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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl****Regular Season 2014****Round 11****First Period, Fifteen Tossups** |

1. This god transformed Alectryon into a rooster because he fell asleep and failed to warn him of Helios's arrival. In the *Iliad,* this god screams with the force of nine or ten thousand men after he is wounded in the stomach by Diomedes. This god's sister Enyo often accompanied him, as did his sons Phobos and Deimos. This god was once caught in bed with a net while having an affair with Hephaestus's wife Aphrodite. For 10 points, name this Greek god of war.

ANSWER: **Ares** [or **Mars** until "Iliad" is read]

2. This man exaggerated the cost of the ARC Tunnel, canceling it in 2010. This governor’s transit agency kept a third of its rail fleet in low-lying Kearny during a 2012 storm. An aide of this man emailed David Wildstein to say “time for some traffic problems in Fort Lee” regarding lane closures near the George Washington Bridge. For 10 points, name this Republican known for his response to Hurricane Sandy and hit by the Bridgegate scandal, the Governor of New Jersey.

ANSWER: Chris **Christie** [or Christopher James **Christie**]

3. In a story by this author, a man is reported to have been shot in fourteen places after being forced to teach Italian. This author also created a business associate of Meyer Wolfsheim. In that novel by this author, the title character spends a lot of time staring at a green light due to his love for Daisy Buchanan. For 10 points, name this author of "The Diamond as Big as the Ritz" and *The Great Gatsby.*

ANSWER: F. Scott **Fitzgerald** [Francis Scott Key **Fitzgerald**]

4. One of these events occurred in Lucens, Switzerland, in 1969. Edward Teller claimed to be the only victim of one of these events, and severe forms of these events may be characterized by China Syndrome. The “elephant’s foot” was formed by one of these events that occurred in the Ukraine. For 10 points, name these radioactive disasters which affect a certain type of power plant, notable examples of which have occured at Fukushima, Three Mile Island, and Chernobyl.

ANSWER: nuclear **meltdown** [or partial **core melt** accident]

5. In this composer's Opus 2, the title character sings "My peace is gone, my heart is heavy" as the piano accompaniment imitates the motions of the title object. This composer of "Gretchen at the Spinning Wheel" wrote variations on some of his other songs in pieces like the string quartet *Death and the Maiden* and the *Trout Quintet.* Only two complete movements survive of his eighth symphony. For 10 points, name this German composer of the *Unfinished* symphony.

ANSWER: Franz **Schubert**

6. Early in this man’s reign, Leo X declared him “Defender of the Faith” after he published his book *Defense of the Seven Sacraments.* This monarch wrestled with Francis I when they met at the Field of the Cloth of Gold. Robert Aske led the Pilgrimage of Grace to protest this king’s dissolving of the monasteries. This ruler established the Anglican Church after Cardinal Wolsey failed to secure his divorce from his first wife, Catherine of Aragon. For 10 points, name this Tudor King of England who had 6 wives.

ANSWER: **Henry VIII** [prompt on **Henry**]

7. A three-terminal, adjustable form of this device is called a potentiometer. The impedance of ideal versions of these devices is purely real as they have no reactance. These devices dissipate an amount of energy equal to the current times the voltage. The value of these devices is indicated by four bands of colors on them and is measured in Ohms. A zig-zag line is used to represent these devices in a circuit. For 10 points, name these circuit components that impede the flow of current.

ANSWER: **resistor**s

8. Jon Arason was killed for resisting the Reformation in this modern-day country. This country's bloodiest battle occurred at Haugsnes during the Sturlung Era. This country's decision to re-militarize and join NATO sparked a 1949 riot in Austurvollur Park, also the site of protests over its 2009 banking crisis. This country is home to the world's oldest parliament, the Althing. For 10 points, name this island once controlled by Denmark, whose capital is Reykjavik.

ANSWER: **Iceland**

9. The ascending portion of this structure contains three sinuses of Valsalva. This structure's enlargement is a common sign of Marfan syndrome and quickly causes death if it ruptures. In the abdomen, this structure splits into the common iliac arteries. The carotid arteries branch from the arch of this structure, which originates in the left ventricle and is responsible for bringing oxygenated blood to the entire body. For 10 points, name this main – and largest – artery in the body.

ANSWER: **aorta**

10. This character and Holly Robinson were briefly empowered by the muse Thalia. Fans were controversially invited to draw this character's death during Suicide Prevention Week. This character was forced to kill a pair of hyenas she had previously called her "babies." For 10 points, name this former Arkham Asylum psychiatrist, now an on-again off-again ally of The Joker.

ANSWER: Harley **Quinn** [or **Harley**; or **Harleen**; or Harleen **Quinzel**]

11. In this novel, the protagonist hears a woman singing about an “‘opeless fancy” while reading a book. A character in this novel who has varicose veins is tortured in Room 101 after being betrayed by O’Brien. In this novel, the government has agencies like the Ministry of Love and the Ministry of Truth. For 10 points, name this novel in which Winston Smith learns to love Big Brother, a dystopian book by George Orwell.

ANSWER: ***1984***

12. Abraham Bosse created the frontispiece to this book, which depicts a crowned man. This book suggests that civil governments like monarchy, democracy, and aristocracy are superior to a scripture-based Christian Commonwealth. This book's first section "Of Man" describes the state of nature as a "war of all against all" and life as "solitary, poor, nasty, brutish, and short." For 10 points, name this 1651 philosophical tract by Thomas Hobbes, named for a Biblical sea monster.

ANSWER: ***Leviathan***

13. Antimony fluorides usually act as these compounds in chemical reactions. These compounds are named by adding the suffixes "-ic" and "-ous", respectively, to ions ending in "-ate" and "-ite." Electrophiles like boron trifluoride act as these species by accepting electrons. According to the Arrhenius definition, these compounds will donate protons to solution. For 10 points, name these compounds which turn litmus paper red, the opposite of bases.

