their trace and determinant. according to a theorem named for Samuelson. A theorem named for Abel and Ruffini states that there is no closed form expression for the roots of one with degree five or above. For 10 points, identify these quantities which are functions of a variable x raised to the n th power, exemplified by $ax^2 + bx$.

ANSWER: polynomials

6. A Jew named Saul Zuratas encounters a tribal myth-spinner in this author's *The Storyteller*. Various denizens of the rainforest are remembered by brothel-owner Don Anselmo in this author's *The Green House*, and he wrote about a group of boys in a military academy in *The Time of the Hero*. Another of this man's novels is interspersed with wacky radio dramas written by Pedro Camacho; that novel details the protagonist's marriage to an older family member. For 10 points, name this author who wrote *Aunt Julia and the Scriptwriter*, a novelist from Peru.

ANSWER: Mario **Vargas Llosa**

7. Cantile's line connects this organ to the inferior vena cava, and it is home to tubular structures called the ducts of Luschka. This organ empties when the CCK hormone is released, and it is broken up into three segments, the body, neck, and fundus. Like the kidneys, this organ can form "stones," but its buildups are made up of cholesterol and salts in a disorder known as cholelithiasis. For 10 points, name this organ that lies next to the liver and stores bile.

ANSWER: **gallbladder** [or **cholecyst**]

8. The title character of one of this man's plays tricks Ballio into letting Simo's son Calidorus marry his slave-girl sweetheart. In addition to that clever slave, *Pseudolus*, he wrote of a boastful soldier who is beaten by servants in *Miles Gloriosus*. In another of his plays, Euclio hides the title object to appear poor. Shakespeare based *The Comedy of Errors* on this man's play about identical twins, *The Menaechmi*. For 10 points, name this ancient Roman contemporary of Terrence.

ANSWER: Titus Maccius **Plautus**

9. The major work of murderer Carlo Gesualdo is six books of these compositions. One example is "As Vesta Was from Latmos Hill Descending," which is found in *The Triumphs of Oriana*. Often featuring four to six voices, they were usually written in the vernacular language instead of Latin, and used word painting to describe pastoral scenes. Most popular in the late sixteenth century, they were often sung at social gatherings. For 10 points, name this type of secular vocal form that is often contrasted with the motet.

ANSWER: **madrigals**

10. This author wrote about a plant whose doom is to be crushed "beneath the furrow's weight" in one poem, while another of his poems dealt with a Jacobite battle. In addition to "To a Mountain Daisy," and "The Battle of Sherramuir," he wrote a poem detailing a drunken ride to Alloway Kirk and invented the phrase "cutty sark,." Another of his poems claims that his love is a "Red, red rose." Steinbeck took the title from *Of Mice and Men* from this author's "To a Mouse." For 10 points, name this author of "Tam O'Shanter" and "Auld Lang Syne," a Scottish poet.

ANSWER: Robert **Burns**

11. Dionysius of Halicarnassus said that these peoples called themselves Rasenna, and their most extensive existing text is the Zagreb mummy wrapping. Their deities included Tin, Sethlans, and Uni, and they were lead by lauchmes. Their settlements included Clusium and Perusia, and Lars Porsena tried to reinstate one of their kings. Led by many members of the Tarquin family, for 10 points, name this ancient Italian people who were supplanted by the Romans.

ANSWER: **Etruscans**

12. Ewald summation is used to determine the Madelung constant, which in turn figures in the numerator for determining this quantity. A low-precision value for it is given by the Kapustinskii equation. The inverse of a number between five and twelve is subtracted from one as one factor in another formulation of it. That equation is named for Landé and a man who, with Haber, names a cycle that determines it, Born. Described as the enthalpy of formation of its namesake structure from gases, for 10 points, name this energy measuring the strength of bonds in an ionic solid.

ANSWER: **lattice** energy

13. He worked with the Canningite William Huskisson to create a moderate government, and he worked at convincing Robert Peel and George IV that Catholic emancipation was needed. He was targeted in the Cato Street Conspiracy, and earlier his “thin red line” defeated Andoche Junot’s forces. After a court-martial, he was allowed to fortify the lines of Torres Vedras before taking Toulouse in the Peninsular Campaign. Allying with Gebhard von Blucher in a Belgian battle, for 10 points, name this British commander at Waterloo.

