![HSAPQ logo](High School Academic Pyramid Questions)

1. **In one of this man's poems, the title subject is said to be the "true daughter of Old Time" and that it "alterest all things with thy peering eyes." That poem is "Sonnet - To Science." This poet of "The City in the Sea" wrote about the tintinnabulation of "The Bells." Another of his poems tells of a knight searching for El Dorado. He wrote a poem that begins "Once upon a (*)** midnight dreary" and sees the title animal repeat the word "Nevermore." For 10 points, name this poet of "Annabel Lee" and "The Raven."
ANSWER: Edgar Allan **Poe**

001-10-23-06102

2. **One dictator of this nation kept a paramilitary force that abducted dissidents during the night known as the Tonton Macoutes. Jean Dessalines was the first ruler of this nation after gaining independence, an event that saw the landing of a foreign army under Charles Leclerc. Later, this nation was ruled by (*)** Francois Duvalier, popularly known as Papa Doc. This nation gained independence during a revolt partially led by Toussaint Louverture. For 10 points, name this Caribbean nation that shares the island of Hispaniola with the Dominican Republic.
ANSWER: Republic of **Haiti** [or Republique d'**Haiti**; or Repiblik d' **Ayiti**]

064-10-23-06103

3. **One item depicted in this painting is being carried by four men wearing hats and white gloves and is covered by a white flag bearing tear drops and crossbones. Two large hills can be seen in its background, and a group of women wearing bonnets can be seen on its right side. A young boy holding a container looks off into space while a man on one knee and a spotted dog stand near (*)** the hole depicted in this painting's center. Depicting a poor funeral in the countryside of France, this is, for 10 points, what 1850 painting by Gustave Courbet?
ANSWER: A ***Burial at Ornans*** [or Un ***enterrement à Ornans***; accept A ***Funeral at Ornans***]

083-10-23-06104

4. **The TEGA experiment showed the presence of perchlorates here. The oldest geologic epoch of this object, the Noachian, included the formation of the oldest surfaces of the object as well as the Tharsis bulge. Large surface features on this planet include Hellas Plantia and (*)** Valles Marineris. Asaph Hall discovered its satellites, Phobos and Deimos. This planet has the highest volcano in the solar system, Olympus Mons. For 10 points, name this planet, the 4th from the sun which is notable for its red surface.
ANSWER: **Mars**

091-10-23-06105

5. **In this work, the nanny Anne-Marie works in a household where macaroons have been banned. After the protagonist of this work returns from dancing a tarantella at a costume ball, her gravely ill husband, a patient of Dr. Rank, furiously berates the protagonist for forging her father's signature to finance a trip they took to Italy for his recovery. As a result, they are blackmailed by (*)** Krogstad. For 10 points, name this Henrik Ibsen play that ends with Torvald's wife, Nora Helmer, slamming the door as she walks out on him.
ANSWER: A ***Doll's House*** [or Et ***Dukkehjem***]

079-10-23-06106

6. **One work by this composer was given a nickname referring to a chandelier that supposedly fell during its premeire, and another begins with tympani solo. Other works by this composer of the "Miracle" Symphony include one with an accompaniment that sounds like ticking, and one with an unexpected loud chord early in its second movement. These works, including the (*)** "Drumroll", are part of a set known as this composer's London symphones. For 10 points, name this German composer of over one hundred symphonies, including the aforementioned "Clock" and "Surprise."
ANSWER: Franz Joseph **Haydn**

7. **One feature of this lake is a small, vertically-floating stump of a submerged tree that has been named the Old Man of the Lake. One island located in this lake resembles a sailing boat, which led to its being named the Phantom Ship. Another island in this lake reaches over 700 feet above the surface of this lake and is a volcanic cinder cone named (*)** Wizard Island. This lake was created from the collapse of the volcano Mount Mazama. For 10 points, name this deepest lake in the United States, which is located in Oregon.
ANSWER: **Crater Lake**

8. **After saving the crew of a wrecked ship, this man gained the title "the Lucky." This man's brother, Thorvald, was killed by Skrellings at Crossness. This man's father was banished for three years for killing Eylolf the Foul. Having purchased the ship of Bjarni Herjolfsson, this man sailed past Helluland and Markland before reaching a region rich with (*)** grapes. For 10 points, name this Norseman whose discovery of Vinland made him the first European to reach North America.
ANSWER: Leif **Ericson**

