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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl**  **Conference Tournament 2015**  **Round 5**  **First Period, Fifteen Tossups** |

1. The opening lines of this work describe small fowls sleeping all the night with open eye after describing sweet showers piercing the drought of March to the root. This work's "General Prologue" set partly at the Tabard Inn introduces such characters as the Knight, the Miller, and the Wife of Bath. For 10 points, name this collection of verse tales by Geoffrey Chaucer.  
ANSWER: *The* ***Canterbury Tales***

2. This event broke promises made by the Edict of Amboise and the Edict of Saint-Germaine. The founder of the Antarctique colony, Gaspard Coligny, was stabbed and thrown out a window during this event by a gang led by one of its instigators, Henry, the Duke of Guise. This event was sparked by the wedding of a Prince of Navarre and Margaret of Valois and was plotted by Catherine de Medici. For 10 points, name this massacre of Huguenots during the French Wars of Religion.   
ANSWER: **St. Bartholomew**'s Day massacre [or Massacre de la **Saint-Barthelemy**]

3. This man's Supreme Court was headed by Mohammad Beheshti, who was killed in a bombing by the People's Mujahedin. Shortly after this man took power, Operation Eagle Claw failed. This man originated the term "Great Satan" to describe the United States. Supporters of this man held fifty-two Americans hostage at an embassy for 444 days. This man, whose return from Najaf eventually led to the collapse of the Pahlavi dynasty, engaged in an eight-year war with Iraq in the 1980s. For 10 points, name this man who took control of Iran in 1979.  
ANSWER: Ayatollah **Khomeini** [or Ruhollah Mostafavi Mousavi **Khomeini** ]

4. This man's support of Mayor Big Bill Thompson led to protest votes for Anton Cermak. His mentor was Johnny Torio and he acquired his famous nickname after getting into a brawl while working at a Brooklyn night club. This man ordered his employees to dress like policeman in order to attack subordinates of rival Bugs Moran. This man ordered the 1929 Saint Valentine's Day Massacre and was eventually put in jail for income tax evasion. For 10 points, name this Chicago based gangster who was known as "Scarface."  
ANSWER: Alphonse "Al" **Capone**

5. According to Jesus, a widow that gives two of these objects as an offering has given more than any of the rich men. When asked if Jews should pay taxes, Jesus asked for one of these objects and said to give to Caesar what is Caesar's. A parable about these objects sits between those of the Lost Sheep and the Prodigal Son. Forms of these objects include the denarius and the shekel. Judas Iscariot received thirty silver ones in exchange for betraying Jesus. For 10 points, name this form of currency usually made of gold or silver.  
ANSWER: **coin** s [or **mite** s; or **lepton** ; or **lepta** ; or **denarius** until "denarius" is read; or **denarii** until "denarius" is read; or **shekel** s until "shekel" is read; prompt on **money** ; prompt on **currency** until "currency" is read]

6. The background of a history painting by this artist consists of a series of fires by a lake, next to a row of very tall lances. This artist depicted Justin of Nassau handing a set of keys over to Ambrogio Spinola in that painting. A set of Rubens illustrations of Ovid's *Metamorphoses* hangs on the shadowed back wall of a painting by this artist, in which a boy tries to wake a sleepy dog and two dwarves form part of the retinue of the Infanta Margarita. For 10 points, name this Spanish Baroue artist of *The Surrender of Breda* and *Las Meninas.*   
ANSWER: Diego **Velasquez** [or Diego Rodriguez de Silva y **Velazquez** ]

7. Polytene chromosomes appear in these organisms' salivary glands. The sex of these organisms is determined by the ratio of autosomes to X chromosomes. A mutation in the stubble gene in these organisms results in stumpy bristles. These organisms were used to study heredity by Thomas Hunt Morgan. Mutants of these creatures include "curly" and "ebony", and the wildtype of these model organisms have red eyes and two wings. For 10 points, name these insects whose scientific name is *Drosophila melanogaster* and which are often seen around apples and pears.  
ANSWER: **fruit flies** [or **vinegar flies** ; accept ***Drosophila*** melanogaster before mention; accept ***D. melanogaster*** before mention; accept **midge** s before "autosomes"]

