## 金 HSAPQ <br> High School Academic Pyramid Questions <br> 2008-2009 <br> ACF-Format Set \#4 <br> Round 13 <br> Tossups

1. The energies associated with these interactions can be calculated using Hamaker coefficients, and they arise from the inverse sixth power term of the Lennard-Jones potential. Keesom and Debye expanded them to account for dipole-induced dipole and dipole-dipole interactions, and London elucidated a form known as dispersion forces. For 10 points, name these intermolecular forces that are weaker than covalent bonds and named after a Dutch physicist.
ANSWER: Lifshitz-van der Waals forces [accept London dispersion forces before mentioned]
2. This psychologist's work with Alfred Kroeber among the Yurok Indians and with children at the Pine Ridge Reservation contributed to his theory that all societies develop institutions to accommodate personality development, and he became a psychologist after psychoanalysis with Anna Freud. He wrote psychohistories such as Gandhi's Truth and Young Man Luther, and his most well-known theories were put forth in his essay collection Childhood and Society. For 10 points, name this psychologist with an eight-stage model of psycho-social development. ANSWER: Erik Erikson
3. This composer included "Butterfly" and "Wedding Day at Troldhaugen" in his Lyric Pieces, and he included a "Sarabande" and "Rigaudon" in another suite. A tympani roll followed by a crashing chord from the piano opens this composer's Piano Concerto in A Minor. Another work by this composer of the Holberg Suite compiles his incidental music to an Ibsen play and has movements called "Morning Mood" and "Anitra's Dance." For 10 points, name this Norwegian composer of a suite including "In the Hall of the Mountain King," Peer Gynt.
ANSWER: Edvard Grieg
4. The Myall Creek Massacre here was a watershed event in native rights, and a gold rush in this country led to the Eureka Stockade. This location of the Rum Rebellion was originally settled by the eleven ships of the First Fleet. This country lost the most ANZAC troops at the Battle of Gallipoli and was first settled by Westerners at Botany Bay. For 10 points, name this commonwealth that was discovered by James Cook and originally settled by convicts, a country with capital at Canberra.
ANSWER: Commonwealth of Australia
5. A distributary of this river meets the Jalangi at Nabadwip and is called the Bhagirathi. The Pindar is one of this river's five primary headwaters. Another important tributary, the Yamuna River, joins it near Allahabad before flowing past Delhi. The Sundarban tidal forests are found along this river's tributaries after it comes in from the east to form a delta with another river coming from the Tibetan plateau. For 10 points, name this Asian river, which, with the Brahmaputra, forms a delta whose mouths are on either side of Calcutta.
ANSWER: Ganges River [or the Ganga]
6. This man wrote, "With invention and courage/ we shall surpass/ the pitiful dumb beasts" in his poem "To a Dog Injured in the Street. " Another of his works inspired the painting I Saw the Figure 5 in Gold, and he described artwork in Pictures from Brueghel. He wrote that the title entity "lies on his right side" by the Passaic Falls in an epic poem about the titular town in New Jersey, as well as a poem in which "everything depends upon" the title object. For 10 points, name this writer of "The Red Wheelbarrow" and Paterson, an American physician and poet. ANSWER: William Carlos Williams
7. This operation, when applied to the logistic curve, gives the Hubbert curve. Functions on which one can perform this operation an infinite number of times are known as smooth, while the gradient vector is composed of each partial one. The unique function that remains unchanged via this process is e to the $x$. Replacing the monomial $x$ to the $n$ with $n$ times $x$ to the $n$ minus one gives one by the power rule, and it reverses indefinite integration via the fundamental theorem of calculus. For 10 points, name this operation that gives the rate of change of a function.
ANSWER: taking the derivative [or differentiation]
8. In a depiction of this figure at Le Poldou, he is flanked by stone-like figures and a tired old woman. A painting by John Millais places this figure "in the house of his parents." Another painting depicts an extremely foreshortened Lamentation for the Dead version of him and was painted by Mantegna. "Green" and "Yellow" versions of this figure were painted by Paul Gaugin, and this figure is cradled by his mother in a pose called Pietà. For 10 points, name this central figure of The Last Supper.
ANSWER: Jesus Christ of Nazareth [accept either name]
9. It began when Hermann Hoth was diverted from his original mission of assisting Paul Kleist at Rostov. A monument to this battle is located on Mamayev Hill, under which lie the remains of General Vasily Chuikov. Erich von Manstein was placed in charge of a special corps to rescue one side during this battle, and Georgy Zhukov led the Soviet counterattack. It ended with the surrender of Field Marshal Paulus against Hitler's orders. For 10 points, identify this World War II battle that was fought for the namesake city, which is now known as Volgograd.
ANSWER: Stalingrad [accept Volgograd before mention]
10. This author compared the mind to a birdcage and thoughts to the birds flying inside it in a work reportedly recorded by Euclides. This author described the question of whether names have relationships to the concepts they signify in Cratylus. This author wrote about courage in Laches and knowledge in Theaetetus, and he described the origin of the universe in Timaeus. A character created by this author teaches the Pythagorean theorem to a slave in Meno. For 10 points, name this Greek teacher of Aristotle.
ANSWER: Plato
11. Wallace Stevens describes the sun as this kind of object in "Gubbinal," and the titlular "River Merchant's Wife" is occupied with these objects when "you came by on bamboo stilts." After the lines "Mein Irische Kind/ Wo weilest du" in The Waste Land, the persona notes that 'you gave me' one type of these 'first a year ago.' In "Nothing Gold Can Stay," Robert Frost notes that "every leaf's" one of these, "but only so an hour." For 10 points, identify these plants, "evil" ones of which title a Baudelaire collection.