9. **When two states of this quantity are coupled, Clebsch-Gordan coefficients are used. In the Bohr model, this quantity is given in multiples of h-bar. Kepler's Second Law is a consequence of it being held constant. Spin is a special type of this quantity whose time-derivative is (*)** torque. Equal to the product of the moment of inertia and angular velocity, it is symbolized capital L. For 10 points, name this conserved rotational quantity that is the cross-product of position and its linear analogue.
ANSWER: **angular momentum** [do not accept or prompt on "momentum" by itself or "linear momentum"]

10. **This character tells a man in disguise her dream that twenty geese feeding at her trough are killed by a great eagle. She tests that man's identity by ordering Euryclea to move a bed containing a live olive tree as one of its legs. This woman deceives men such as Eurymachus and Antinous by sewing a burial (*)** shroud by day and unraveling it by night to delay her remarriage. Her suitors are finally killed after her long-lost husband returns to Ithaca. For 10 points, name this faithful wife of Odysseus in the *Odyssey*.
ANSWER: **Penelope**

11. **A group known as the Sephardi was among the chief targets of this event. This event targeted groups known as Marranos and Moriscos, both of whom were forced to become Conversos. This event included a ritual in which the guilty party was read their sentence known as an auto de fe. One prominent leader of this event, who supported the Alhambra Decree calling for the expulsion of (*)** Jews in 1492, was Tomas de Torquemada. For 10 points, name this tribunal of the Roman Catholic Church aimed at rooting out heretics that took place in an Iberian nation.
ANSWER: **Spanish Inquisition** [prompt on **Inquisition**]

12. **This theorem is generalized by de Gua's Theorem. The traditional proof of this statement made use of the "windmill." When using only integers, it is the highest possible case allowed by Fermat's Last Theorem. Many proofs of it are based on the dissection of shapes. This formula is also used to determine the norm of a vector in Cartesian space. It is the general case of the law of (*)** cosines. For 10 points, name this theorem used to determine the length of the hypotenuse of a right triangle, written a squared plus b squared equals c squared.
ANSWER: **Pythagorean** theorem

13. **In the late nineteenth century, this type of art was dominated by the style of Pictorialism. An early pioneer of this type of art, Edward Weston, influenced the works in this medium by Robert Mapplethorpe. A leading artist in this medium created works such as *Moonrise, Hernandez, New Mexico* and (*)** *Moon and Half Dome, Yosemite*, which depict the wilderness of the American west in black and white. For 10 points, name this medium of artists such as Ansel Adams, whose practitioners use cameras.
ANSWER: **photography** [or clear-knowledge equivalents]

14. **On the eve of this holiday, some followers perform the *kapporot* (kah-pah-ROHT) ritual of swinging a chicken over their heads. The *Al Cheit* (ahl KHAYT) and *Ashamnu* (ah-SHAHM-noo) are two prayers of this holiday, which once included the pronunciation of the Tetragrammaton by the High Priest. It closes with the *Ne'ila* (neh-EE-lah) service and includes the Aramaic (*)** *Kol Nidre* (KOHL nee-DRAY) prayer. Requiring a twenty-five hour fast, it occurs on the tenth of Tishrei, five days before Sukkot (soo-KOHT) and about nine days after Rosh Hashana. For 10 points, name this Jewish day of atonement.
ANSWER: **Yom Kippur**

15. **The White classification is used to distinguish "gestational" sufferers of this disease from those who had it prior to pregnancy. One class of drugs for this disease consists of sulfonylureas. Commonly treated by metformin, this disease is prevalent among Pacific Islanders, Hispanic, and Asian populations. The onset can be delayed by (*)** daily exercise and a high-fiber diet, preventing the obesity often seen alongside this disease. Present in Type I and Type II forms, for 10 points, identify this disease associated with high blood glucose and insulin deficiency.
ANSWER: **diabetes** mellitus [accept **type 2 diabetes**]

16. **This figure was worshiped on the Island of Philae. In depictions, a throne symbol often lies atop this deity's head. This deity created a snake out of the earth and had it bite Ra so that Ra would give up his True Name. After a long search, this deity found a box hidden in a tamarisk tree. This goddess reassembled the fourteen** (*) pieces of her husband and gave birth to Horus, in order that he would defeat Set. For 10 points, name this Egyptian goddess, the wife and sister of Osiris.
ANSWER: **Isis**

