



HSAPQ

High School Academic Pyramid Questions

2008-2009
NSC-Format Set #2

Round 4

Related Tossups &
Bonuses

1. The second movement of this composer's String Quartet in F opens with all instruments playing pizzicato and is played "Assez vif." One of his suites includes movements like "Sad Birds" and "Night Months" and is called *Miroirs*. This composer of *Pavane for a Dead Princess* also composed a piece whose melody is repeated by several instruments over a steady snare drum rhythm and gradually crescendos to fortissimo. For 10 points, name this French composer of *Bolero*.

ANSWER: Maurice **Ravel**

Bonus: He wrote a ballet called *The Miraculous Mandarin* and a disturbing opera, *Duke Bluebeard's Castle*. For 10 points each:

[10] Name this composer who compiled his country's folk music along with fellow Hungarian Zoltan Kodaly.

ANSWER: Bela **Bartok**

[10] Bartok wrote this six-volume set of didactic piano pieces. They include pieces like "Pentatonic Melody" and "In Dorian Mode."

ANSWER: **Mikrokosmos**

2. This deity fathered the god of cheese-making, Aristaeus, and seduced Coronis to father the legendary healer Asclepius. This god competed with Zephyrus for the love of Hyacinthus, and punished Marsyas for losing a musical contest by flaying him alive. He killed the giant snake Python to take possession of his oracle at Delphi. This son of Zeus and Leto carried a bow and a lyre in his roles as the god of archery and music. For 10 points, name this Greek god of light and poetry, the twin brother of Artemis.

ANSWER: **Apollo**

Bonus: For 10 points each, name these mortals who foolishly angered Artemis.

[10] This hunter caught a bit too much of a glimpse of Artemis bathing, so she turned him into a stag, causing his own hunting dogs to devour him.

ANSWER: **Actaeon**

[10] This daughter of Tantalus boasted of having fourteen children, while Leto only had two. In response, Artemis and Apollo killed those fourteen children with their arrows.

ANSWER: **Niobe**

3. Thought to be associated with a Chinese group known as the Xiongnu, this group was defeated at the Catalaunian Plains. The Roman general Aetius affiliated with Rua prior to Rua's death; his nephews then took the throne and led this group in an invasion of the Eastern Roman Empire. The most famous leader of this group shared the kingship with his brother, Bleda. For 10 points, name this barbarian tribe of Eastern Europe, first led by Attila.

ANSWER: **Huns**

Bonus: It was supposed to be “Invincible,” but was defeated by bad weather and the inexperience of its commander, the Duke of Medina Sidonia. For 10 points each:

[10] Name this fleet launched against England in 1588 by Philip II.

ANSWER: Spanish **Armada**

[10] The launching of the Spanish Armada was delayed after Francis Drake sailed up to this Spanish city and burned a bunch of the ships assembling in its harbor.

ANSWER: **Cadiz**

4. One method to measure the amount of this element in a substance involves heating with sulfuric acid and is named after Kjeldahl. Two molecules of this element appear in a compound used in both the Wolff-Kishner reduction and rocket fuel. It is bonded to carbon in a notably toxic compound that smells like almonds, and this pnictogen can have an oxidation number anywhere between -3 and +5. For 10 points, name this most abundant atmospheric element, with atomic number 7.

ANSWER: **nitrogen** [accept **N**]

Bonus: For 10 points each, name these other elements.

[10] An excellent catalyst often used in petroleum cracking, this element with atomic number 46 is also used in carbon monoxide detectors.

ANSWER: **palladium** [accept **Pd**]

[10] This metal extracted from cinnabar ore is extremely toxic, but also useful in thermometers.

ANSWER: **mercury** [accept **Hg**]

5. In a play by this author, Robert Hand has a relationship with Bertha after she returns from Rome with Richard Rowan. In one of his stories, Maria touches the title substance while playing a blindfolded game at a Halloween party. Besides *Exiles* and "Clay," this author wrote about "baby tuckoo" and a "moocow" in a work about Stephen Dedalus, and wrote a novel set on June 16, 1904 about Leopold Bloom. For 10 points, name this Irish author of *A Portrait of the Artist as a Young Man* and *Ulysses*.