## ANSWER: flowers

12. This man succeeded the appointed office holder Dean Barkley for his most famous position, and he lost a 1998 election despite finishing six points ahead of his Democratic opponent Skip Humphrey. He switched from the Democratic-Farmer-Labor party to the Republican Party in 1996, and as mayor of St. Paul, he worked to attract the NHL's Wild to his home state. The winner of a 2002 election against Walter Mondale, for 10 points, name this Republican senator from Minnesota who is litigating the outcome of the 2008 election against AI Franken.

## ANSWER: Norm Coleman

13. This composer wrote a D minor cello sonata for Victor Lubatsky, as well as a ballet that featured the "Tahiti Trot" and concerned the Soviet soccer team. One of his symphonies features sections like "In the Shop" and "Fear" and features a chorus singing about the atrocities at the titular Babi Yar. Controversial sexual themes abound in what was supposed to be the first of an operatic trilogy on women, an adaptation of Leskov's Lady Macbeth of Mtensk. For 10 points, name this Soviet composer who composed the Leningrad Symphony. ANSWER: Dmitri Shostakovich
14. A constant associated with this phenomenon is found in a relation between molecular weight, polarizability, and density, the Lorentz-Lorenz equation. A type of this process occurs when a surface is anisotropic and is known as the double variety, or birefringence. Plane polarized light does this when an incident ray hits at Brewster's angle. A law of this process includes the ratio between the speed of light in a medium to that in a vacuum, its "index," and is named for Snell. For 10 points, name this optical phenomenon in which a change in medium bends a ray of light.
ANSWER: refraction
15. This battle's location was a result of Ewell deciding not to move to Cashtown, and a union line here that ran from the Peach Orchard to Devil's Den was broken by Barksdale's Mississippi brigade. Longstreet's corps was used in one event of this battle that included fighting at Little Round Top and Seminary Ridge, and its losers retreated to Virginia. This battle also saw the disastrous Pickett's Charge to Cemetery Ridge. For 10 points, name this Civil War battle fought in Pennsylvania that also names an address beginning "Four score and seven years ago." ANSWER: Battle of Gettysburg
16. One character in this novel theorizes that Shakespeare left his wife his second-best bed because he felt betrayed. The protagonist reads a letter from his daughter Milly before using the name Henry Flower in a secret relationship after he learns that his wife is having an affair with Blazes Boylan. This novel opens with Buck Mulligan climbing the stairs of an old tower, and its action takes place entirely on June 16, 1904. For 10 points, name this work about the Dublin wanderings of Leopold Bloom, a modernist novel by James Joyce.
ANSWER: Ulysses
17. The protégé of this deity, Óttar the Simple, was taken to Hyndla in a quest to determine his pedigree, and this deity was responsible for "half of the slain" along with Odin in the hall Sessrúmnir. Dwelling in Fólkvangr, this figure owns a falcon cloak, the boar Hildisvini, and a catdriven chariot. She was once demanded as a prize by a giant who built Asgard, and in the bestknown story involving her, Loki stole Brísingamen, her necklace. For 10 points, name this sister of Freyr, the Norse goddess of love and beauty.
ANSWER: Freya [or Freyja; do not accept or prompt on "Frey"]
18. King Alexander the Glorious of this country died after falling off a cliff and was replaced by John Balliol. The Order of the Thistle is the highest honor that can be given in this country, and the Babington Plot led to the execution of this country's most famous queen. Along with France, this country formed the Auld Alliance, and it once won the Battle of Bannockburn against Edward II of England. Also the homeland of James I and the House of Stuart, for 10 points, name this home of William Wallace and Robert the Bruce, a northern neighbor of England.
ANSWER: Scotland [or Dileag; or Alba]
19. Sperm of organisms in this phylum may be the only eukaryotic cells that do not possess Gactin. Members of this phylum, which includes genera like Heterodera and Aphelenchoides, have a ventral nerve cord and hydrostatic skeletal system, and males reproduce using chitinized spicules. Organisms in this phylum have a pseudocoelom body cavity and longitudinal, rather than circular, muscles. This phylum includes the first multicellular organism to have its genome sequenced, C. elegans. For 10 points, name this phylum of pinworms and roundworms.
ANSWER: Nematoda [or nematodes]
20. In one of his plays, Chremylus discovers the title blind god of wealth, and in another Dicaepolis defends his efforts to make peace with Sparta to some charcoal burners. In addition to Plutus and The Acharnians, he wrote a play in which Aeschylus is brought back from the underworld rather than Euripides, and in another of his plays Pisthetaerus convinces the title creatures to build Cloud Cuckoo Land. For 10 points, name this ancient Greek playwright of comedies like The Wasps, The Birds, and Lysistrata.
ANSWER: Aristophanes
21. This country was bombarded in 1914 after American soldiers were arrested in Tampico, and the United Farm Workers was founded by a native of this country. James Fannin's troops were executed for piracy by the leader of this country at Goliad, and John Pershing was sent to capture a revolutionary from this country, Pancho Villa. Germany sent the Zimmerman telegraph here, and this nation lost land following an American invasion at Veracruz. For 10 points, name this country that fought a 1840 s war with the U.S. ended by the Treaty of Guadalupe Hidalgo.
ANSWER: Mexico
22. This structure contains the fovea capitis at one end, and its posterior contains the linea aspera. The head of this structure articulates with the acetabulum, and this bone also contains the greater and lesser trochanters. The two intercondylar fossae of this bone house a pair of important ligaments, and an injury to it, rather than to the pelvis, often results in a broken hip. Connected via the anterior and posterior cruciate ligaments to the tibia, for 10 points, name this largest bone in the body that is found in the thigh.
ANSWER: femur
23. One novel with this adjective in the title includes characters like the painter Stork and is partially narrated by a murdered man. This word partially titles a novel about the ambitions of Julien Sorel, as well as a short story in which one figure "out-Heroded Herod" and symbolizes the titular illness. In addition to those works by Orhan Pamuk, Stendhal, and Poe, the title entity is "newly sprung in June" in one poem with this color in the title. For 10 points, name this color, exemplified by the object to which Robert Burns likens his love, a rose.
ANSWER: red