17. **This character's first wife has a dog named Jip, who dies on the same day as her. This character is sent to a boarding house by his stepfather, Edward Murdstone, where he meets Tommy Traddles and James Steerforth. This character marries Dora Spenlow, who dies after a** (*) miscarriage, and he later marries his true love, Agnes Wickfield. He befriends Mr. Micawber, who uncovers the crimes of Uriah Heep. For 10 points, name this title character of a novel by Charles Dickens.
ANSWER: **David** Copperfield [or David **Copperfield**]

18. **The most recent election for this office featured the "keep on changing" and "can do more" coalitions. In 2010, Social Democrat Jose Serra lost a bid for this office for the second time, to the new candidate of the incumbent Workers Party. The current holder of this office is of Bulgarian descent and is a former member of the militant group** (*) Colina, and was arrested and tortured for that involvement in 1970. For 10 points, Dilma Rousseff was elected to replace Luiz Lula da Silva in what office, which governs a country of two hundred million people in South America?
ANSWER: **President** of the Federative Republic of **Brazil** [accept obvious equivalents]

19. **Investigation into this event was led by Senator Thomas J. Walsh. This incident became possible after a request was made by Edwin Denby, which allowed for Edward Doheny and Harry Sinclair to lease lands transferred from the Department of the Navy to the Department of the** (*) Interior. Those leases made without competitive bidding were orchestrated by Albert Fall and included Elk Hills and the namesake location. For 10 points, name this scandal involving oil fields that occurred during the presidency of Warren G. Harding.
ANSWER: **Teapot Dome** scandal

20. **In one of this man's novels, rumors about the football star Fareek Fanon's rape of a woman stir up race tensions in Atlanta. He wrote about the painted school bus named "Furthur" and the travels of Ken Kesey and the Merry Pranksters in another work. This pioneer of the New Journalism and author of *A Man in Full* wrote a novel about the fall of a "Master of the Universe" bond trader named** (*) Sherman McCoy. For 10 points, name this American author of *The Electric Kool-Aid Acid Test* and *The Bonfire of the Vanities*.
ANSWER: Tom **Wolfe**

21. **One manifestation of this phenomenon is the energy difference between the HOMO and LUMO states in a molecule, and is called the band gap, while its dependence on temperature is described by Matthiessen's Rule. Materials that have a value of zero for this quantity are subject to the Meissner effect, and are called** (*) superconductors. In circuits, this quantity is additive for two of its namesake objects in series. Ohm's Law states that this quantity is equal to voltage divided by current. For 10 points, name this measurement of an opposition to current flow in a material.
ANSWER: electrical **resistance**

22. **The parts for voice, violin, organ, and trumpet are all set in different keys in this composer's "Song for the Harvest Season." He wrote the polytonal *Variations on America*, and another work of his includes pianolas engaging in a "ragtime war" and a fire engine passing by the title landmark. In addition to (*)** *Central Park in the Dark*, this man composed a work with sections entitled "Emerson," "Hawthorne," "The Alcotts," and "Thoreau." For 10 points, name this American composer of *Concord Sonata* as well as *Three Places in New England*.
ANSWER: Charles **Ives**

23. **Sicilians wrote an enemy's name on, then buried, one of these objects in the belief that doing so would kill that enemy. Ludwig Feuerbach lamented that this kind of blood "can make no revolution." According to superstition, stealing one of these objects is supposed to cure rheumatism. Like other members of this nightshade family, this foodstuff produces the toxin (*)** solanine when stored long enough in light to turn green. A toy based on it includes holes for eyes, ears, nose, mouth, and feet. For 10 points, name this vegetable that is often served mashed or baked.
ANSWER: **potato**

1. One of its leaders, Nuon Chea, is awaiting a UN tribunal on genocide, and was known as "Brother Number Two." For 10 points each:
[10] Name this communist movement of the Democratic Republic of Kampuchea that was overthrown by a Vietnamese invasion in 1979.
ANSWER: **Khmer Rouge** [or **Red Khmer**]
[10] The Khmer Rouge once controlled this Southeast Asian nation. An estimated two million people in this nation died in this nation during the Khmer Rouge's rule.
ANSWER: Kingdom of **Cambodia**
[10] This man, "Brother Number One," was the leader of the Khmer Rouge and was responsible for the Cambodian genocide.
ANSWER: **Pol Pot** [or **Saloth Sar**]

