## 金 HSAPQ <br> High School Academic Pyramid Questions

1. This organ possesses a dense fibroelastic connective tissue skeleton composed of annuli fibrosi and fibrous trigones. Muscle cells within this organ are connected by gap junctions known as intercalated discs. The bundle of His and associated (*) Purkinje fibers are located in this organ, and those structures conduct impulses from the SA and VA nodes located in this organ. Semilunar valves connect it to the pulmonary artery and the aorta, and mitral and tricuspid values separate its ventricle and atrium. For 10 points, name this four-chambered, blood-pumping organ.
ANSWER: heart
2. Osip Mandelstam wrote that this man "rolls...executions on his tongue like berries" in a poem known as this man's "epigram." He is fictionalized as "Number One" in a novel about the confession of Rubashov, Darkness at Noon. The Master and Margarita is set during the (*) reign of this leader, who is also represented as a character supported by Squealer that forces Snowball to leave Manor Farm. For 10 points, name this leader represented by Napoleon in Animal Farm, a Soviet dictator known for his many purges.
ANSWER: Joseph Stalin
3. A reclining nude figure can be seen holding a gas burner in front of a waterfall in this man's work Étant donnés. Two glass panels make up one work by this artist that features the "malic molds." Another work by this artist is a postcard reproduction of the Mona Lisa that includes a mustache and beard. In addition to his (*) L.H.O.O.Q. and The Bride Stripped Bare By Her Bachelors, Even, this artist signed the name "R. Mutt" on a urinal-turned-readymade. For 10 points, name this Dada artist who created Fountain and painted Nude Descending a Staircase.
ANSWER: Marcel Duchamp
4. The smallest non-abelian group has this many elements, and the sum as $n$ goes from one to infinity of one over $x$ squared equals pi squared divided by this integer. It is also the greatest number of circles of radius $r$ that can fit around an inner circle of radius $r$ such that all of the outer circles touch the ( ${ }^{*}$ ) inner one, and the number of vertices on a tetrahedron. It is the coefficient on the $x$ squared term in the expansion of $x$ plus one to the fourth power. For 10 points, name this integer equal to three factorial, the number of faces on a cube.
ANSWER: six
5. Wienawski wrote the ten études of "L'école moderne" for this instrument, and one solo work for this instrument is the Scottish Fantasy by Max Bruch. Fritz Kreisler arranged a sonata for it from a work by Giuseppe Tartini known as "The Devil's Trill." Joseph Joachim wrote the cadenza for a (*) D major concerto for this instrument by Johannes Brahms, and Rachmaninoff wrote a rhapsody on the twenty-fourth caprice in a series for this instrument written by Paganini. For 10 points, name this instrument that is higher pitched than a cello or a viola.
ANSWER: violin
6. This work asks, "Will we, who have the knowledge of many ways, leave our children free to choose among them?" in its final chapter, "Education for Choice." Other chapters include "Formal Sex (*) Relations." One criticism of this work claims that many of the people its author studied fabricated their stories; that criticism was written by Derek Freeman. The work claims that much of adolescent stress is caused by strict sexual codes. For 10 points, name this study of young women in the namesake island country, a work of Margaret Mead.
ANSWER: Coming of Age in Samoa
7. David Parfit advanced the bundle theory first put forth by this philosopher, and in six volumes he detailed English history from Julius Caesar's invasion. His namesake "guillotine" is his raising of the "is-ought problem," and in another work he defined (*) miracles as transgressions of the laws of nature. Demea, Philo, and Cleanthes debate the status of God's existence in his Dialogues Concerning Natural Religion, and he also wrote A Treatise of Human Nature. For 10 points, name this Scottish philosopher who wrote An Enquiry Concerning Human Understanding.
ANSWER: David Hume
8. Woodward-Hoffman rules state that pericyclic reactions can only happen if the symmetries of these objects are the same in both the reactants and products. The LCAO approximation allows one to diagram these objects; in those diagrams, an asterisk denotes the "antibonding" type. They are mathematically expressed in the (*) Hartree-Fock equation, and are denoted by the Greek letters phi, delta, pi, and omega, which correspond to the $\mathrm{f}, \mathrm{d}, \mathrm{p}$, and s atomic orbitals. For 10 points, name these regions in which electrons are likely to be found when shared between two atoms.