24. Its possessions include Isle Royale, the largest island in Lake Superior. For 10 points each: [10] Name this state, whose Upper Peninsula is home to the town of Sault Saint Marie. ANSWER: Michigan
[10] Michigan's Upper and Lower Peninsulas are separated by these straits, which connect Lake Michigan and Lake Huron.
ANSWER: Straits of Mackinac [MAK-uh-naw]
[10] In addition to four Great Lakes, Michigan also borders this lake that lies on the Saint Lawrence Seaway between Lake Erie and Lake Huron. It is drained by the Detroit River.
ANSWER: Lake Saint Clair
25. Both Georges Bataille and open source advocates were influenced by one of his theories. For 10 points each:
[10] Name that sociologist, who analyzed the potlatch and the kula ring, prompting him to argue in his The Gift that gifts create an obligation to reciprocate.
ANSWER: Marcel Mauss
[10] Reciprocity was also studied by this Polish anthropologist who helped Kenyatta with Facing Mount Kenya in addition to writing The Argonauts of the Western Pacific.
ANSWER: Bronislaw Kasper Malinowski
[10] Derek Freeman criticized this woman, who analyzed the sex lives of yet another Polynesian society in her magnum opus The Coming of Age in Samoa.
ANSWER: Margaret Mead
26. It occurs when fluid moves in undisturbed parallel layers. For 10 points each:
[10] Name this smooth type of flow.
ANSWER: laminar flow
[10] This dimensionless quantity is generally less than five hundred for laminar flow and above four thousand for turbulent flow. It describes the ratio of inertial forces to another quantity.
ANSWER: Reynolds number
[10] That other quantity in the Reynolds number describes the resistance of a fluid to flow. ANSWER: viscosity
27. It became a dependency of the British crown after Parliament purchased it from the Duke of Atholl in 1765. For 10 points each:
[10] Name this island whose legislature, the Tynewald, is the world's oldest in continuity. ANSWER: Isle of Man
[10] This Icelandic parliament, which was first convened in 930, is the oldest in Europe. It voted for the independence of Iceland from Denmark in 1944.
ANSWER: Althing
[10] The Dutchman Marinus van der Lubbe was convicted of setting fire to the home of this German legislative body. Hitler claimed that its burning was a communist plot.
ANSWER: Reichstag
28. This man's works include Lavender Mist and Blue Poles. For 10 points each:
[10] Name this proponent of action painting who was nicknamed "Jack the Dripper."
ANSWER: Jackson Pollock
[10] Pollock was a member of this two-word art movement that was named by critic Robert Coates. Other prominent figures in it included Hans Hoffman and Mark Rothko.
ANSWER: abstract expressionism
[10] Robert Rauschenberg notably erased a drawing by this other abstract expressionist, who was a Dutch-born artist best known for his Woman series of paintings.
ANSWER: Willem de Kooning
29. This poem references the Mediterranean "lull'd by the coil of his crystalline streams." For 10 points each:
[10] Name this poem in terza rima that asks "If Winter comes, can Spring be far behind?" and calls its addressee "thou breath of Autumn's being."
ANSWER: "Ode to the West Wind"
[10] "Ode to the West Wind" was written by this British romantic poet of "Hymn to Intellectual Beauty" and "Prometheus Unbound."
