



HSAPQ

High School Academic Pyramid Questions

2008-2009
Four Quarter Set

Round 10

First Quarter:
Ten Tossups

1. Their interaction with a neutron results in the exchange of a W minus particle, thus producing a proton, and they were detected in radiation from Supernova 1987A by the Super Kamiokande reactor. Their existence was proposed by Wolfgang Pauli, to account for the missing energy during a beta decay process, and they exist in muon, tau, and electron varieties. Represented by the letter nu, for 10 points, identify these uncharged particles known for having a very high velocity and a low mass.

ANSWER: neutrinos

2. His *Essay on Epic Poetry* contains the story about an apple falling on Newton's head, and his *Elements of Newton's Philosophy* reveals the same admiration he expresses in his twenty-four *Letters Concerning the English Nation*. A hermit reveals himself as Jesrad to the title Babylonian king in his novel *Zadig, or the Book of Fate*, but he is better known for a satire on Leibniz including characters like Giroflée, Paquette, and Dr. Pangloss. For 10 points, identify this Enlightenment essayist and philosopher best known for writing *Candide*.

ANSWER: Voltaire [or François-Marie Arouet]

3. One landmark in this state is a coal shovel in West Mineral called Big Brutus, and another landmark here is the world's largest ball of Sisal twine in Cawker City. One city here is the headquarters of Cessna, and another city has the Carrie Nation museum at Medicine Lodge. This state's flagship university is in a city that was razed by Quantrill, and Constitution Hall is this state's city of LeCompton. Home to the birthplace of Amelia Earhart and a capitol building with murals of John Brown, for 10 points, name this state, home to Atchison, Lawrence, Wichita, and Topeka.

ANSWER: Kansas

4. The McCabe-Thiele method is used to develop apparatus for this process, which assumes constant molar overflow and defines several "operating lines." One form of this process is also known as rectification, and in its extractive form a miscible and non-volatile solvent is added to a mixture whose components have similar low volatilities. For 10 points, identify this laboratory procedure whose fractional form separates liquid components of a mixture through evaporation.

ANSWER: distillation

5. Its Original Council consisted of men like Bartholomew Gosnold, Christopher Newport, and John Martin, the namesake of one of its offshoots known as Martin's Hundred. Ninety of its original settlers attempted to abandon it but were turned back by Baron De La Warr after a period of famine known as the Starving Time. Its leaders negotiated intermittent peace with such figures as Chief Powhatan. For 10 points name this British colony, led by John Smith and established in Virginia in 1607.

ANSWER: Jamestown

6. The Life Foundation once forced this creature to forcibly spawn, which led to the creation of Phage, Lasher, Riot, and Agony in the "Separation Anxiety" story arc. Its most famous child bonded with Cletus Kassidy to form Carnage, and this figure's best-known host was later discovered to have cancer. This creature was driven away from one host using a church bell, and it is currently bonded to Mac Gargan, the former Scorpion. For 10 points, name this black alien creature which most famously bonded to Eddie Brock, a noted nemesis of Spider-Man.

ANSWER: the Venom symbiote

7. In his best-known poem, the speaker proposes, "So let us melt, and make no noise, no tear-floods, nor sigh-tempests move; 'twere profanation of our joys to tell the laity our love," and in another, the speaker implores a woman to "license my roving hands, and let them go / Behind before, above, between, below," and exclaims "Oh my America, my new found land." He wrote in one of his "Meditation" pieces, "never send to know for whom the bell tolls." For 10 points, identify this poet of *To His Mistress Going to Bed* and *A Valediction: Forbidding Mourning*.

ANSWER: John Donne

8. One battle of this conflict began after the appearance of a complete parhelion, resulting in victory for the Earl of March. One side's support for France's "Spider King" over Charles the Bold of Burgundy led to defeat at the Battle of Barnet. A phase of this war began with an engagement at Towton and ended with the Battle of Tewkesbury, while its first battle was St Albans. Ending with the Battle of Bosworth Field and Richard III's death, for 10 points, name this fifteenth century civil war in England.