ANSWER: molecular orbitals [prompt on orbitals; do not accept "atomic orbitals"]
9. This man murdered his rival John Comyn at Dumfries, and, after defeat at the Battle of Methven, this man took refuge on the island of Rathlin. He gained new followers with his 1307 victory at Loudon Hill. Upon his death, his heart was given to (*) James Douglas to be buried in Jerusalem. He achieved independence for his country in the 1328 Treaty of Northhampton, and he was declared a traitor by Edward I. For 10 points, name man who won the Battle of Bannockburn and served as king of Scotland from 1306 to 1329.
ANSWER: Robert I [or Robert the Bruce]
10. This state made peace with its neighbors under the rule of Géza, two decades after Otto I defeated it at Lechfeld. This country achieved equal status in the Ausgleich and was greatly reduced in size by the Treaty of Trianon. Its fifteenth-century leaders included the anti-Ottoman generals (*) Matthias Corvinus and János Hunyadi. Once ruled by the Árpád dynasty of Stephen I, the reforms of Imre Nagy (NAJ) led to a 1956 Soviet invasion of this country. For 10 points, name this Central European state which originated as the final settling-place of the Magyars.
ANSWER: Hungary [or word forms; or the Magyars state before it is mentioned]
11. This artist depicted a man in round glasses painting while others look to the floor in his Return from Bohemia and a group of three women standing in front of Leutze's Washington Crossing the Delaware in his Daughters of Revolution. This artist created landscapes such as (*) Young Corn, Fall Plowing, and Spring Turning, and designed a stained-glass window in Cedar Rapids. He may be best remembered for depicting his sister and dentist standing in front of a barn. For 10 points, name this creator of American Gothic.
ANSWER: Grant Wood
12. This author published his collected "Touchstone" newspaper columns as The Language of Passion. This novelist depicted a rebellion in Bahia led by the religious fanatic Conselheiro in The War of the End of the World, and fictionalized the rule of Rafael Trujillo in The ( ${ }^{*}$ ) Feast of the Goat. His memoir A Fish in the Water recounts his run for his country's presidency and loss to Alberto Fujimori, while another of his works features a radio dramatist named Pedro Camacho. For 10 points, name this Peruvian author of Aunt Julia and the Scriptwriter.
ANSWER: Mario Vargas Llosa
13. This man's only formal training in his most noted discipline came from the lectures of George Wythe at William and Mary. This man, along with Elbridge Gerry and Charles Cotesworth Pinckney, confronted the French agents of the XYZ Affair. He succeeded (*) Oliver Ellsworth to take his most famous post, and in that capacity he wrote that "the power to tax is the power to destroy" and formulated judicial review. For 10 points name this Chief Justice who decided the cases of McCulloch $v$. Maryland and Marbury v. Madison.
ANSWER: John Marshall
14. This player's longest catch of the 2008 season went for forty-three yards and was thrown by a former Heisman winner who lost the BCS Championship to Florida. Helped by an uncalled delay of game penalty, he threw a twenty-three yard pass to (*) Todd Heap to lead his team to a 13 to 10 victory over the Tennessee Titans in the Divisional Round of the 2008 playoffs. For 10 points, name this quarterback drafted out of Delaware, a rookie starting for the Baltimore Ravens.
ANSWER: Joe Flacco
15. This man wrote about Reuben Bourne killing his son at the spot where he left his dying comrade, and about another man who discovers the Unpardonable Sin. This author also wrote of Reverend Hooper's refusal to remove the title object, and of (*) Aylmer's removal of the title blemish at the cost of his wife Georgiana’s life. This author included "Roger Malvin's Burial," "Ethan Brand," "The Minister's Black Veil," and "The Birthmark" in his Mosses from an Old Manse and Twice Told Tales. For 10 points, name this author who wrote about Hester Prynne in The Scarlet Letter.
ANSWER: Nathaniel Hawthorne
16. A "Fermi sea" of electrons occurs at this point due to the Pauli Exclusion Principle. A quantum harmonic oscillator at it must have a "residual energy" of one-half h-bar times frequency, while Nernst stated that the entropy of a system reaches a (*) fixed minimum as one approaches this point in his Third Law of Thermodynamics. Getting close to it allows for the creation of superconductors and Bose-Einstein condensates. For 10 points, identify this temperature that is equal to negative 459.67 degrees Fahrenheit.