030-10-23-06201

2. Answer these questions about *To Kill a Mockingbird*, for 10 points each.
[10] The novel was written by this author from Alabama.
ANSWER: Harper **Lee**
[10] At the end of the novel, Jem and Scout are rescued by this reclusive and mysterious neighbor who had earlier placed gifts in a tree.
ANSWER: **Arthur** "**Boo**" **Radley** [accept any underlined part]
[10] Boo saves the children after they are attacked by this man, whose daughter Mayella had accused Tom Robinson of rape.
ANSWER: **Bob** **Ewell** [accept either name]

064-10-23-06202

3. A glass elephant is given to one character in this opera, which sees a performance of *The Red Detachment of Women*. For 10 points each:
[10] Name this opera about a certain politician's visit to an Asian nation.
ANSWER: *Nixon in China*
[10] *Nixon in China* was composed by this American, who more recently has created an opera about J. Robert Oppenheimer, *Doctor Atomic*.
ANSWER: John **Adams**
[10] The cruise ship Achille Lauro is the setting for this other Adams opera. The cruise ship is hijacked and one of the passengers, a man in a wheelchair, is killed.
ANSWER: *The Death of Klinghoffer*

083-10-23-06203

4. Though filled with wild inaccuracies, it is more popular than its chief competitor, the Encyclopedia Galactica, in part due to price. For 10 points each:
[10] Name this electronic reference, whose plastic cover has the words "DON'T PANIC" on the front.
ANSWER: The **Hitchhiker's Guide** to the Galaxy
[10] The Hitchhiker's Guide to the Galaxy was the namesake reference of a radio show and "increasingly inaccurate trilogy" by this author.
ANSWER: Douglas Noel **Adams**
[10] The Hitchhiker's Guide to the Galaxy's entry on Earth contains just two words. Name both.
ANSWER: **mostly harmless**

003-10-23-06204

5. This man proposed a "logical-relationist" view of the title field in his *Treatise on Probability*. For 10 points each:
[10] Name this British economist who railed against the terms of the Versailles treaty and advocated for the interventionist use of government money in addressing economic situations.
ANSWER: John Maynard **Keynes**
[10] This Austrian economist attacked Keynes's *Treatise on Money*. He is most famous for arguing that government control of the economy leads to tyranny in *The Road to Serfdom*.
ANSWER: Friedrich von **Hayek**
[10] Keynes was also opposed by the French economist whose namesake tax is used to combat negative externalities.
ANSWER: Arthur Cecil **Pigou**

015-10-23-06205

6. This poet asked "What shall I do with this absurdity" in his poem "The Tower," while another of his poems describes a "shape with lion body and the head of a man." For 10 points each:
[10] Name this poet who also wrote "That is no country for old men" in his "Sailing to Byzantium."
ANSWER: William Butler **Yeats** (YATES)
[10] Beginning with the line "Turning and turning in the widening gyre," this poem by Yeats notes that "the falcon cannot hear the falconer" and that the titular event surely "is at hand."
ANSWER: "**The Second Coming**"
[10] This other Irish poet is known for his semi-recent translation of *Beowulf* and for his collection *Death of a Naturalist*, which contains his poem "Digging."
ANSWER: Seamus **Heaney**

083-10-23-06206

7. This contains the Organ of Corti. For 10 points each:
[10] Name this snail shaped part of the ear that contains the hair cells that transduce sound in the neural impulses.
ANSWER: **cochlea** [prompt on **inner ear**]
[10] The inner ear also contains these three almost perpendicular structures that detect acceleration in three dimensions and thus allow a person to maintain balance.
ANSWER: **semicircular canal**s
[10] This component of the inner ear related to the utricle uses hair cells and otoliths to detect linear acceleartion.
ANSWER: **saccule**