8. After a vote related to this cause, Robert Haldane Smith led a namesake commission to determine the proper procedure for his country. It was opposed by Alistair Darling's "Better Together" movement, and Alex Salmond resigned in the wake of its defeat. This cause was defeated in a September 2014 referendum, with much opposition to it emanating from the Edinburgh area. For 10 points, name this political movement that strives to have a Highland member of the United Kingdom become its own country.  
ANSWER: **Scottish independence** [accept synonyms for independence]

9. Bernard de Montfaucon was hailed as the discoverer of this artwork. A naked man squats under a scene in this piece showing a cleric touching the face of a mysterious woman named Aelfgyva (ELF-give-uh). Its titulus "These people marvel at the star" is the first known depiction of Halley's comet. Either Bishop Odo or Queen Matilda commissioned this piece, whose last scene shows an arrow piercing the eye of Harold Godwinson at the Battle of Hastings. For 10 points, name this embroidered cloth depicting the Norman conquest.  
ANSWER: **Bayeux Tapestry** [or ***Tapisserie de Bayeux*** ; or ***La telle du conquest*** ]

10. The character Mor"du in this film is revealed to be a prince who had wished for the strength of ten men. A character in this film follows a trail of will-o"-the-wisps to a witch"s cabin where she acquires a cake which sets this film"s plot in motion. This film takes place in Dunbroch, which is ruled over by King Fergus and Queen Elinor. Elinor is transformed into a bear after her daughter asks the witch to "change her fate," in order to avoid an arranged marriage. For 10 points, name this Pixar film about a Scottish princess named Merida.  
ANSWER: **Brave**

11. A Gaussian integer is an integer plus some multiple of this number. E raised to r times this number is equal to cosine of r plus this number times sine of r; thus e raised to the power of pi times this number is negative one. The conjugate of this number is its negative. All complex numbers can be written as the sum of a real number and another real times this number. For 10 points, name this square root of negative one.  
ANSWER: **i** [or **imaginary unit** ]

12. This novel's protagonist runs off with a man who teaches her to play checkers and plays the guitar for her. While running a general store in Eatonville, this novel's protagonist is forced to cover her hair by her husband, the mayor Jody Starks. During the flooding caused by a hurricane, a rabid dog bites this novel's protagonist's third husband, Tea Cake, whom she eventually has to shoot. For 10 points, name this novel about Janie Crawford written by Zora Neale Hurston.  
ANSWER: ***Their Eyes Were Watching God***

13. Ground patterns that often form in this biome include lithalsas and pingos. Its soil is dominated by gelisol, and it's classified as ET in the Koppen system. Animals common to this biome include lemmings and the musk ox. Mosses, sedges, and lichens dominate its plant cover, which is limited by its soils's thin active layer, which seasonally thaws. This biome is separated from taiga by the tree line. For 10 points, name this biome whose icy soils are known as permafrost.  
ANSWER: **tundra**

14. This country's town Rabaul was the focus of Operation Cartwheel in the New Britain campaign. Yams and kula rings are traditional currency used by this country's Trobriand Islanders. It has the most indigenous languages in the world, although the most widely-used is Tok Pisin. Allied forces were victorious in this country's territory of Bougainville, which is geographically part of the Solomon Islands. For 10 points, name this country that shares a namesake island with Indonesia and has its capital at Port Moresby.   
ANSWER: **Papua New Guinea**  [do not prompt on "New Guinea]

15. In some places on this planet, fretted terrain connects its northern lowlands and southern lowlands. The Tharsis bulge on this planet makes it difficult to identify the actual rim of the Borealis basin, which covers 40% of this planet and is the largest impact crater in the Solar System. This planet is heavily covered in iron oxide dust, and its two moons are Phobos and Deimos. Like the Earth, this planet has polar ice caps made of frozen water. For 10 points, name this "red" planet, the fourth from the Sun.  
ANSWER: **Mars**

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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl**  **Regular Season 2014**  **Round 5**  **Directed Round** |

1A. What British novelist wrote about Mrs. Danvers in *Rebecca?*  
ANSWER: Daphne **du Maurier**

1B. What man, who ordered the King David Hotel bombing, was an Israeli Prime Minister who signed the Camp David Accords with Anwar Sadat?  
ANSWER: Menachem **Begin**

2A. What Puritan preacher during the First Great Awakening gave the "Sinners in the Hands of an Angry God" sermon?  
ANSWER: Jonathan **Edwards**

2B. What kind of animal is hunted in Heinrich Heine's *Atta Troll* and appears in a famous stage direction from *The Winter's Tale?*  
ANSWER: a **bear**