ANSWER: absolute zero [or $\underline{\mathbf{0}}$ Kelvin; prompt on - $\mathbf{2 7 3 . 1 5}$ degrees Celsius; prompt on -459.67 degrees Fahrenheit before mentioned]
17. This novel's antagonist arrives in Whitby on the Russian ship Demeter, and leaves on the ship Czarina Catherine. Near the end of this novel, the Texas cowboy Quincey Morris sacrifices his life to defeat the antagonist. Much of this epistolary novel is narrated by Dr. Seward and (*) Jonathan Harker, who attempts to save his fiancée Mina Murray by joining with Abraham Van Helsing. After the title character attacks Lucy Westenra, Lucy is destroyed by a stake through the heart. For 10 points, name this novel about a vampire by Bram Stoker.
ANSWER: Dracula
18. This man cleansed the evil enchantment from Dolorous Gard, renaming that castle Joyous Gard. He later fathered a child with a woman from Astolat known as "the Fair" after that woman was disguised by Pelles. He was spirited away by Vivien after the death of his father (*) Ban, years before producing a son from a union with Elaine. This man's son can occupy the Siege Perilous and ultimately succeeds in the quest for the Holy Grail. For 10 points, name this father of Galahad and adulterous lover of Guinevere, a noted Knight of the Round Table.
ANSWER: Lancelot
19. As part of the "mita" tribute system that operated in this state, beer was fed to the mummies of previous monarchs. Two fifteenth-century rulers of this polity are known as its Philip II and Alexander the Great. In addition to Pachacutec and Topa Yupanqui, this state was ruled by (*) Huayna Capac, whose son Huascar fought a civil war with its last effective ruler. This empire used "quipu," knotted cords, for communication, and was defeated during the reign of Atahualpa by Francisco Pizarro. For 10 points, name this empire of pre-Spanish Peru.
ANSWER: Inca Empire
20. Notable cities in this mountain range include Nazran, Nal'chik, and Vladikavkaz. Its southern slopes are largely drained by the Kura River, while this range's northern slopes are home to numerous autonomous regions such as Kabardino-Balkaria, Ingushetia, and North (*) Ossetia. Its easternmost extension is the Abseron Peninsula, which juts into the Caspian Sea near Baku, while its highest point of Mount Elbrus is also the highest mountain in all of Europe. For 10 points, name this mountain range that separates Russia from Georgia and Azerbaijan.
ANSWER: Caucasus Mountains [or Kavkazskiy Khrebet]
21. The surfaces of these objects often feature bands known as ogives, and they are also responsible for crafting roche moutonnees, or sheep-backs. These bodies are formed via the compactification of névé into firn. They are also responsible for the creation of $\left(^{*}\right.$ ) rock flour, and deposit erratics as well as till in landforms such as eskers and drumlins. Many of them begin at a cirque and end at a morraine, located at opposite ends of a u-shaped valley. Coming in continental and alpine varieties, for 10 points, identify these large masses of slow-moving ice.
ANSWER: glaciers [accept alpine or mountain glaciers before "roche;" accept continental glaciers before "cirque"]
22. One character in this story uses a fountain pen to replace a faulty piston in order to fix an anaesthetizer. Later, that character responds to a District Attorney by asserting he "could have killed Gregory Fitzhurst at three hundred feet" with his left hand. Beginning with a description of a (*) Navy hydroplane preparing to enter a hurricane, this short story is set in Waterbury, where the title character buys a box of puppy biscuits. For 10 points, name this short story about the fantasies of a henpecked husband on a shopping trip, written by James Thurber.
ANSWER: "The Secret Life of Walter Mitty"
23. This man's government was the target of student protests led by Daniel Cohn-Bendit. His presidency saw the recognition of the People's Republic of China and the withdrawal of troops from NATO, and he feuded with Henri Giraud at the (*) Casablanca Conference. He became head of the Rassemblement du Peuple Francis in 1947, and he was called back into public service due to the Algerian crisis, in which capacity he became the first president of the Fifth Republic. For 10 points name this man who organized the Free French during World War II.
ANSWER: Charles de Gaulle