ANSWER: James **Joyce**

Bonus: After leaving his coal miner roots, the protagonist of this novel forms a relationship with Clara Dawes. For 10 points each:

[10] Name this novel in which Paul Morel gives his mother Gertrude a lethal overdose of morphine.

ANSWER: **Sons and Lovers**

[10] *Sons and Lovers* was written by this man, who wrote about Kate Leslie's travels in Mexico in *The Plumed Serpent* as well as *Lady Chatterley's Lover*.

ANSWER: David Herbert **Lawrence**

6. Thomas Schelling used this methodology to show how de-facto segregation happened in the north, as well as to develop U.S. air power strategy in the Vietnam War. John Harsanyi won a Nobel Prize for studying types of selection in this field. One exercise in this field, which can be shown in normal or extensive form, is known as the “Stag Hunt,” while another is termed “chicken.” Important concepts in this field include Nash Equilibrium. For 10 points, name this branch of applied math used to analyze strategic behavior, such as the Prisoner’s Dilemma.

ANSWER: **game theory**

Bonus: He created the ideas of animus and anima, and speculated that much of everything could be categorized into archetypes. For 10 points each:

[10] Name this Swiss psychiatrist who broke with Freud because he saw Freud as merely projecting his own issues onto his patients.

ANSWER: Carl **Jung**

[10] Jung believed that humankind shared this past experience from which archetypes are drawn.

ANSWER: **collective unconscious**

7. Pierre Gassendi determined that this value is frequency-independent, and G.L. Bianconi showed that it increases with temperature. When this value is exceeded, strong local shock waves develop, and pressure waves are unable to outdistance their source. Aerodynamic drag sharply increases when approaching this value, surpassed by Chuck Yeager. The ratio of fluid velocity to this value in the fluid is known as the Mach number. For 10 points, name this value that represents the rate at which a certain type of compression wave travels through a material.

ANSWER: **speed of sound** [prompt on early **Mach 1**]

Bonus: For 10 points each, name the following other properties of sound.

[10] Sound intensity is measured in these units, usually given by ten times the base ten logarithm of the ratio of the sound's intensity to a reference intensity.

ANSWER: **decibels** [accept **dB**; prompt on **bels**]

[10] Many auditoriums are designed to have a high value for this quantity, the amount of time it takes for a sound to decay to sixty decibels below its original intensity.

ANSWER: **reverberation** time

8. This president signed the Strategic Arms Reduction Treaty, and appointed James Baker as his Secretary of State. This president gave a speech proclaiming the "New World Order," and signed the Clean Air Act and the Americans with Disabilities Act. The only president who also served as director of the CIA, he lost support by raising taxes after declaring "Read my lips: no new taxes." His time in office saw the Tiananmen Square protests and the fall of the Berlin Wall. For 10 points, name this Republican who succeeded Ronald Reagan and lost the election of 1992 to Bill Clinton.

ANSWER: George **Herbert Walker Bush** [or anything distinguishing him from George W. Bush]

Bonus: It proposed a bicameral legislature, unlike the competing New Jersey Plan. For 10 points each:

[10] Name this plan for a national government drafted by James Madison, which was supported by large states.

ANSWER: **Virginia** Plan

[10] The Virginia Plan was proposed by this delegate to the Constitutional Convention, who was later appointed the first Attorney General of the United States.

ANSWER: Edmund **Randolph**



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Category Quiz
Bonus Choices

Arts
Current Events
Geography
History
Literature
Math Calculation
Religion
Social Science

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Category Quiz Tossups

9. A poet from this country published the collection *Cuttlefish Bones*, and one of this country's most widely read novels is *The Betrothed*. In a novel written by an author from this country, two readers fall in love after discovering misprinted copies of the title novel. *The Mandrake* and *If on a Winter's Night a Traveler* were written by authors from this country, in addition to many sonnets dedicated to Laura. For 10 points, name this country, the home of Italo Calvino, Petrarch, and Dante.