3A. This is a 20-second calculation question. You randomly sample 80 sports fans in the Washington, D.C. area and find that 20 claim to be fans of the Nationals only, 10 claim to be fans of the Wizards only, and 5 claim to be fans of neither team. The remainder claim to be fans of both teams. What is the probability that a randomly selected fan from this sample is a Nationals fan?  
ANSWER: **13/16** [or **65/80** ; or **0.8125** ]

3B. This is a 20-second calculation question. What is the slope of the line passing through the points (1, 7) and (-2, 1)?  
ANSWER: **2**

4A. What amount of carbon-12 weighs 12 grams?  
ANSWER: **mol** e [or **Avogadro** constant; prompt on **6.02** 214129 **times 10 to the 23** ]

4B. What grandson of a US President wrote about his "Education" in an influential memoir published posthumously in 1918?  
ANSWER: Henry **Adams**

5A. Name the large, shallow lake fed by the Kissimmee River and located in south-central Florida.  
ANSWER: Lake **Okeechobee**

5B. What term, taken from the French for "without breeches," referred to radical working-class partisans during the French Revolution?  
ANSWER: **sans-culottes**

6A. Edward Bulwer-Lytton's sentence beginning "It was a dark and stormy night" exemplifies the overwrought and melodramatic writing described as what color prose?  
ANSWER: **purple**

6B. What legendary coach of the Green Bay Packers is the namesake of the trophy awarded to the team who wins the Super Bowl each year?  
ANSWER: Vincent **Lombardi**

7A. What 1957 film features a lone juror convincing, one by one, his fellow jurors of a defendant's potential innocence?  
ANSWER: ***12 Angry Men***

7B. What Roman god had two faces and was the god of gates and doorways?  
ANSWER: **Janus**

8A. This is a 30-second calculation question. Suppose that sine x plus cosine x equals 0.7. What is sine of 2x?  
ANSWER: **-0.51** [or **-51/100** ]

8B. This is a 30-second calculation question. A ball with radius 1 inch is placed in a conical cup with the same radius and a height of 6 inches. Assuming that exactly half of the ball sticks out of the cup, find the volume of air remaining in the cup after the ball is placed inside. Express your answer in terms of pi.  
ANSWER: **4 pi/3** cubic inches [or **four-thirds pi** cubic inches; or **one and one-third pi** cubic inches]

9A. The keywords "for" and "while" are examples of what programming language statements meant to be run over and over until some condition is met?  
ANSWER: **loop** s

9B. A recent report revealed numerous academic improprieties involving athletes taking African-American Studies classes at what university?   
ANSWER: University of **North Carolina** at Chapel Hill [or **UNC** ]

10A. Name the gel-like mixture derived from algae that is combined with nutrients to form a growth medium for Petri dish cultures.  
ANSWER: **agar** [or **agar** plate; prompt on **agarose** ]

10B. What letter replaces "re" [r-e] when conjugating the past participle of regular verbs like rendre (RON-druh) and vendre (VON-druh) in French?  
ANSWER: **u**

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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl**  **Regular Season 2014**  **Round 5**  **Third Period, Fifteen Tossups** |

1. This female character is indirectly responsible for the creation of an ant-eating monster named Amphisbaena found in the Libyan Desert. Polydectes wanted an object belonging to this being. A myth claims this character was transformed after Poseidon raped her while in a temple of Athena. This character is slain by a man using a mirrored shield he had received from Athena. After she is killed, Pegasus sprung from her body. For 10 points, name this Gorgon from Greek mythology, who had turned people to stone with her gaze and had snakes for hair.  
ANSWER: **Medusa**

2. This story's narrator pays a "grub-man" to see that another character is well-fed while in prison. In this story, the narrator is shocked when he is locked out of his office and discovers that his quiet employee has been living there. The title character of this story repeatedly uses the excuse, "I would prefer not to," whenever he is asked to perform his task of copying. For 10 points, name this story about a clerk by Herman Melville.  
ANSWER: "**Bartleby** the Scrivener"

3. These structures grow in place of other organs in the disease phyllody. Fenestrated forms of this structure have translucent patches. This structure's adaxial side usually contains palisade mesophyll and is covered in a waxy cuticle. It is modified to form spines on cacti. In most monocots, this organ lacks a petiole and has parallel veins. This organ can accumulate red pigments following chlorophyll degradation in the autumn. For 10 points, name this photosynthetic organ extending from the stem that in most deciduous plants is shed in the fall.   
ANSWER: **leaf** [or **bract** ; prompt on **stipule** ]