ANSWER: Wars of the Roses

9. One character in this work sings "Questo o quella," discussing designs on the Countess Ceprano. Another man in this opera compares himself to the assassin Sparafucile, and it is at Sparafucile's inn where a man disguised as a soldier sings a waltz claiming all women are fickle. It ends with the Duke of Mantua's botched assassination where Gilda is killed, and it includes the aria "La Donna e Mobile." For 10 points, name this opera in which the schemes of a hunchbacked jester go awry, written by Giuseppe Verdi.

ANSWER: Rigoletto

10. One author from this country wrote *Marco Bruto*, and had a lifelong rivalry with Gongora. A playwright from this country wrote *The Stupid Lady*, *The Dog in the Manger*, and *The Sheep Well*, while a literary movement in this country included Ramon Valle-Inclan and was called the Generation of '98. A playwright from this country wrote *Yerma* and *Blood Wedding* before being killed by members of the Falange. For 10 points, name this country, home to the authors Lope de Vega, Federico Garcia Lorca, and Miguel de Cervantes.

ANSWER: Spain [or España]



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Second Quarter:
Ten Tossups
with Bonuses

1. A sculpture featuring frogs, turtles, and alligators at this site was sculpted by Gaspard and Balthazard Marsy. In addition to the Latone Fountain, it features several sculptures of Apollo and scenes of abduction in its Parterre d'Eau. André Le Nôtre designed the orangery on its grounds with Jules Mansart, who also built its Grand Trianon. Charles Le Brun painted its Ambassador's staircase as well as the Halls of War and Peace. Featuring the Hall of Mirrors, for 10 points, name this palace complex built for Louis XIV.

ANSWER: Château de Versailles

BONUS. The narrator of this story sets out to avenge a perceived "thousand injuries." For 10 points each:

[10] Name this short story in which Montessor seals the inebriated Fortunato in his dungeon.

ANSWER: "The Cask of Amontillado"

[10] This author of the "Purloined Letter" and "The Masque of the Red Death" wrote the "Cask of Amontillado," as well as poems like "The Raven" and "Annabel Lee."

ANSWER: Edgar Allen Poe

2. During this man's rule, the legal code began to diverge into separate scales of punishment for noblemen and commoners, known as "honestiores" and "humiliores." His reign saw the introduction of a disease known as the Antonine Plague after he successfully defeated the Parthians. He ruled along with Verus after the death of Antoninus Pius, and this emperor's own death generally marks the end of the Pax Romana as it led to the accession of the unstable Commodus. For 10 points, name this emperor who ruled Rome from 161 to 180 CE.

ANSWER: Caesar Marcus Aurelius Antoninus Augustus

BONUS. This process is also known as the Embden-Meyerhof pathway. For 10 points each:

[10] Name this pathway that converts glucose into pyruvate and creates two energy-rich molecules.

ANSWER: glycolysis

[10] The two energy-rich molecules created in glycolysis are this purine-containing energy currency of the human body that has three phosphate groups.

ANSWER: ATP [or Adenosine triphosphate]

3. He wrote a poem about lovers of the title "Sphinx," while another of his poems includes a part about the Man of Sorrows, and was posthumously entitled "De Profundis." He created Lady Erylne, who is secretly the mother of a woman who is tempted to run away with Lord Darlington, and in one novel the protagonist is called "Prince Charming" by Sybil Vane, and that man kills the painter Basil Hallward. For 10 points, name this author of *Lady Windemere's Fan* and *The Picture of Dorian Gray*.

ANSWER: Oscar Wilde

BONUS. This event began with the ringing of bells at the church of Saint Germain l'Auxerrois, and, in response to it, Pope Gregory XIII ordered a Te Deum. For 10 points each:

[10] Gaspard de Coligny was assassinated as part of what massacre of French Huguenots in 1572?