ANSWER: Percy Bysshe Shelley [prompt on Shelley]
[10] This Shelley poem has a "traveller from an antique land" tell "of that colossal wreck, boundless and bare," all that is left of the works of a king of kings.
ANSWER: "Ozymandias"
30. Kevin McHale helped them win four NBA titles, three as a player. For 10 points each: [10] Name this 17-time champion NBA franchise to whom McHale practically gave another title last year, this time in his role as general manager of the Minnesota Timberwolves.
ANSWER: Boston Celtics
[10]This all-star power forward, the first player drafted out of high school in twenty years, was the centerpiece of that trade.
ANSWER: Kevin Garnett
[10] This shot-blocking specialist played all of two games for Boston after being acquired for Raef LaFrentz before his expiring contract was included in the Garnett deal.
ANSWER: Theophilus Curtis Ratliff
31. Name some things about an organelle, for 10 points each.
[10] Protein translation occurs on this organelle, which is made up of proteins and a namesake RNA.
ANSWER: ribosome
[10] Ribosomes translate this type of RNA in order to construct proteins. This type of RNA is used as the template for a new DNA strand.
ANSWER: $\underline{m}$ RNA or messenger RNA
[10] Ribosomes are mostly located on the "rough" type of this organelle, in which protein folding and sorting occurs.
ANSWER: endoplasmic reticulum
32. She is the sister-in-law of Nergal, the king of the underworld. For 10 points each: [10] Name this Babylonian goddess of war and fertility who appears in the Epic of Gilgamesh. ANSWER: Ishtar
[10] Ishtar is the sister of this queen of the underworld. This goddess once trapped Ishtar in the underworld when Ishtar went to visit her dead husband Tammuz.
ANSWER: Ereshkigal
[10] Ishtar hates this wild man of Mesopotamian myth, who is the best friend and companion of Gilgamesh.
ANSWER: Enkidu
33. His namesake doctrine looked to counter Soviet influence in the Middle East by promising aid to the region's anti-communist governments. For 10 points each:
[10] Name this former general who served as President of the U.S. from 1953 to 1961. ANSWER: Dwight David "Ike" Eisenhower
[10] This longtime Secretary of State developed the Eisenhower doctrine. He is also noted for his policy of "brinksmanship" with the Soviets.
ANSWER: John Foster Dulles [prompt on Dulles]
[10] In both the elections of 1952 and 1956, Eisenhower was victorious over this Democrat from Illinois. He shared his name with the second vice president of Grover Cleveland.
ANSWER: Adlai Ewing Stevenson
34. This poem talks of "new-caught, sullen peoples/ half-devil and half-child" who need to be instructed by "the best ye breed." For 10 points each:
[10] Name this controversial poem, an imperialist manifesto that instructs the addressee to "go bind your sons to exile/ To serve your captives' need."
ANSWER: "The White Man's Burden"
[10] "The White Man's Burden" was written by this British author, who wrote "you'll be a Man, my son!" in "If-" as well as novels like Captains Courageous and The Jungle Book.
ANSWER: Rudyard Kipling
[10] This Kipling poem calls the title water-bearer a "squidy-nosed old idol" and a "Lazarushianleather" before telling him "You're a better man than I am."