4. Gorillas were named after a mythical tribe that supposedly killed an explorer from this empire. This empire was defeated by the tyrants Theron and Gelon after Gelon's cavalry sneaked into its camp and burned its ships at the Battle of Himera, ending its bid to take Agrigentum and Syracuse on Sicily. Hanno the Navigator explored the African coast for this Phoenician empire, which was defeated by the *corvus* hook during the first of three conflicts with Rome. For 10 points, name this ancient empire that fought the Punic Wars under Hamilcar and Hannibal.  
ANSWER: **Carthage**

5. One poem by this author asks the "wisest and fairest of the Angels" to "take pity on my long misery." Another poem by this author calls on his "hypocrite reader" to acknowledge the monster "Ennui." This poet included "The Litanies of Satan" in his most famous collection, which is divided into sections including "Revolt," "Death," and "Spleen and Ideal." For 10 points, name this proto-modernist French poet who wrote *The Flowers of Evil.*   
ANSWER: Charles **Baudelaire**

6. This group discovers golden mooncakes during the Chinese New Year festival. These fictional creatures, one of which is green and possesses boomerang powers, release a macaw named Blu during their promotion for the movie *Rio.*These characters can enlist the help of the Mighty Eagle or the King Sling to damage the structures of their nemesis pigs. For 10 points, identify these temperamental avian creatures that title a video game franchise developed by Rovio.  
ANSWER: **Angry Birds**

7. This compound and carbon monoxide are hazards formed when PVC catches fire and the air is saturated with moisture. This compound titrates Tris base in many organic buffers. Limestone, but not dolomite, will fizz when contacted by this chemical. This compound, which pickles steel, is mixed with nitric acid to form aqua regia. This acid would react with sodium hydroxide to form water and table salt. For 10 points, name this common strong acid with formula HCl.  
ANSWER: **hydrochloric** acid [or **muriatic** acid; or **HCl** until it is read]

8. Nando Parrado led a group of plane crash survivors in this mountain range for over two months. This mountain range contains a peak named for the "eyes of salt" found in its glaciers. Among this range's highest peaks are Ojos del Salado, the tallest volcano in the world, and Aconcagua. The Altiplano is a plateau region in this mountain range that contains Lake Titicaca. For 10 points, name this mountain range that runs down the western portion of South America.  
ANSWER: the **Andes**

9. Robert Barro resurrected this thinker's theory that raising taxes has the same effects as issuing debt. He argued with Malthus over the possibility of a "general glut," when aggregate supply exceed aggregate demand. This thinker used an example of the trade of wine and cloth between England and Portugal, in which it is mutually beneficial for each to specialize even though Portugal produces both goods more cheaply than England. For 10 points, name this English economist who advanced a theory of comparative advantage.   
ANSWER: David **Ricardo**

10. This man wrote his Piano Concerto no. 2 as a birthday present for his 19-year old son Maxim. Three sharp notes open the fourth movement of his eighth string quartet, which was "dedicated to the victims of fascism and war." He withdrew his fourth symphony after the editorial "Muddle Instead of Music" appeared in *Pravda,* and included a snare drum ostinato in the "invasion theme" of his *Leningrad* symphony. For 10 points, name this Soviet composer who constantly ran afoul of pro-Stalin censors.   
ANSWER: Dmitri **Shostakovich** [or Dmitri Dmitriyevich **Shostakovich** ]

11. In the two-body problem, this letter represents the reduced mass of the two bodies. Both the magnetic permeability and the magnetic dipole moment are represented by this letter. The leptons include the electron, tau, and a particle named for this letter. The frictional force acting on an object equals the normal force times a quantity represented by this letter. For 10 points, name this Greek letter, which denotes the coefficient of friction.  
ANSWER: **mu** [or **mu**on]

12. During a debate in this presidential election, a candidate menacingly walked towards his opponent while asking about the "Dingell-Norwood bill." In another debate during this election, the losing candidate was mocked for repeatedly insisting he would place a budget surplus in a "lockbox." Several senior citizen voters in this election accidentally voted for Pat Buchanan due to a confusing ballot. For 10 points, name this presidential election where a Supreme Court ruling to end ballot recounts in Florida allowed George W. Bush to defeat Al Gore.  
ANSWER: Election of **2000**