ANSWER: **St. Bartholomew's** Day Massacre

[10] One catalyst of the St. Bartholomew's Day massacre was this man's marriage to Margaret of Valois. The first Bourbon monarch of France, he later enacted the Edict of Nantes.

ANSWER: **Henry IV** of France [or **Henry III of Navarre**; prompt on **Henry**; prompt on **Henry III**]

4. The subject of the Jelali Revolts, this empire used the currency Akce, and its late periods include the Tulip era and Tanzimat. Its early capitals included Sogut, Bursa and Edirne, and this entity was victorious at the battles of Chaldiran, Nicopolis and Varna, while its military units included Sipahi cavalry and a group massacred in the Auspicious Incident, the Janissaries. Governed by Grand Viziers and founded by Osman, for 10 points, name this empire, whose rulers included Mehmed II and Suleiman the Magnificent, which ruled from modern-day Turkey.

ANSWER: **Ottoman** Empire [prompt on **Turks** or word forms]

BONUS. This social scientist is the namesake of a hierarchy of formal languages. For 10 points each:

[10] Name this MIT linguist who wrote *Syntactic Structures* and is a major proponent of generative grammar.

ANSWER: Avram Noam **Chomsky**

[10] Chomsky wrote a critique of this author's *Verbal Behavior*. This psychologist wrote *Beyond Freedom and Dignity* and *Walden Two*.

ANSWER: Burrhus Frederic **Skinner**

5. One work written in this language is a 115-line poem that describes how an exiled demigod convinces the title object to send a message to his wife. Another work by that same author of this tongue sees a king forget his wife until a ring jars his memory. In addition to "The Cloud Messenger" and *The Recognition of Shakuntala*, works in this language include one about the abduction of the title prince's wife Sita and his fight with the demon Ravana. For 10 name this language, used by Kalidasa and in the Ramayana and the Mahabharata of ancient India.

ANSWER: **Sanskrit**

BONUS. Phasor diagrams are often used to keep track of voltage and current in these circuits. For 10 points each:

[10] Name these circuits in which the direction of current oscillates, unlike in a DC circuit.

ANSWER: **AC** circuits [or **alternating current** circuits]

[10] In an AC circuit, the current leads voltage in both time and phase in these devices, which often store charge between two parallel plates.

ANSWER: **capacitors**

6. New Jersey Governor Jon Corzine assumed leadership of this entity following the departure of Robert Rubin and Stephen Friedman, and it was the lead underwriter of the Yahoo IPO. GS Capital Partners is its private equity arm, and it changed its Federal Reserve status concurrently with Morgan Stanley. Henry Paulson took over as senior partner in 1999, and Warren Buffett invested five billion dollars in it in September 2008. For 10 points, name this former investment bank that became a traditional bank holding company in response to the mortgage crisis.

ANSWER: **Goldman Sachs**

BONUS. The seventeenth century was a good one for the Netherlands, especially with respect to art. For 10 points each:

[10] This painter lived in Delft and produced *The Music Lesson*, *View of Delft*, and *Girl with a Pearl Earring*.

ANSWER: Johannes **Vermeer** [or Jan **Vermeer**]

[10] Though he did paint *Archers of St. Hadrian* and *Gypsy Girl*, this possible teacher of Judith Leyster may be best known for *The Laughing Cavalier*.

ANSWER: Frans **Hals**

7. He contended that speculation drove the lead-up to Black Tuesday in his history *The Great Crash, 1929*, and used that book to promote his other ideas, holding that the skewed distribution of wealth provided added instability. He is best known, however, for a work which popularized the phrase “conventional wisdom” and suggested that America would benefit most from investment in the public sector, creating the title environment. For 10 points, identify this Canadian economist and author of *The Affluent Society*.