## 三 HSAPQ

1. Name some things from Alaskan geography, for 10 points each.
[10] Alaska contains this national park that takes its name from the Athabascan name for Mount McKinley. In addition to McKinley, it contains Mount Foraker and lots of glaciers.
ANSWER: Denali National Park and Preserve
[10] Alaska controls this island chain that stretches across the south edge of the Bering Sea toward the Russian Kamchatka peninsula. The chain includes the Fox and Andreanof islands.
ANSWER: Aleutian Islands
[10] This other Alaskan island chain extends to the southeast and contains the cities of Sitka and Ketchikan. Juneau is located on the mainland near these islands.
ANSWER: Alexander Archipelago
2. Body parts play an important role in mythology. For 10 points each:
[10] The head of this Gorgon proved useful to Perseus after severing it, as the hero turned several opponents to stone by holding her head aloft.
ANSWER: Medusa
[10] Skadi attempted to marry Balder by picking his feet out from a foot lineup, but inadvertently married this sea-god instead.
ANSWER: Niord
[10] The "rosy fingers" of this Greek goddess of the dawn is a Homeric epithet for the rays of the rising sun.
ANSWER: Eos
3. For 10 points each, name these countries from authors.
[10] Both Max Frisch and Friedrich Durrenmatt are from this country, which is also the setting of Schiller's play William Tell.
ANSWER: Switzerland
[10] This country's poet Adam Mickiewicz wrote its national epic, Pan Tadeusz. It is the setting for Henryk Sienkiewicz's novel With Fire and Sword.
ANSWER: Poland
[10] This country's poet Fernando Pessoa used heteronyms to write works like The Book of Disquiet. Another author from this country wrote the novels The Stone Raft and Blindness.
ANSWER: Portugal
4. It was also known as the Battle of the Skagerrak, and Admiral Scheer tactically defeated the British fleet under Admiral Jellicoe, but the British won a strategic victory. For 10 points each:
[10] Name this battle which prevented the German high seas fleet from sailing again.
ANSWER: Jutland
[10] The Battle of Jutland was the only major naval engagement between the British and German navies during this war.
ANSWER: World War I [accept the Great War]
[10] In the years after World War I, this German admiral secretly planned a German submarine fleet. Following Hitler's death, this man briefly served as his successor.
ANSWER: Karl Doenitz
5. This author fictionalized the assassination of Sadat in The Day the Leader Was Killed. For 10 points each:
[10] Name this author of The Children of Gebelaawi and Palace Walk.
ANSWER: Naguib Mahfouz
[10] Many of Mahfouz's novels, including the Cairo trilogy, are set in this African country, whose playwrights include Tawfiq al-Hakim and Ali Salem.
ANSWER: Egypt
[10] A quartet of novels by Alexander Durrell is named for this Egyptian city, home to an ancient lighthouse.
ANSWER: Alexandria
6. Name the following about different ways to express concentrations, for 10 points each.
[10] This unit of concentration gives the number of moles of a solute in a liter of solvent. ANSWER: molarity
[10] For solutions that are not ideal, the concentration can be given by this parameter. For ideal solutions, it is equal to unity. It is proportional to the mole fraction by a namesake coefficient.
ANSWER: activity
[10] The activity coefficient of an ion in a dilute solution can be calculated using this doubly eponymous equation, provided that the ion strength is known.
ANSWER: Debye-Hückel equation
7. Name the following related things, for 10 points each.
[10] First, name this restaurant chain featuring carhops on roller skates, a large variety of drink combinations, PickleOs, Coneys, and Ched ' R ' Peppers, headquartered in Oklahoma City.
ANSWER: Sonic Drive-In
[10] The Sonic hedgehog gene regulates segmentation in this model organism, used by Thomas Hunt Morgan to demonstrate genetic linkage. This fruit fly only has four chromosomes.
ANSWER: Drosophila melanogaster [accept D. melanogaster]
[10] This Air Force general flew the first supersonic flight in his Bell X-1. He recently supported failed presidential candidate Duncan Hunter.
ANSWER: Charles Elwood "Chuck" Yeager
8. For electromagnetic fields, the overall field generated by multiple sources can be obtained by adding the individual fields generated by each source using this principle. For 10 points each:
[10] Name this principle of physics in which electromagnetic waves sum like vectors to produce a change in intensity depending on whether the waves are in phase or out of phase.
ANSWER: principle of superposition
[10] When superposition is applied to waves, either the constructive or destructive form of this phenomenon occurs. The double slit experiment demonstrated a pattern of this type.
ANSWER: interference
[10] For standing waves, these locations are the site of constructive interference and are locations where maximum displacement occurs.
ANSWER: anti-node
9. Troops under this commander lost the Battle of Wisconsin Heights. For 10 points each:
[10] Name this Native American commander who fought a namesake 1832 war which ended with a massacre at the Bad Axe river.
ANSWER: Black Hawk
[10] The Black Hawk War occurred during the presidency of this Democrat, whose signing of the Indian Removal Act led to the Trail of Tears under his successor, Martin Van Buren.
ANSWER: Andrew Jackson
[10] This Secretary of War for Andrew Jackson directed the American side of the Black Hawk War. This Michigander proponent of popular sovereignty lost the election of 1848.
ANSWER: Lewis Cass
10. Sharp mountains dominate the top right of this painting, whose center features a number of people ice skating. For 10 points each:
[10] Name this painting, whose titular group stands among trees in the bottom left.
ANSWER: Hunters in the Snow
[10] This man depicted two men serving porridge to people celebrating the titular event in Peasant Wedding and also painted Hunters in the Snow.
ANSWER: Pieter Brueghel, the Elder
[10] This other Brueghel work depicts a man plowing while the title son of Daedalus drowns in the bottom right.
ANSWER: Landscape with the Fall of Icarus
11. He replaced Pierre Mauroy with Laurent Fabius as part of his "economic realism" plan, and his time in power saw a period of "cohabitation" with Jacques Chirac. For 10 points each:
[10] Name this man who served as French president from 1981 to 1995.
ANSWER: Francois Maurice Mitterrand
[10] In 1971, Mitterand became the head of this political party, whose candidate during the 2007 election was Segolene Royal.
ANSWER: Socialist Party [or Parti Socialiste; or PS]
[10] In 1985, Mitterand authorized the bombing of this ship in the port of Auckland. Owned by Greenpeace, it was intended to interfere with a nuclear test in the southern Pacific Ocean.
ANSWER: Rainbow Warrior
12. The $Z$ disk lines up molecules of this protein. For 10 points each:
[10] Name this protein that, along which myosin, slides to produce muscle movement.