## ANSWER: "Gunga Din"

12. For 10 points each, name these composers of notable violin concerti.
[10] This prolific red-haired priest wrote over two hundred violin concerti, including The Four Seasons.
ANSWER: Antonio Vivaldi
[10] This German's Violin Concerto No. 1 in G minor is the most popular of the three he wrote. Other works by this composer include Kol Nidre for cello and Scottish Fantasy for violin.
ANSWER: Max Bruch
[10] This virtuoso wrote six violin concerti, as well as twenty-four caprices for solo violin. ANSWER: Niccolo Paganini
13. A thesis named for Church and their namesake claims that any computable function can be computed by one of these devices. For 10 points each:
[10] Name these theoretical machines named for a British pioneer of computer science, which use a symbol table and an infinite tape.
ANSWER: Turing machine
[10] Turing used his machines to disprove the Entscheidunsproblem of this German
mathematician, who proposed twenty-three namesake problems.
ANSWER: David Hilbert
[10] A Turing machine can be represented by a unique natural number named for this mathematician, who proved two incompleteness theorems.
ANSWER: Kurt Gödel
14. In the twenty-second chapter of his book, he laments "Look away from me, let me weep bitter tears; do not labor to comfort me for the destruction of the daughter of my people." For 10 points each:
[10] Name the prophet who said that in response to the lifting of an Assyrian siege of Jerusalem. He is notable for prophesying about a child he called Immanuel.
ANSWER: Isaiah
[10] Immanuel is thought to refer to this man, who turned water into wine at the marriage at Cana and was betrayed by his follower Judas.
ANSWER: Jesus Christ [accept either]
[10] This minor prophet from the Northern kingdom wrote about God's ultimate compassion for Israel despite their "playing the harlot." Speaking of harlots, he married the prostitute Gomer.
ANSWER: Hosea [or Osee]
15. Ahmed Riza led the CPU faction of this group, whose other members included Enver Pasha, and this group pushed its nation into an alliance with the Central Powers. For 10 points each: [10] Name this reformist group that pushed for the modernization of the Ottoman Empire in the early twentieth century and forced Sultan Abduljamid II to abdicate.
ANSWER: Young Turks [or Jonturkler]
[10] This brother of Abduljamid II came to power in 1909. The last Ottoman sultan, his declaration of holy war against the Allies did not result in a victory for the Central Powers. ANSWER: Mehmet V [or Mehmet Reshad]
[10] This rival of Enver Pasha oversaw the emancipation of women, the adoption of the Latin alphabet, and the abolishment of Islamic law as the first president of the Republic of Turkey. ANSWER: Mustafa Kemal Ataturk [accept either name]
16. The titular character's wife Shama forces him to buy low-quality land in Port of Spain, For 10 points each:
[10] Name this novel whose six-fingered title character loses two attempts at the titular building to a fire and a storm.

## ANSWER: A House for Mr. Biswas

[10] This Nobel Prize-winning author of A House for Mr. Biswas also wrote A Bend in the River and In a Free State.
ANSWER: Vidiadhar Surajprasad Naipaul
[10] V.S. Naipaul is among the authors from this Caribbean country, also the home country of Mohun Biswas.
ANSWER: Trinidad
17. For 10 points each, give the following about opera from around Prague.