ANSWER: John Kenneth **Galbraith**

BONUS. It contained the well Hvergelmir and it was located north of Ginnungagap. For 10 points each:

[10] Name this Norse world of the dead that was ruled by the goddess Hel.

ANSWER: **Niflheim**

[10] Niflheim was located beneath this gigantic world tree, whose roots extended to Jotunheim and Asgard. A monster named Nidhogg gnawed at this tree's roots.

ANSWER: **Yggdrasil**

8. Competitors to one theory by this name include the Rosen bimetric theory and Brans-Dicke theory. One consequence of that theory is that the Kerr metric is needed to apply the Lense-Thirring effect to the ergosphere of a rotating black hole. Another type of this theory applies to standard Newtonian mechanics, stating that one can translate problems between inertial reference frames. Yet another employs the Lorenz transformations and predicts effects like time dilation. For 10 points, give the term modified by the words Galilean, general, and special.

ANSWER: **relativity** [accept **general relativity** before “Newtonian”]

BONUS. The Appalachian Mountains have a number of ranges. For 10 points each:

[10] The northern part of this segment is known as the Helderberg Hills. Located in southeastern New York, their name was derived from the Dutch for Wildcat Creek.

ANSWER: **Catskills**

[10] The highest point east of the Mississippi River, Mount Mitchell, is located in this range, which includes the Great Smoky Mountains and the Black Mountains.

ANSWER: **Blue Ridge**

9. In one festival associated with this belief system, bills containing the signatures of the King of Hell are made from Joss paper and burned. Feasts held by the Northern Celestial Masters of this religion notably lacked ginger, leeks, and onions, and this religion's ruler of heaven is the Jade Emperor. Zhuangzi proposed *Ming* as an intermediate state in its goal of attaining of effortless action or "wu wei", while it is likened to "The Mysterious Female" in its scripture, authored by Laozi. Featuring ying and yang, for 10 points, name this Chinese religion.

ANSWER: **Daoism** [or **Taoism**]

BONUS. For 10 points each, name these World War I battles.

[10] In this 1914 battle, Allied troops stopped the German advance near the namesake French river, causing the abandonment of the Schlieffen Plan.

ANSWER: First Battle of the **Marne**

[10] This largest naval battle of the war saw British ships under Jellicoe attempt to destroy the German fleet near the namesake Danish peninsula.

ANSWER: Battle of **Jutland**

10. Facultative users of this process tend to switch to it in saline soils; the adaptation decreases both frost resistance and heat resistance. To decrease the incidence of photorespiration, organisms using this process have temporal controls to concentrate carbon dioxide around rubisco, unlike in the spatially controlled C₄ pathway. For 10 points, name this water-preserving photosynthetic pathway, named for the family of one of the first known plants to do it, jade.

ANSWER: **CAM** pathway [or **C**ressulacean **A**cid **M**etabolism pathway]

BONUS. Several characters in this novel work on developing a vocoder for Stalin. For 10 points each:

[10] Identify this work, which takes its name from a location on Dante's *Inferno*, and focuses on Greb Nerzhin, who disagrees with Rubin's praise of Stalin.

ANSWER: *The **First Circle*** [or *V **Kruge Pervom***]

[10] *The First Circle* was written by this author of *One Day in the Life of Ivan Denisovich*, who described the Soviet concentration camps in *The Gulag Archipelago*.

ANSWER: Aleksandr Isayevich **Solzhenitsyn**



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Round 10

Third Quarter:
Team Rounds

Choices: THE LETTER Z
THE LETTER A

THE LETTER Z

All answers in this round will begin with the letter Z.

[10] In this Nikolas Kazantzakis work, the narrator employs this title chef and miner on his mine in Crete.

ANSWER: Zorba the Greek

[10] This African country, with capital at Harare, borders South Africa, Botswana, Zambia, and Mozambique.

ANSWER: Republic of Zimbabwe

[10] Edward Albee recently added a second act to this play, in which Peter accidentally stabs Jerry who talks to him about an evil black dog and fights with him over a bench.