## ANSWER: actin

[10] Calcium binds to this protein, causing tropomyosins to move and thus unblocking the active site of actin for myosin to bind.

## ANSWER: troponin

[10] In this condition, all actin-myosin cross-bridges have formed; however, since no ATP is present, no cross-bridges can release, so the cross-bridge cycle stops. It often occurs after death.
ANSWER: rigor mortis
13. Identify the following psychologists, for 10 points each.
[10] This author of The Lucifer Effect attempted to simulate a correctional facility in his Stanford prison experiment, but had to end the experiment after only six days.
ANSWER: Philip Zimbardo
[10] This psychologist demonstrated learned aggression by children, who mimicked adults demonstrating aggressive behavior on the namesake objects in his "Bobo Doll" experiment.
ANSWER: Albert Bandura
[10] This Yale professor ordered subjects to administer what they thought were painful electrical shocks to a confederate in his namesake obedience experiment.
ANSWER: Stanley Milgram
14. Many of their practices were chronicled by Julius Caesar and the stoic philosopher Poseidonius, and they survived as poets and judges after the advent of Christianity. For 10 points each:
[10] Name this ancient Celtic religious order that was associated with the oak tree and the construction and burning of large wickerwork images.

## ANSWER: Druids

[10] In Irish sagas, this great Druid of Ulster sired King Conchbor mac Nessa when he informed the queen Nessa that a certain day was auspicious for siring a king upon a queen.