ANSWER: Italy [or Italia]

10. This painting features a figure based on Agasias's Borghese gladiator, and in its background Morro Castle is visible. One title character stretches up and behind himself as two white-clad sailors reach forward towards him. In this painting, a man in a blue coat stabs downward with a spear, and the second title character, mouth agape, is swimming left and presumably hungry. For 10 points, name this painting of Havana harbor by John Singleton Copley, in which a sailor is being rescued from a carnivorous fish.

ANSWER: Watson and the Shark

11. He claims that the kidnapping of six year old Blaire Roche led to his later behavior after he is framed for the death of Edward Jacobi. His namesake journal is used for narration, and contains an entry stating, "On Friday night, a comedian died in New York." Formerly known as Walter Kovacs, his refusal to compromise, "even in the face of Armageddon," leads to his death by Doctor Manhattan. For 10 points, name this Alan Moore and Dave Gibbons-created character noted for his trenchcoat, brutality, and inkblot-like mask.

ANSWER: Rorschach [accept Walter Kovacs before mentioned]

12. Near Pilar, the Bermejo River flows into this river, and another tributary of this river is the Cuiaba, which meets it at Corumba. Other cities on this river include Caceres, Concepcion and Formosa, and it forms the boundary between four provinces and the large Presidente Hayes province in one country. At the largest city on this river, the Pilcomayo branches off to form a border with Argentina. For 10 points, name this river which flows through Asuncion in its namesake country.

ANSWER: Paraguay River

13. This structure was first visualized using a namesake potassium dichromate and silver nitrate staining technique. Transport to and from this structure is mediated by coat proteins and clathrin. This structure adds mannose-6-phosphate to enzymes bound for lysosomes, and is composed of cis, medial, and trans compartments. The vesicular-tubular cluster separates this organelle from the endoplasmic reticulum. For 10 points, the modification and packaging of lipids and proteins occurs in what organelle, consisting of flattened stacks called cisternae and named for an Italian scientist?

ANSWER: Golgi apparatus [or Golgi body]

14. Andres Bonifacio led this country's fight for independence, which grew out of the execution of the leader of the Propaganda Movement, Jose Rizal. The Nacionalista Party was founded here by Sergio Osmena, and it was home to the revolutionary organization Katipunan. Granted limited independence by the Tydings-McDuffie Act, this country later saw the People Power Revolution. Led early on by Emilio Aguinaldo, it was later ruled by Ferdinand Marcos. For 10 points, name this Pacific country which passed to American hands during the Spanish-American War.

ANSWER: The **Philippines**



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Category Quiz
Bonuses

Arts: His depiction of *The Allendale Nativity* lent its name to a group of his early period paintings. In a better known work, a man with a staff stands in contrapposto to the left and a woman and child sit in the right foreground, awaiting the coming storm. For 15 points, name this creator of *The Tempest*.
ANSWER: Giorgione [or Giorgio Barbarelli da Castelfranco]

Current Events: As the head of the Al-Anfal Campaign, this man carried out the 1988 Halabja attack. He directed the destruction of the town of Dujail in 1983. For 15 points, name this cousin of Saddam Hussein, who was sentenced to death in 2007 for using chemical weapons against Kurds in the 1980s.
ANSWER: Ali Hassan al-Majid [or Chemical Ali]

Geography: The city of Cambridge Bay lies on an island in Nunavut named this, which is also the name of a Canadian city whose suburbs include Saanich and Esquimalt. For 15 points, give this common name shared with the capital of the Seychelles.
ANSWER: Victoria

History: It was prompted by the actions of men such as Adolphe Thiers and the banker Jacques Lafitte, and it led to the abdication of Charles X. For 15 points, name this 1830 revolution in France that led to the reign of Louis Philippe.
ANSWER: July Revolution

Literature: This author wrote about a Chinese cardsharp named Ah Sin in "Plain Language from Truthful James." For 15 points, name this author of "The Outcasts of Poker Flat."
ANSWER: Bret Harte