001-10-23-06207

8. When the change in this quantity is less than zero for a reaction, the reaction is spontaneous. For 10 points each:
[10] Name this thermodynamic quantity that, like emf, can be calculated from the reaction quotient by the Nernst equation.
ANSWER: **Gibbs** free energy
[10] This other quantity, denoted mu, is equivalent to the molar Gibbs free energy.
ANSWER: **chemical potential**
[10] The equivalent of the Nernst equation for chemical potential involves the natural log of this quantity, which when multiplied by volume is a constant according to Boyle's Law.
ANSWER: **pressure**

003-10-23-06208

9. This man became heir to the throne on the death of his cousin Duke Francis V of Modena. For 10 points each:
[10] Name this Austro-Hungarian archduke whose 1914 assassination set off a diplomatic chain reaction that led to World War I.
ANSWER: **Franz Ferdinand**
[10] Franz Ferdinand was assassinated on the Latin Bridge of this Bosnian city.
ANSWER: **Sarajevo**
[10] One of the earliest battles of World War I, this 1914 battle saw the destruction of the Russian Second Army. It shares its name with a 1410 battle also known as Grunwald.
ANSWER: Battle of **Tannenberg**

015-10-23-06209

10. This work was sharply critical of Euripedes for upsetting what its author considered the essential balance in Greek drama. For 10 points each:
[10] Name this work that analyzed art in terms of two competing worldviews, the Apollonian and Dionysian.
ANSWER: *The **Birth of Tragedy** out of the Spirit of Music* [*Die **Geburt der Tragödie** aus dem Geiste der Musik*]
[10] *The Birth of Tragedy* was written by this philosopher who discussed the concepts of "eternal return" and the "Ubermensch" in *Thus Spake Zarathustra*.
ANSWER: Friedrich Wilhelm **Nietzsche**
[10] Nietzsche's final work was a "case of" this man, who he praised in *The Birth of Tragedy* but subsequently rejected. In this work, the subject is compared unfavorably to Georges Bizet.
ANSWER: Richard **Wagner**

082-10-23-06210

11. The cities around this body of water are linked by a public transit system known as BART. For 10 points each:
[10] Name this bay, in which Angel Island and Alcatraz are found.
ANSWER: **San Francisco** Bay
[10] This strait, which connects San Francisco Bay to the Pacific Ocean, is spanned by a namesake orange bridge.
ANSWER: the **Golden Gate**
[10] The Golden Gate Bridge runs from San Francisco proper to this peninsula and county, the home of such wealthy towns as Sausalito and San Rafael in addition to San Quentin prison.
ANSWER: **Marin** Peninsula/County

019-10-23-06211

12. The Whig party selected this man as its candidate in 1852 over Millard Fillmore, but he lost to Franklin Pierce in the general election. For 10 points each:
[10] Name this popular War of 1812 and Mexican-American War general who was known as "Old Fuss and Feathers."
ANSWER: Winfield **Scott**
[10] During the Civil War, Scott concocted this plan whereby the Southern ports would be blockaded while the Federal navy moved up the Mississippi.
ANSWER: **Anaconda** plan
[10] Another Civil War general was this man, who earned the nickname "Unconditional Surrender" for taking Fort Donelson and took control of all Union troops after capturing Vicksburg.
ANSWER: Ulysses S. **Grant** [or Hiram Ulysses **Grant**]

015-10-23-06212

13. If a model of this type is not damped or driven, it is given by the equation m times x double prime equals negative k times x. For 10 points each:
[10] Name this physical system, exemplified by a mass on a spring.
ANSWER: simple **harmonic oscillator**
[10] That aforementioned equation is derived by use of this law which states that the restoring force of a spring is equal to the negative product of its displacement and a spring constant k.
ANSWER: **Hooke**'s Law
[10] This is the point at which plastic deformation begins. Beyond this point, materials no longer obey Hooke's Law.
ANSWER: **yield** point

14. This composer wrote a pair of sets of 12 concertos named *L'estro Armonico* and *La Stravaganza*. For 10 points each:
[10] Name this composer of another set of 12 concertos titled *The Contest between Harmony and Invention*.
ANSWER: Antonio Lucio **Vivaldi**
[10] The first third of *The Contest between Harmony and Invention* is made up of this work by Vivaldi intended to evoke different periods of the year.
ANSWER: *The **Four Seasons*** [or *Le **Quattro Stagioni***]
[10] This first concerto of *The Four Seasons* depicts a storm, a goatherder sleeping, and a dance of nymphs and shepherds.
ANSWER: "**Spring**" [or "La **Primavera**"]