10: This Czech composer of Cunning Little Vixen wrote the libretto and score for the story of a pregnant girl who rejects Laca and waits to see if Steva is conscripted, Jenufa.
ANSWER: Leoš Janáček
10: This Bohemian composer wrote the music for one opera following a Czech knight, Dalibor, and one following Jenis, Vasek, and Marenka, the titular Bartered Bride.
ANSWER: Bedrich Smetana
[10] Another Czech, Bohuslav Martinu, contributed to opera with his Julietta, whose libretto Neveux had to take back from this non-Czech composer of Street Scene and Threepenny Opera. ANSWER: Kurt Weill
18. The Soviet Union landed thirteen probes on this planet, whose thick atmosphere creates crushingly high pressures at its surface. For 10 points each:
[10] Name this planet of the solar system that experiences an incredibly strong greenhouse effect and is closest in size to Earth.
ANSWER: Venus
[10] In the 1990s, Venus was studied by this American spacecraft, which mapped the entire surface of the planet.
ANSWER: Magellan
[10] Venus is home to this unique type of volcano, which is wide and flat. They are named for a food they resemble.
ANSWER: pancake dome
19. Talleyrand represented France at this event. For 10 points each:
[10] Name this 1815 conference to determine a balance of power in a post-Napoleon Europe. ANSWER: Congress of Vienna
[10] This influential Austrian delegate and host of the Congress of Vienna was finally deposed during the revolutions of 1848.
ANSWER: Klemens Wenzel von Metternich
[10] This British delegate to the Congress of Vienna was earlier forced to resign his cabinet position after wounding George Canning in the thigh during a duel.
ANSWER: Viscount Castlereagh [or Robert Stewart]
20. The narrator begins a relationship with Shug Avery to escape the trauma of her forced marriage. For 10 points each:
[10] Name this novel, consisting of letters and diary entries, in which Celie searches for her lost sister, Nettie.

## ANSWER: The Color Purple

[10] This author of The Color Purple wrote about the titular Saxon College student in her novel Meridian.
ANSWER: Alice Walker
[10] An article by Walker called "In Search of" [this author] led to the revival of that author's works. This author is best known for a work about Janie Crawford, Their Eyes Were Watching God.
ANSWER: Zora Neale Hurston
21. After he was stricken with Alzheimer's, his wife Nancy became a major political opponent of blocks on stem cell research. For 10 points each:
[10] Name this man who created the Strategic Defense Initiative to challenge the Soviet Union. ANSWER: Ronald Wilson Reagan
[10] Reagan came under fire for authorizing a policy of selling arms to this country. The sales were then used to fund terrorists fighting Ortega in Nicaragua.
ANSWER: Iran
[10] Gorbechev and Reagan met in 1986 in a summit in this city, where Gorbechev proposed eliminating intermediate range missiles as part of the so-called "poker game."
ANSWER: Reykjavik
22. Mikhail Tsvet first used a type of this procedure to separate pigments from plant tissue. For 10 points each:
[10] Identify this procedure, which uses a stationary phase and a mobile phase to separate chemicals.
ANSWER: chromatography
[10] The type of chromatography developed by Tsvet is known by this name. This term identifies the binding of liquids or gases to a solid surface.
ANSWER: adsorption [do not accept "absorption"]
[10] Thin layer chromatography often uses this alkane as a solvent. A cyclic form of this compound has "chair" and "boat" conformations.
ANSWER: n-hexane [accept $\underline{\mathrm{C}}_{6} \underline{H}_{\underline{14}}$ ]
23. Answer some questions about French poetry for 10 points each.
[10] This poet of The Drunken Boat also wrote a poem set in London, while he switched from absinthe to opium in another work.
ANSWER: Arthur Rimbaud
[10] Name that poem, which contains sections like "The Impossible," "Bad Blood," and "Delirium I."
ANSWER: "A Season in Hell" [or "Une Saison en Enfer"]
[10] Rimbaud was one of the first users of this verse form, examples of which include the poetry of Walt Whitman. It is unconstrained by formal meter and rhyme scheme.
ANSWER: free verse