Math Calculation: For 15 points, if the supply of widgets is 20 plus 3 times the price of a widget in dollars, and demand for them is 100 minus 7 times the price, find the equilibrium price for widgets.
ANSWER: 8 dollars [accept \$8.00]

Religion: Members of this religious group include the Zwickau Prophets. For 15 points, name this early Protestant movement whose members believed that only adults should be baptized.
ANSWER: Anabaptists

Social Science: At constant marginal utility, this quantity is equal to the area under the consumer demand curve. For 15 points, name this economic term referring to the amount a consumer pays for an item versus the price he would be willing to pay.
ANSWER: consumer surplus



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Stretch Phase

15. Contraction of myoepithelial cells results in the so-called “milk ejection” from one set of anatomical structures with this name. Another set of anatomical structures with this name is lined with dipalmitoyl phosphatidylcholine, or DPPC, a surfactant that prevents these structures from collapsing during expiration. For 10 points, give the common name of these groups of small sacs, one found in the mammary glands and one found in the lungs, the latter of which are the primary sites of gas exchange.
ANSWER: alveoli [accept alveolus; accept mammary alveoli or acini before “another”]

Bonus: This philosopher killed himself by jumping into the volcano Mt. Etna. For 10 points each:
[10] Name this Pre-Socratic philosopher who believed the universe was made of four elements: Earth, Fire, Air, and Water.

ANSWER: Empedocles of Acragas

[10] Adherents of this Pre-Socratic philosopher’s namesake cult refused to eat beans and believed in transmigration of the soul. He is better known for a theorem about sides of triangles.

ANSWER: Pythagoras of Samos

[10] This teacher of Pythagoras and member of the Ionian school called the organizational force of the universe *nous* and also developed the theory of apeiron.

ANSWER: Anaximander

16. Sally Carrol Happer flees to the South from her fiancé Harry Bellamy in this author's story "The Ice Palace." He wrote about Horace Tarbox in "Head and Shoulders," which along with "The Cut-Glass Bowl" appears in his collection *Flappers and Philosophers*. He wrote about the relationship between Gloria and Anthony Patch's relationship in *The Beautiful and Damned*, and wrote a novel set in West Egg. For 10 points, name this author who created the characters Jordan Baker, Daisy Buchanan, and Nick Carraway in *The Great Gatsby*.

ANSWER: Francis Scott Key Fitzgerald

Bonus: The left side of this painting includes a severed head, a mother holding her dead child, and a bull. For 10 points each:

[10] Name this stark black and white painting, whose center features a screaming horse whose tongue is shaped like a shard of glass.

ANSWER: Guernica

[10] *Guernica* was painted by this Spanish artist who had Rose and Blue periods.

ANSWER: Pablo Picasso y Ruiz

[10] Picasso pioneered Analytical Cubism along with this French artist of *The Emigrant* and *Man with a Guitar*.

ANSWER: Georges Braque

17. One protocol attached to this treaty governs one signatory's legislation on the acquisition of second homes, while another governs the "excessive deficit procedure." Article C describes a "single institutional framework," while Article F refers to a 1950 treaty signed in Rome. Article O describes the conditions of admission to the body it founded, and Article P repeals parts of the 1986 Single European Act. For 10 points, name this 1992 treaty that established the European Union, named for the Dutch city in which it was signed.

ANSWER: **Maastricht** Treaty [accept **Treaty on European Union** early]

Bonus: For 10 points each, name the following things about earthquakes.

[10] Strong underwater earthquakes can spark these large waves, one of which devastated the Indian Ocean in late 2004.

ANSWER: **tsunami**

[10] Earthquakes are a frequent occurrence in this type of zone, which is formed when one tectonic plate moves underneath another tectonic plate.

ANSWER: **subduction** zones

[10] While the Richter scale is more common, earthquakes can also be measured using this twelve-point scale, which is based on the type of damage that earthquakes do.