13. This poet was the first to use the word "self" in a non-reflexive sense in the forty-fifth sonnet in a sequence concluding with an "Epithalamion." This poet wrote about his courtship of Elizabeth Boyle in *Amoretti.* He also wrote a romance epic featuring such knights as Britomart, Guyon, and the Redcrosse Knight. For 10 points, name this Elizabethan poet of *The Faerie Queene.*   
ANSWER: Edmund **Spenser**

14. The Treaty of Trianon officially ended World War I between the Allies and this country. This country's New Economic Mechanism helped to decentralize its economy in the 1960s. The policy of "goulash Communism" was practiced in this country under the leadership of Janos Kadar. Imre Nagy was executed in 1958 for his role in an uprising which took place in this country after Nikita Khrushchev denounced Joseph Stalin in the "secret speech." For 10 points, name this Warsaw Pact country which had its 1956 uprising crushed by the Soviet Union.  
ANSWER: **Hungary**

15. This philosopher identified "fantastical," "contentious," and "delicate" as the three "distempers" of learning. A book by this man was included in a larger unfinished work called the *Instauratio Magna* and includes descriptions of the idols of the "Tribe," "Cave," "Market," and "Theater." That book by this man attempted to replace Aristotle's syllogistic method with a method of inductive reasoning. For 10 points, name this philosopher and author of *Novum Organum* , who developed the scientific method.  
ANSWER: Francis **Bacon**

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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl**  **Regular Season 2014**  **Round 5**  **Tiebreaker/replacement questions** |

1. In one of these artworks, a personification of Abundance stands below a bas relief depicting Augustus and Agrippa. A man sitting on a pile of coins is accompanied by three other gods surrounding an Egyptian obelisk in one of these sculptures by Bernini. Abutting the Palazzo Poli is one of these artworks depicting hippocampi jockied by Tritons pulling a shell chariot containing Oceanus. For 10 points, name these sculptures, such as one in Rome named for Trevi, which transport water.  
ANSWER: **fountain** s

2. The speaker of this poem calls for "a draught of vintage, that hath been cooled a long age in the deep-delved earth," and later exclaims, "tender is the night!" This poem ends with the speaker asking, "Was it a vision, or a waking dream? Fled is that music: do I wake or sleep?" For 10 points, name this ode by John Keats whose speaker exclaims to its addressee, "Thou wast not born for death, immortal bird!"  
ANSWER: "**Ode to a Nightingale**"

3. This place was home to unemployed mercenaries called Mamertines, who were initially hired by a king from this place, Agathocles. Prior to the launching of a fleet for this island, the hermai statues of Athens were mutilated. A city on this island ruled by Hiero II was defended against the siege of Marcus Claudius Marcellus by Archimedes's machines. During the Peloponnesian war, the Athenians made a disastrous expedition against this island's city of Syracuse. For 10 points, name this island home to Mt. Etna, which lies off the tip of the Italian boot.  
ANSWER: **Sicily** [or **Sicilia**; or **Syracuse** before "island" is read]

4. The Davisson-Germer experiment diffracted these particles off of nickel. The work function gives the energy required to release one of these particles. These particles were first discovered when J. J. Thomson observed the deflection of a cathode ray. For 10 points, identify the negatively charged particles that orbit the nucleus.  
ANSWER: **electron**s

5. The Polynesian hero Maui uses his sister's hair to restrain this type of object, which he then beats with a club. A goddess representing this object goes into hiding after a skinned horse is thrown at her. When a Japanese deity of this concept sees her reflection in a mirror, she comes out of a cave. Every night, the Egyptian deity Set helps a god of this domain fight the evil serpent Apep. Aten and Amun are Egyptian deities of this domain that became syncretized with the god Ra. For 10 points, name this object represented by the Greek god Helios.  
ANSWER: **sun** [or **sun** gods; or **solar** deities]

Hunahpu and Xbalanque travel to the underworld of Xibalba in the *Popol Vuh* , an epic from which civilization's mythology?  
ANSWER: **Maya** ns

This is a calculation question. Suppose that the true probability of getting a prize when you buy a drink is 1 in 4. Let X, a random variable, be the number of prizes you get. What is the minimum number of drinks you would need to buy for the standard deviation of X to be greater than 2?  
ANSWER: **22** drinks