ANSWER: The Duke of **Wellington** [or Arthur **Wellesley**]

14. This state's Senator Arthur Vandenberg worked with Harry Truman to create a bipartisan foreign policy following World War II. Its statehood was delayed by the Toledo War, and Lewis Cass of this state was known as the “father of popular sovereignty.” The controversial radio priest Father Charles Coughlin hailed from Royal Oak in this state, and this state's *Dearborn Independent* newspaper was used by a noted manufacturer as a vehicle for anti-Semitic propaganda. For 10 points, name this state, the home of President Gerald Ford and Henry Ford.

ANSWER: **Michigan**

15. Stories like “Ysrael” and “No Face” are collected in a Junot Diaz book named for this action. Roberta Alden does this after being struck by Clyde Griffith's camera in *An American Tragedy*. The final line of “The Love Song of J. Alfred Prufrock” imagines doing this after “human voices wake us.” In another novel, a character who has affairs with Alcee Arobin and Robert Lebrun dies by doing this. For 10 points, *The Awakening* ends with Edna Pontellier committing suicide by what method after walking into the sea?

ANSWER: **drowning**

16. Meson exchange is used to describe one type of these, named for Yukawa, which has a negative exponential relationship with respect to r . The one attributable to an electric field and magnetic field acting on a charge is named for Lorentz. They can be classified as conservative or nonconservative. Work is equal to the integral of this quantity with respect to position, and it is equal to the time derivative of momentum. For 10 points, identify this vector, which is the product of mass and acceleration according to Newton’s second law.

ANSWER: **force** [accept **potential** until “acting on a charge” is read]

17. One of his sons was turned into a bird for the love of the dead nymph Hesperia. In one story, this figure is ransomed with a golden veil. In addition to Aesacus, his other children included a daughter who was swallowed by a chasm, Laodice, and the Creusa that was the wife of Aeneas. In most stories he is killed by Neoptolemus. Hermes assisted this figure in sneaking through the Greek lines to plead with Achilles for the body of his son. For 10 points, name this father of Paris and Hector, the old king of Troy in the *Iliad*.

ANSWER: **Priam**

18. Louis XII of France gave him the title of duke of Valentinois, which gave this man his nickname Il Valentino. His tutors included Paolo Pompilio and Giovanni Vera, and he studied law under Filippo Decio. He faced down the Magione conspiracy during his third Romagna campaign, and his motto was "Either Caesar or Nothing." An enemy of Pope Julius II, he was the son of Pope Alexander VI. For 10 points, name this brother of Lucrezia who inspired Machiavelli's ideal of the "Prince."

ANSWER: Cesare Borgia [prompt on Borgia]

19. A laundry list is swapped for a love note at one point in this opera. In another scene, a man causes alarm by climbing in through a balcony in the guise of Lindoro, after earlier adopting the identity of Don Alonso. The title character introduces himself with "Largo al Factotum" after learning that Dr. Bartolo is confining Rosina, and later aids Count Almaviva's romantic plans. For 10 points, name this Rossini opera which was followed by a Mozart sequel about the "marriage" of the titular conniving cosmetician, Figaro.

ANSWER: *The Barber of Seville* [or *Il barbiere di Siviglia*; or *The Useless Precaution*]

20. This man's work, independent of Le Bel, attempted to show that tetrahedral geometry was possible in carbon bonds. One of his namesake equations relates temperature and equilibrium constant given the standard enthalpy change. The measure of how many particles are released into solution per unit solute is known as his namesake "factor," and is important in calculating colligative properties. For 10 points, name this Dutch chemist who worked out an equation for osmotic pressure.

ANSWER: Jacobus Henricus van't Hoff

21. It contains one tablet displaying the epogdoon (eh-pahg-doe-ahn), and a figure with a half-white headgear in this painting is considered to be Averroes. In another section, a figure modeled on Castiglione spins a celestial globe on his fingers. One putti in this work bears the phrase "To Each What is Due," and its depiction of architecture was aided by Donato Bramante. One figure dressed in gold holds his copy of the *Nicomachean Ethics*, and his old master beside him holds *Timaeus*. Prominently featuring Plato and Aristotle, for 10 points, name this allegorical painting by Raphael.

ANSWER: *The School of Athens* [or *Scuola di Atene*]

22. The Kerkena Islands lie in an inlet formed by this body of water, while the Cape Tres Forcas that juts into it houses the Melilla exclave. The city of Benghazi lies on the Gulf of Sidra, which is a part of this body, and the Balearic Islands also lie in it. The Gulf of Cagliari is another inlet formed by it, and the Strait of Messina separates one island in this sea from the mainland to its north. It connects with the Atlantic via the Strait of Gibraltar. The Adriatic Sea and the Aegean Sea are parts of, for 10 points, what sea that is sandwiched between Europe and North Africa?