## ANSWER: Cathbad

[10] Often associated with Druids and Ovates, these Celtic minstrels and poets chanted verses concerning heroes and their deeds and composed eulogies and satires.
ANSWER: Bards
15. This instrument comes in a bass variant and has a chalumeau register, named for an instrument that it was based on. For 10 points each:
[10] Name this ebony-colored instrument, featured in a solo opening Rhapsody in Blue that involves it playing a trill, then a glissando down and back up.
ANSWER: clarinet
[10] This man composed Rhapsody in Blue, as well as a Cuban Overture.
ANSWER: George Gershwin
[10] This Gershwin work, a tone poem orchestrated by F. Cambell-Watson, includes a celesta and klaxon horns in its concert form, representing the title French city.
ANSWER: An American in Paris
16. A party named the Arrabiati was created to oppose the rule of this man, who was able to manipulate the invasion of Charles VIII of France to fulfill his prophesies. For 10 points each:
[10] Name this preacher who ascended to power in the wake of the downfall of the Medicis. He led the infamous Bonfire of the Vanities.
ANSWER: Girolamo Savonarola
[10] Savonarola and Lorenzo de Medici ruled over this Italian city.
ANSWER: Florence [or Firenze]
[10] This pope hated Savonarola, and he was also negotiated the Treaty of Tordesillas. He fathered the murderous Lucrezia and made his son Cesare a cardinal.
ANSWER: Alexander VI [prompt on Alexander; accept Rodrigo de Borgia y Doms; prompt on Borgia]
17. It begins between four and forty-three miles under the Earth's surface and is approximately 1800 miles thick. For 10 points each:
[10] Name this mostly solid layer of the Earth beneath the crust.
ANSWER: mantle
[10] The mantle is separated from the crust by this boundary named for a Croatian. A project to drill to this discontinuity was canceled by the government in the 1960s.
ANSWER: Moho discontinuity [accept Mohorovičić discontinuity]
[10] This other discontinuity between the mantle and outer core impedes the flow of seismic waves and is named for a German.
ANSWER: Gutenberg discontinuity [or top of the D double-prime layer]
18. The protagonist is conscripted into the military after seven years in a Swiss sanatorium visiting his cousin. For 10 points each:
[10] Name this novel about Hans Castorp.
ANSWER: The Magic Mountain [or Der Zauberbera]
[10] The Magic Mountain was written by this German author of Buddenbrooks and Tonio Kroger. ANSWER: Paul Thomas Mann
[10] In this Thomas Mann novel, the aging author Aschenbach follows around the Polish boy Tadzio.
ANSWER: Death in Venice [or Der Tod in Venedig]
19. This author controversially charged that Lord Byron had sex with his sister in Lady Byron Vindicated. For 10 points each:
[10] Name this author of The Minister's Wooing who wrote about a slave rebellion in the Great Dismal Swamp in Dred.
ANSWER: Harriet Beecher Stowe
[10] Stowe is best known for this anti-slavery novel, whose scenes include Eliza's escape across the frozen Ohio river.
ANSWER: Uncle Tom's Cabin, or Life Among the Lowly
[10] Near the end of Uncle Tom's Cabin, this cruel owner buys Tom and orders him whipped to death. ANSWER: Simon Legree [both or either names acceptable]
20. It was visited in 1935 by the ethnologist Alfred Métraux, and is home to some monolithic structures that were carved from volcanic stone known as tufa. For 10 points each:
[10] Name this remote island in the Pacific Ocean that is home to figures known as moai.
ANSWER: Easter Island [or Isla de Pascua; or Rapa Nui]
[10] Located on Salisbury Plain in southern England, this megalithic monument is surrounded by a ditch. Its center includes five upright stones that are topped by lintels.

## ANSWER: Stonehenge

[10] In this village located in northeastern Austria, Josef Szombathy discovered a four inch female figure from the Upper Paleolithic period that has pendulous breasts and very wide hips.
ANSWER: Willendorf
21. For 10 points each, name some French writers.
[10] This author wrote an update of the Elektra myth in The Flies, and wrote about Garcin, Estelle, and Inez trapped together in a room in the one-act play, No Exit.
ANSWER: Jean-Paul Charles Aymard Sartre
[10] He wrote about Fabrizio del Dongo wandering into the Battle of Waterloo in The Charterhouse of Parma and of Julien Sorel in The Red and the Black.
ANSWER: Stendhal [or Henri-Marie Beyle]
[10] He wrote about people forging gold coins in The Counterfeiters and of Michel lusting after underage boys in The Immoralist.
ANSWER: André Paul Guillaume Gide
22. Given a straight line and a point not on that line, there exists one and only one line passing through that point such that the new line does not intersect the first. For 10 points each:
[10] Name this postulate that first appeared in the Elements.
ANSWER: parallel postulate [accept Euclid's fifth postulate]
[10] Geometries in which the parallel postulate does not hold are known by this name, since they do not follow the postulate outlined by the author of the Elements.
ANSWER: non-Euclidean geometries
[10] This branch of geometry studies properties that are preserved through deformations, and is often known as "rubber-sheet geometry." Under it, a doughnut and a coffee mug are equivalent.
ANSWER: topology
23. Present at this battle was the first Governor of Kentucky and veteran of the Battle of Kings Mountain, Isaac Shelby. For 10 points each:
[10] Also called Moraviantown, the British were led by Henry Procter at this October 5, 1813 battle in Ontario.
ANSWER: Battle of the Thames
[10] Future Vice President Richard Mentor Johnson supposedly killed this Shawnee chief and brother of Tenskwatawa at the Battle of the Thames.
ANSWER: Tecumseh
[10] Known as Old Tippecanoe, this future president led the Americans against Henry Procter and Tecumseh at the Battle of the Thames.
ANSWER: William Henry Harrison [prompt on Harrison]