ANSWER: The Zoo Story [prompt on Peter and Jerry]

[10] The splitting of a spectral line by a magnetic field is known as this effect in physics.

ANSWER: Zeeman Effect

[10] This form of Buddhism uses extensive meditation, conundrums called Koans, and rock gardens.

ANSWER: Zen Buddhism [or Chan Buddhism]

[10] This German word, which usually translates as “spirit of the times,” designates the cultural climate of a time period.

ANSWER: zeitgeist

[10] This is the name given to step pyramids, especially those built by Mesopotamian civilizations.

ANSWER: ziggurat

[10] This longest lasting Chinese dynasty, which was ended by the warring states period, saw the birth of Confucius and had eastern and western phases.

ANSWER: Zhou dynasty [or Chou dynasty]

[10] The telegram sent by this German foreign minister proposing a German Mexican alliance helped lead to US involvement in World War I.

ANSWER: Arnold Zimmermann [accept Zimmerman telegram]

[10] These large Japanese corporations arose during the early twentieth century and had interests in many sectors of the economy, leading to political influence.

ANSWER: zaibatsu

THE LETTER A

All answers in this round will begin with the letter A.

[10] The treaties of Versailles and Saint Germaine forbade this merger of Germany and Austria that Adolf Hitler completed in 1938.

ANSWER: **anschluss**

[10] Defined as 0 degrees Kelvin or negative 273 degrees Celsius, this temperature is impossible to achieve.

ANSWER: **absolute zero**

[10] This 1940s American art movement is known for Jackson Pollock's paint-splattered canvases.

ANSWER: **abstract expressionism** [or **action painting**]

[10] This city in Washtenaw County, Michigan, is the state's seventh largest and best known for hosting the University of Michigan.

ANSWER: **Ann Arbor**

[10] This unit of Oceanic soldiers is best known for its role in the World War I assault on Gallipoli.

ANSWER: **ANZAC** [or **Australian and New Zealand Army Corps**]

[10] This German painter depicted a large scroll at the top of his masterpiece, *The Battle of Alexander at Issus*.

ANSWER: Albrecht **Aldorfer**

[10] This chemical element with atomic number 18 is the most abundant noble gas on Earth.

ANSWER: **Argon** [or **Ar**]

[10] This ancient playwright wrote about the death of Agamemnon at the hands of Clytemnestra in the *Oresteia*.

ANSWER: **Aeschylus**

[10] A teenager takes a principled stance and quits his job at the title grocery store in this short story by John Updike.

ANSWER: **"A&P"**

[10] This was the realm of the chief gods in Norse myth.

ANSWER: **Asgard**



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Fourth Quarter:
Ten Tossups

1. He negotiated the Alvensleben convention with Russia, and he also advanced the Kissingen memorandum. Though he's not Alexander III, this man advocated for a set of "May Laws" which were implemented by his minister Aldabert Falk. This man also manipulated the description of a meeting attended by Count Bendetti, the Ems dispatch. He organized the 1878 Congress of Berlin and sought to break the power of the Catholic Church in the *kulturkampf*. For 10 points, name this "iron chancellor" of Germany.

ANSWER: Leopold Otto von **Bismarck**

2. One work of this name depicts a skull, dog and the Wayfarer while another part of the same work shows the expulsions from Heaven and the Garden of Eden. Another work of this name received a gold medal from Charles X upon its entry into the Paris Salon and depicts Willy Lott's Cottage near Flatford Mill. A farmer guides an ox-driven wagon across the River Stour during harvest in that English landscape. For 10 points, provide this title which identifies both a Hieronymus Bosch work and a later painting by John Constable.

ANSWER: *The **Hay Wain***

3. The rate of secretion of one hormone produced by this structure is primarily affected by the concentration of angiotensin II. That hormone is responsible for controlling blood concentrations of sodium and potassium and is known as aldosterone. Cushing syndrome occurs when this organ secretes excess androgens and cortisol, while abnormally low levels of cortisol can result in Addison's Disease. For 10 points, name these glands just superior to the kidneys, which consist of both a cortex and an epinephrine- and norepinephrine-secreting medulla.