ANSWER: Mediterranean Sea [accept Gulf of Gabes until "Tres Forcas" is read]



HSAPQ

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Bonuses

1. Slavery was abolished in this nation by Emperor Dom Pedro II, who also opposed the church's anti-Masonic laws. For 10 points each:

[10] Name this South American nation, whose later leader include "the father of the poor," Getulio Vargas, and which was the home of the Portuguese monarchy during the Napoleonic wars.

ANSWER: **Brazil**

[10] This war was begun over Brazil's assistance of the Colorado party of Uruguay. Those nations allied with Argentina to defeat Paraguay.

ANSWER: War of the **Triple Alliance** [or Guerra de la **Triple Alianza**; or Guerra da **Triplice Alianca**]

[10] This dictator of Paraguay built up the most powerful South American army and successfully invaded Mato Grosso before the allies defeated him at Tuyuti.

ANSWER: Francisco Solano **Lopez**

2. This character turns out to be the best shot in all of Maycomb when he kills the rabid Tim Johnson. For 10 points each:

[10] Name this small-town lawyer whose defense of Tom Robinson hinges on that man's lame arm.

ANSWER: **Atticus** Finch [prompt on **Finch**]

[10] Atticus Finch appears in *To Kill a Mockingbird*, the best-known work of this American author.

ANSWER: Harper **Lee**

[10] Lee was assisted on *To Kill a Mockingbird* by this author, who inspired the character of Dill. He wrote works like *Other Voices*, *Other Rooms* and *The Grass Harp*.

ANSWER: Truman **Capote**

3. This island was the home of a massive statue of Helios that was built by Chares of Lindus. For 10 points each:

[10] Name this island of the Dodecanese, the home of the Colossus.

ANSWER: **Rhodes**

[10] These knights conquered Rhodes in 1282. They were formed to care for pilgrims to the Holy Land and were organized into a military order by Raymond du Puy.

ANSWER: **Knights Hospitalers** [or **Order of the Hospital** of St. John of Jerusalem; or **Knights of Saint John**; or **Knights of Jerusalem**]

[10] Rhodes was captured in 1523 by this Ottoman sultan, the successor to Selim the Grim, who badly defeated the Hungarians at the Battle of Mohacs.

ANSWER: **Suleiman I** [or **Suleiman the Magnificent**; prompt on **Suleiman**]

4. It is found in a complex with organic halides in Grignard reagents. For 10 points each:

[10] Identify this alkaline earth element whose sulfate is found in Epsom salts, and which is also found in its hydroxide form in a namesake “milk.”

ANSWER: **magnesium** [or **Mg**; do not accept **magnesia**]

[10] Grignard reagents participate in this type of a reaction when they are used to convert ketones to tertiary alcohols. It sometimes involves the addition of H atoms.

ANSWER: **reduction** [or **reducing** agents; accept equivalents]

[10] Grignard reagents are stored in this type of compounds due to their low reactivity. Their diethyl version was once used as an anesthetic.

ANSWER: **ether**

5. Photons and gluons belong to this class, which includes all other known elementary particles with integer spin. For 10 points each:

[10] Name this class of subatomic particles, named after an Indian physicist.

ANSWER: **bosons**

[10] This hypothetical boson gives other particles their mass and is sometimes referred to as the “God particle.”

ANSWER: **Higgs Boson**

[10] This particle accelerator was built partially to search for the Higgs Boson, though wacky doomsday theorists suggest that this CERN facility is more likely to create a black hole instead.

ANSWER: **LHC** [or **Large Hadron Collider**]

6. This type of tax is levied in proportion to the amount an individual or corporation earns. For 10 points each:

[10] Name this type of tax, expressly allowed by the Sixteenth Amendment.

ANSWER: **income** tax

[10] The United States has this kind of income tax, in which people who earn more money pay a higher percentage of their income.

ANSWER: **progressive** income tax

[10] This curve notes that government revenues are equivalent at two different income tax rates; lower rates mean less money collected, while higher rates reduce one’s incentive to work.

ANSWER: **Laffer** curve

7. They settled in southern Spain under the leadership of Ataulphus. For 10 points each:

[10] Name this Germanic tribe, who was led by Alaric I and Theodoric I.

ANSWER: **Visigoths**

[10] In this battle, the Visigoths under Fritigern, who also commanded some Ostrogothic forces, soundly defeated the Roman army, killing emperor Valens.

ANSWER: **Adrianople** [or **Hadrianopolis**]

[10] The Visigoths were a problem because the Huns had been pushing them out of their land. This man co-ruled the Huns with Bleda, and lost at the battle of Catalaunian Plains.