15. This poem's last stanza describes an "innumerable caravan" which is moving towards the "silent halls of death." For 10 points each:
[10] Name this poem, a "meditation upon death" which begins "To him who in the love of Nature holds / Communion with her visible forms."
ANSWER: "**Thanatopsis**"
[10] "Thanatopsis" was written by this American poet who edited the New York Evening Post from 1828 to 1878.
ANSWER: William Cullen **Bryant**
[10] The title animal of this other Bryant poem disappears into the "abyss of heaven" and is described as floating along the "crimson sky" in the second stanza.
ANSWER: "**To a Waterfowl**"

16. Just in Time ones are intermediate to ahead of time ones and interpreters. For 10 points each:
[10] Name these programs that translate source code into machine code.
ANSWER: **compiler**s
[10] Just in Time compilation is used in the HotSpot implementation of this language in which one can use the system dot out dot print line method.
ANSWER: **Java**
[10] These files store the bytecode from the compiled dot java files. These files are then executed using the Java implementation.
ANSWER: **class** files [or dot **class**]

17. This work describes an inscription which says "Abandon all hope, ye who enter here." For 10 points each:
[10] Name this work by Dante Alighieri which takes place before the *Purgatorio* and the *Paradiso* and describes a trip through the underworld.
ANSWER: ***Inferno***
[10] Throughout the *Inferno*, the reader is reminded of this woman, Dante's love interest, who later guides him in the *Paradiso*.
ANSWER: **Beatrice** Portinari
[10] At the bottom-most layer in *Inferno*, Dante witnesses Satan along with three men. Name any one of those men.
ANSWER: **Judas** Iscariot or Marcus Junius **Brutus** or Gaius **Cassius** Longinus

18. Answer some questions about social movements in British history, for 10 points each.
[10] A high point in this movement was William Wilberforce's historical meeting with William Grenville under an oak. In the U.S., this cause was advanced by William Lloyd Garrison and Frederick Douglass.
ANSWER: **abolition** of slavery
[10] This nineteenth century movement was composed of artisans reacting against the loss of work caused by the Industrial Revolution.
ANSWER: **Luddite**s
[10] Emmeline Pankhurst was a leading member of this group, which included the woman who threw herself in front of a horse at Epsom Derby, Emily Davison.
ANSWER: **suffragette**s

19. This artist painted the *Darmstadt Madonna* and created the woodcut series the *Dance of Death*. For 10 points each:
[10] Name this artist who also painted portraits of Thomas Moore and Erasmus.
ANSWER: Hans **Holbein the Younger** [prompt on **Holbein**]
[10] Holbein may be best known for this 1533 painting of two richly-dressed men standing near a table filled with objects representing science and learning.
ANSWER: ***The Ambassadors***
[10] Holbein also painted a resurrected Jesus stepping away from Mary Magdalene in a painting titled after this phrase, which translates to "don't touch me" or "touch me not."
ANSWER: **"Noli me tangere"**

20. In a contest to see who could lift the cauldron of his father Hymir, this god's strength proved second only to that of Thor. For 10 points each:
[10] Name this one-handed Norse sea-god.
ANSWER: **Tyr** [or **Tiw**]
[10] Tyr's hand was bitten off by this giant, ferocious wolf after the gods successfully bound this creature with a ribbon-like harness.
ANSWER: **Fenrir** [or **Fenris**]
[10] Fenrir's harness, Gleipnir, was made by these creatures. One of them named Andvari possessed a magical gold ring, and Freya slept with four to obtain the necklace Brisingamen.
ANSWER: **dwarf**s [or **dwarves**; or **dverg**ar]

21. Acceleration due to this force is about 9.8 meters per second squared on Earth. For 10 points each:

[10] Name this fundamental force that comes from the attraction present between two masses.

ANSWER: **gravity**

[10] When a mass in free fall reaches a constant speed and has no acceleration, it has reached this speed where the drag force is equal to the force of gravity.

ANSWER: **terminal velocity**

[10] This speed equal to about 25,000 miles per hour on Earth's surface is the speed needed to overcome the gravitational attraction of another body.

ANSWER: **escape velocity**