ANSWER: Modified **Mercalli** Intensity Scale

18. The first person to describe himself using this term was Baron d'Holbach in pre-Revolutionary France. This religious belief was promoted by the "Young Hegelians," who included Ludwig Feuerbach. This belief is central to Dialectical Materialism, and can be divided into weak and strong forms. It was promoted by Richard Dawkins in *The God Delusion*, and it is opposed by such arguments as the ontological argument and Pascal's Wager. It can be contrasted with the similar belief of agnosticism. For 10 points, give this term for non-belief in a God.

ANSWER: **atheism** [accept **atheists**]

Bonus: It was founded by Arthur Griffith, and its name means "We, Ourselves." For 10 points each:

[10] Name this Irish nationalist party, whose members formed the Dail Eireann and declared independence in 1918.

ANSWER: **Sinn Fein**

[10] This Sinn Fein member led the IRA in its guerrilla war against Great Britain and negotiated the 1921 treaty that created the Irish Free State. He was assassinated in 1922.

ANSWER: Michael **Collins**

[10] Head of the Southeast Asia Command during World War II, this man served as the last British viceroy of India and was assassinated by IRA terrorists in 1979.

ANSWER: Louis **Mountbatten**

19. This piece features superpositions of an E flat dominant seventh chord. It includes rarely-heard instruments like the guiro, which can be heard in the section "Procession of the Sage," and ends with a young girl dancing herself to death. This piece begins with a melody adapted from a Lithuanian folk song played by a solo bassoon in its highest register, which transitions into a dissonant chorus of woodwinds. Divided into "The Adoration of the Earth" and "The Sacrifice," for 10 points, name this 1913 ballet about pagan rituals, which caused riots at its premiere and was composed by Igor Stravinsky.

ANSWER: *The* **Rite of Spring** [or *Le* **Sacre du Printemps**]

Bonus: This poem represents Mary, Queen of Scots as the evil Duessa. For 10 points each:

[10] Name this English epic poem whose title figure, Gloriana, represents Elizabeth I.

ANSWER: *The **Faerie Queene***

[10] This British poet wrote *The Shepheardes Calender* in addition to *The Faerie Queene*.

ANSWER: Edmund **Spenser** [accept Edmund **Spencer**]

[10] This hero of Book I of *The Faerie Queene* eventually becomes St. George. He helps out Una by slaying a vicious dragon.

ANSWER: the **Redcrosse** Knight

20. One character in this work notes that "Truth's a dog must to kennel," in a passage that also advises "Have more than thou showest." Another character in this work claims "As flies are wanton boys we are to the gods--they kill us for their sport." A third character in this play constantly claims that he's cold after disguising himself as "Poor Tom O'Bedlam." Its subplot concerns Edmund's attempts to dupe Gloucester into bypassing his legitimate heir Edgar. For 10 points, name this Shakespeare play about the title ruler's attempts to divide his kingdom between Regan, Goneril, and Cordelia.

ANSWER: **King Lear**

Bonus: Their only external observables are mass, charge, and angular momentum, according to the no hair theorem. For 10 points each:

[10] Name these astronomical bodies that contain a singularity inside an event horizon, and which are so massive that no light can escape.

ANSWER: **black holes**

[10] Pair production results in black holes giving off an observable glow in radiation named for this man, the British author of *A Brief History of Time*.

ANSWER: Stephen **Hawking**

[10] This man's namesake black holes have no charge and do not rotate. He also names the distance to which an object must be compressed to become a black hole.

ANSWER: Karl **Schwarzschild**

21. This battle is commemorated in the Fontana dei Quattro Mori in Marino, and its strategic effects were partially negated by the speedy rebuilding work of Sokollu. The hero of this battle signed the Perpetual Edict while serving as governor-general of the Netherlands, and was half brother of Philip II. Among the commanders for one side in this battle were the governor of Alexandria and the dey of Algiers, and it occurred in the Gulf of Patras. For 10 points, name this 1571 naval battle in which the Ottoman Empire's fleet under Ali Pasha was defeated by the forces of Don John of Austria.

ANSWER: Battle of **Lepanto**

Bonus: The protagonist marries Diana Vernon after inheriting his family house and fortune after the death of Rashleigh. For 10 points each:

[10] Name this novel in which Frank Osbaldistone encounters the titular Scottish bandit.