ANSWER: **Attila** the Hun

8. This branch of philosophy includes the “Proportionality Doctrine,” which states that “actions are right in proportion as they tend to promote happiness.” For 10 points each:

[10] Name this branch of philosophy founded by Jeremy Bentham.

ANSWER: **utilitarianism**

[10] Probably the best-known utilitarian is this author of *On Liberty*, who defined the Proportionality Doctrine in *Utilitarianism*.

ANSWER: John Stuart **Mill**

[10] Despite accepting the traditional sexual division of labor, Mill also argues for domestic and social equality of the fairer sex in this 1869 feminist tract.

ANSWER: *On the* **Subjection of Women**

9. Theseus: serial abductor of women. For 10 points each:

[10] Theseus accompanied this friend on his unsuccessful mission to kidnap Persephone. Hades stuck them both to chairs; Heracles unstuck Theseus but could not unstuck this man.

ANSWER: **Pirithous**

[10] During that ill-fated kidnapping attempt, the Dioscuri succeeded in rescuing this sister of theirs, whom Theseus had kidnapped with intent to marry. She was also notably kidnapped by Paris.

ANSWER: **Helen** [or **Helen** of Troy]

[10] As soon as this queen stepped on board Theseus’ ship, he hightailed it to Athens and married her, thus causing the Amazonomachy. No word on whether he ever got her girdle.

ANSWER: **Hippolyta** [or **Antiope**]

10. One location here is the Ile de la Cite, which is the site of a cathedral with flying buttresses. For 10 points each:

[10] Name this city that includes the Sacre Coeur Cathedral at Montmartre. It also is home to the Eiffel Tower and the president of France.

ANSWER: **Paris**

[10] This river enters the English Channel at Le Havre and flows past Giverny, but is probably most notable for running through the middle of Paris.

ANSWER: **Seine**

[10] This area of France, bordered by the lowlands of Languedoc and the Loire Valley, is a large plateau. Some of its highest peaks include Sancy Hill and the Plomb de Cantal.

ANSWER: **Massif Central**

11. October 2008 reports by the CDC suggest that one in every four teenage girls has now taken this vaccine. For 10 points each:

[10] Identify this brand of vaccine developed by Merck, the counterpart to Glaxo SmithKline’s Cervarix, which helps in the prevention of cervical cancer.

ANSWER: **Gardasil**

[10] Gardasil protects against this sexually transmitted virus, which in addition to causing cervical cancer also causes genital warts.

ANSWER: **HPV** [or **humanpapilloma virus**]

[10] Surveys also show using a fan lowers the risk of this condition, in which babies can mysteriously die while asleep. Putting babies to sleep on their backs also lowers the risk.

ANSWER: **SIDS** [or **sudden infant death syndrome**]

12. This stage of a star's life cycle occurs on the horizontal branch after the helium flash. For 10 points each:

[10] Name this star life stage that sees the star puff up and turn the namesake color.

ANSWER: **red giants** [do not accept "red supergiants" or anything with "super" in it]

[10] This very bright star in the Taurus constellation is one of the best known examples of a red giant. It's a member of the Hyades star cluster, which is the closest star cluster to Earth.

ANSWER: **Aldebaran**

[10] In contrast to red giants, these very dim stars can undergo a surface helium flash, and are in the lower right hand corner of the H-R diagram.

ANSWER: **white dwarf** stars [or **white dwarves**]

13. Name these Victorian authors, for 10 points each.

[10] This author of "Goblin Market" shares her surname with her brother, the author of "The Blessed Damozel."

ANSWER: Christina **Rossetti**

[10] This author wrote about Diogenes Teufelsdröckh's philosophy of clothing in *Sartor Resartus*. His other works include *Past and Present* and a history of the French Revolution.

ANSWER: Thomas **Carlyle**

[10] This novelist serialized many of his books, including *The Pickwick Papers* and *Oliver Twist*.

ANSWER: Charles **Dickens**

14. Name this authors who wrote in Latin, for 10 points each.

[10] This exiled man wrote about the Roman calendar in *Fasti* and about various mythological transformations in *The Metamorphoses*.

ANSWER: **Ovid**

[10] This poet of many odes wrote a treatise on poetry called *Ars Poetica*.

ANSWER: **Horace**

[10] This poet generally wrote about his Epicurean life and his love for a woman named Lesbia.

ANSWER: **Catullus**

15. The Iberian peninsula detaches from Europe in this author's novel *The Stone Raft*. For 10 points each:

[10] Name this Portuguese author of *All the Names* and *Blindness*.