ANSWER: **adrenal** glands [or **suprarenal** glands; accept **adrenal cortex** until "glands"]

4. In a less-often-told version of this event, Iulus was said to be the one responsible. Several kings of Alba Longa ruled southeast of where it occurred, and it was followed by the abduction of the Sabine women. The best known account states that it occurred after one figure saw twelve vultures and later dug a trench, over which Remus leapt and was killed. Accomplished by Romulus, for 10 points, name this establishment of the nexus of a Mediterranean empire.

ANSWER: the **founding of Rome** [accept obvious equivalents]

5. One of these computes the FCI and MPI and is named for developers Alan and Nadeen Kaufman. One, named after Wechsler, computes the Perceptual Organization Factor and Freedom from Distractibility Factor using such tasks as completing mazes and performing arithmetic. The best known of these was developed by Alfred Binet and revised by Lewis Terman at Stanford. For 10 points, name these measures of cognitive ability, which sometimes yield an IQ.

ANSWER: **intelligence tests** [accept more specific answers, such as "**intelligence tests** for children"; prompt on **IQ** tests]

6. In this work, the college trustee Mr. Norton passes out during a bar fight at the Golden Day, and the narrator steals electricity from the Monopolated Light and Power Company. The narrator works as an assistant to Lucius Brockway at Liberty Paints. Ras the Exhorter calls for the lynching of the title character, and early in this work, the title character is forced to participate in a "battle royale" after being offered a scholarship by white businessmen. For 10 points, name this novel about a nameless individual, a work by Ralph Ellison.

ANSWER: **Invisible Man** [do not accept or prompt on *The Invisible Man*]

7. He reused music from a ballet based on *Nosferatu*, entitled *Grohg*, in *Hear Ye! Hear Ye!*, and he wrote an essay published in "High Fidelity" about "What to Listen for in Music." One of his works incorporates "Springfield Mountain," and another has a "Saturday Night Waltz" and a "Buckaroo Holiday." He used variations on the hymn "Simple Gifts" in one work, and mixed spoken word with music in a work about an American president. For 10 points, name this composer of *Lincoln Portrait*, *Rodeo*, *Fanfare for the Common Man*, and *Appalachian Spring*.

ANSWER: Aaron **Copland**

8. Unconfined structures of this type occur when they terminate at the phreatic surface, while confined ones lie below an impermeable layer. A flow equation in these structures can be solved using the MODFLOW computer program, and is also governed by Darcy's law, which is dependent on porosity. These entities consist of permeable rock below the water table, and artesian wells are drilled into them. For 10 points, name these underground rock layers that contain water.

ANSWER: **aquifers**

9. The narrator of this novel earns admiration for killing a gigantic snake with a hoe and later gets into a fight with the title character's brother Ambrosch. That title character is betrayed by Billy Donovan and abused by Wick Cutter before finally finding happiness with her marriage to Cuzak. Taking place near the town of Black Hawk, Nebraska, it opens with Jim Burden remembering the title member of the Shimerda family. For 10 points, name this Willa Cather novel about a daughter of Bohemian immigrants.

ANSWER: **My Antonia**

10. The loser of a gubernatorial election to Judson Harmon, this man went on the Voyage of Understanding late in his life. The owner of the *Marion Daily Star*, the Underwood Tariff was overturned during this man's administration by the Fordney-McCumber Tariff after he defeated James Cox to become President. Elected by the slogan "Return to Normalcy," this man's Secretary of the Interior, Albert Fall, was convicted in the Teapot Dome scandal. For 10 points, name this man who died in office in 1923, the predecessor of Calvin Coolidge.

ANSWER: Warren Gamaliel **Harding**