ANSWER: **Rob Roy**

[10] This Scottish author of medieval romances like *Ivanhoe* wrote *Rob Roy*.

ANSWER: Sir Walter **Scott**

[10] This other Scott novel sees Tressilian and Sir Walter Raleigh too late to save Amy from plunging to her death, after falling through a trapdoor at the titular estate.

ANSWER: **Kenilworth**

22. The Fisher method uses this technique to measure the amount of water in organic materials. The Mohr and Volhard methods employ this technique to determine chlorine and silver concentrations. Iodine can be used to determine starch content in one version, and bromothymol blue is among the indicators used in another version. For 10 points, name this chemical analysis technique that often employs a burette, and which is often used to determine acid and base concentrations.

ANSWER: **titration**

Bonus: For 10 points each, name these cities important in the Protestant Reformation.

[10] According to legend, Martin Luther's Ninety-Five Theses were nailed to the door of the chapel at this city's University, where he was a professor of theology.

ANSWER: **Wittenburg**

[10] Ulrich Zwingli preached from this Swiss city, but was killed after Catholic cantons laid siege to it during the Second Kappel War.

ANSWER: **Zurich**

[10] A 1555 treaty signed in this city established the doctrine of *cuius regio, eius religio*, which stated that the religion of a German state would be determined by the prince who ruled it.

ANSWER: **Augsburg**



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Tiebreakers + Extras

1. One of these narrates a Natsume Soseki novel in which characters like Waverhouse mock his master Kushami. One of these creatures appears in the title of a novel about the fictional religion of Bokononism, which ends with the world being destroyed by ice-nine. In addition to that novel about this creature's cradle, another one of these animals alerts police to the location of a murdered woman in an Edgar Allen Poe story about a "black" one. For 10 points, name this animal, which appears in the title of a Tennessee Williams play "on a hot tin roof."

ANSWER: cats

2. This architect designed a hexagonal grid system of sliding wooden walls, the Honeycomb House. Concrete rectangles surround a giant central cube in this architect's Unity Temple. He designed many Usonian houses, as well as a New York City art museum that consists of a central spiraling ramp. This architect used cantilevers in the Robie House, and pioneered the Prairie School. For 10 points, name this American architect of the Guggenheim museum and Fallingwater.

ANSWER: Frank Lloyd Wright

3. A debate between Tartaglia and Ferrari was prompted by a paper by Girolamo Cardano explaining how to find these objects. The Abel-Ruffini Theorem states that no general process exists for finding these objects given a quintic equation, and the Fundamental Theorem of Algebra guarantees that an n th degree polynomial has exactly n of them. They can sometimes be found by factoring a polynomial or, with quadratic polynomials, by using the quadratic formula. For 10 points, name these solutions to an equation stating that a polynomial is equal to zero.

ANSWER: roots of a polynomial [accept roots of a cubic polynomial or equation until "Abel"]

Extra 20-point bonus:

Students protested this party's monopoly on political power at the 1968 Olympics. For 10 points each:

[10] Name this political party, which controlled power in a certain nation for over seventy years and included presidents such as Miguel Aleman and Luis Echeverria.

ANSWER: PRI [or Institutional Revolutionary Party; or Partido Revolucionario Institucional]

[10] The PRI dominated politics in this North American country until its power was broken in 2000 by PAN and Vicente Fox.

ANSWER: Mexico

Extra 30-point bonus:

For 10 points each, name these parts of the cell cycle.

[10] This portion of the cell cycle is characterized by an intact nuclear envelope, follows mitosis, and is characterized by two gap phase called G_1 and G_2 .

ANSWER: **interphase**

[10] In this other phase of interphase, which occurs between the G_1 and G_2 phases, the genome is replicated to produce sister chromatids.

ANSWER: **S** phase [accept **synthesis** phase]

[10] Quiescent fibroblasts and prepubertal spermatagonia can enter this modified form of the G_1 phase, in which cells cease growing and dividing.

ANSWER: **G₀** phase [accept **G zero** phase]