ANSWER: Jose **Saramago**

[10] This twentieth century Greek author of *Captain Michalis* wrote a sequel to *The Odyssey* as well as *Zorba the Greek*.

ANSWER: Nikos **Kazantzakis**

[10] Both Saramago and Kazantzakis wrote novels about this man; Saramago's is titled "the gospel according to" this man, while Kazantzakis' is named for his "last temptation."

ANSWER: Jesus Christ [either or both names]

16. He wrote about a social worker in *Ann Vickers* and a judge who marries a young girl in *Cass Timberlane*. For 10 points each:

[10] Name this novelist of *Elmer Gantry* and *Arrowsmith*.

ANSWER: Sinclair **Lewis**

[10] In this Lewis novel, the title real estate agent is shattered when his friend Paul Riesling shoots his wife but eventually goes back to his conformist ways.

ANSWER: ***Babbitt***

[10] In this Lewis novel, Berzelius Windrip sets up a fascist regime in America.

ANSWER: ***It Can't Happen Here***

17. Name these artistic movements, for 10 points each.

[10] The name of this movement was derived from a Claude Monet work showing a sunrise. Its other members included Manet, Renoir, and Mary Cassatt.

ANSWER: **impressionism**

[10] Dante Gabriel Rossetti and John Everett Millais were part of this British group, who rejected the teachings of a certain Renaissance artist and produced like *Beata Beatrix* and *Ophelia*.

ANSWER: **Pre-Raphaelite** Brotherhood

[10] This largely Italian movement included such members as Giacomo Balla and Umberto Boccioni, the sculptor of *Unique Forms of Continuity in Space*.

ANSWER: **Futurism**

18. Name these eponymous or doubly-eponymous laws from physics, for 10 points each.

[10] Also known as the law of inertia, this law states that an object in motion at a constant velocity, or at rest, will stay that way, unless acted upon by an external force.

ANSWER: **Newton's first** law of motion

[10] This law is used to calculate the specific heat of a solid, stating that the value is equal to three times the gas constant times the molar mass.

ANSWER: **Dulong-Petit** law [accept anything with **Dulong** and **Petit** in it in either order]

[10] James Maxwell added the displacement current to this law, which is useful for calculating the magnetic field of a current-carrying wire.

ANSWER: **Ampère's** law

19. He set poems like "September" and "Im Abendrot" in his *Four Last Songs*. For 10 points each:

[10] Name this composer, who used a clarinet to depict the title hanged trickster in *Till Eulenspiegel's Merry Pranks*. He also composed *Der Rosenkavalier*.

ANSWER: **Richard Strauss** [prompt on **Strauss**]

[10] Richard Strauss may be best remembered for this work that opens with an ascending C-G-C in the brass, based on a Nietzsche poem. Delius used that same poem in the *Mass of Life*.

ANSWER: **Thus Spake Zarathustra** [or **Also Sprach Zarathustra**; or **Thus Spake Zoroaster**]

[10] Richard Strauss wrote this tone poem using a cello to depict the title nobleman. It is structured as an introduction, then ten variations, then a coda, and also uses the viola.

ANSWER: **Don Quixote**

20. This man acted as counsel for Aaron Burr in a grand jury investigation into Burr's plans to establish an empire in the southwest. For 10 points each:

[10] Name this Whig statesman from Kentucky who proposed the American System of economic and national growth.

ANSWER: Henry **Clay**

[10] This Virginia representative was the manager in the impeachment trial of Supreme Court Justice Samuel Chase, and he fought a duel with Henry Clay in which neither man was injured.

ANSWER: John **Randolph**

[10] Henry Clay supported this attempt to settle the slavery controversy. It prohibited slave trade in the D.C., admitted California as a free state, and had a stronger fugitive slave law.

ANSWER: **Compromise of 1850** [or **Omnibus** Bill]

21. Types 18s and 28s exemplify the ribosomal form of this substance. For 10 points each:

[10] Identify this material which comes in messenger and transfer types. The former is formed by transcription and the latter is used during translation.

ANSWER: **RNA** [or **ribonucleic acid**]

[10] This is the process by which double stranded mRNA prevents the expression of a homologous single stranded mRNA. It was characterized in detail using the organism *C. elegans*.

ANSWER: RNA **interference** [or **RNAi**]

[10] This type of virus, exemplified by HIV, is able to synthesize double stranded DNA from RNA using reverse transcriptase. It then integrates the double stranded DNA into the host cell.

ANSWER: **retroviruses** [or **retroviridae**]