ANSWER: **acid**s [prompt on **electrophile**s until it is read]

14. The protagonist of this play gets in trouble after a dust storm passes, allowing sentries to see a dead body. In this play, Tiresias condemns a king for leaving a body above ground. Creon commits suicide after seeing the dead body of this play’s title character, who is engaged to Haemon and is the sister of Ismene. For 10 points, name this play by Sophocles about a daughter of Oedipus who breaks the law by burying her brother Polynices.

ANSWER: ***Antigone***

15. The southern terminus of this desert is often taken to be wherever the plant species Cornulaca monacantha stops appearing. The Air and Tibetsi Mountains are found in this desert. One of the most desolate parts of this desert, the Tanezrouft, is inhabited only by the Tuareg people. This desert’s south is bordered by a semi-arid Sahel. For 10 points, name this desert that covers the majority of northern Africa.

ANSWER: **Sahara** Desert

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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl****Regular Season 2014****Round 11****Directed Round** |

1A. In 2014, Felipe VI rose to what position, which was made open by the abdication of his father, Juan Carlos I?

ANSWER: **King of Spain**

1B. Sometimes called trypanosomiasis, what disease interrupts circadian rhythms and is carried by tsetse flies on a namesake continent?

ANSWER: African **sleeping sickness**

2A. What archipelago, home to the city of Pemba, merged with Tanganyika to form the modern country of Tanzania?

ANSWER: **Zanzibar** [or **Zanjibar**]

2B. What world leader jointly won the Nobel Peace Prize with F.W. De Klerk?

ANSWER: Nelson **Mandela**

3A. This is a 20-second calculation question. Line AB intersects parallel lines CD and EF at points G and H, respectively. If angle AGD measures 55 degrees and angle BHF is obtuse, what is the measure of angle BHF?

ANSWER: **125** degrees

3B. This is a 20-second calculation question. If sine of theta equals 5/13 and cosine of theta equals negative 12/13, what is sine of 2 theta?

ANSWER: **-120/169** [do not accept positive answers]

4A. What President was impeached for his violation of the Tenure of Office Act in his attempt to dismiss Edwin Stanton?

ANSWER: **A**ndrew **Johnson** [prompt on **Johnson**]

4B. In what Fyodor Dostoevsky novel does the investigator Porfiry Petrovich pursue the murderer of a pawnbroker who compares himself to Napoleon, Rodion Raskolnikov?

ANSWER: ***Crime and Punishment*** [or ***Prestupleniye i nakazaniye***]

5A. Identify the syncretic religion combining Yoruba and Catholic beliefs that includes spirits called Orishas and whose name means “the way of the saints.”

ANSWER: **Santeria** [or **Regla de Ocha**; or **Regla de Ifa**; or **Regla de Lukumi**]

5B. What American modernist collected such poems as “Thirteen Ways of Looking at a Blackbird” and “The Emperor of Ice-Cream” in his first collection, *Harmonium*?

ANSWER: Wallace **Stevens**

6A. What former Weekend Update anchor replaced Jimmy Fallon as host of NBC's *Late Night* franchise in early 2014?

ANSWER: Seth **Meyers** [Seth Adam **Meyers**]

6B. In which aria sung by the tenor Calaf in Giacomo Puccini’s opera *Turandot* does he declare “none shall sleep tonight”?

ANSWER: “**Nessun dorma**”

7A. What rule in calculus can be used to find the derivative of an expression where one function is divided by another?

ANSWER: **quotient** rule

7B. What part of speech are the Spanish words "sin," (SEEN) "hacia" (ah-SEE-uh), and "bajo" (BAH-hoh)?

ANSWER: **preposition**s [or las **preposición**as]

8A. This is a 30-second calculation question. Find the zeros of the function given by "f of *x* equals *x* to the fourth minus 16 *x* squared minus 225" if the domain and range of the function are both "all real numbers."

ANSWER: *x* =**-5** and *x* = **5** [or *x* = **5** and *x* = **-5**; do not accept partial answers; do not accept answers including "3i"; do not accept answers including "negative 3i"]

8B. This is a 30-second calculation question. Taryn picks a ball at random from an urn that contains nine red balls and one blue ball, otherwise exactly identical. If she picks a red ball, she puts it back in the urn and draws again. What is the probability that she picks the blue ball on exactly her third draw?

ANSWER: **81/1000** [or **0.081**]

9A. What kind of couplet was widely used by Latin poets including Catullus and Ovid?

ANSWER: **elegiac** couplets

9B. What kind of spectroscopy employs powerful magnets to determine chemical structures and is used in the medical field as an MRI?

ANSWER: **NMR** spectroscopy [or **nuclear magnetic resonance** spectroscopy]

10A. What Dutch professor and vampire hunter helps destroy Count Dracula in the novel by Bram Stoker?

ANSWER: Abraham **Van Helsing** [or **Abraham** Van Helsing]

10B. What type of weaponized object did Boris Yeltsin stand on in August 1991 during a coup at the end of Soviet rule, to speak in front of his country’s White House in Moscow?

ANSWER: a **tank** turret

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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl****Regular Season 2014****Round 11****Third Period, Fifteen Tossups** |

1. The people who are most slighted by this institution have to sweep the ground behind them as they walk and may be forced to work as tanners and butchers. This institution's fine-grained categories correspond roughly to occupations and are known as "jati," while its four broad divisions are called "varna." For 10 points, identify this institution with "untouchables" at the bottom and Brahmins at the top, which is a now-illegal social hierarchy in India.

ANSWER: Indian **caste** system

2. In this novel’s first chapter, its protagonist watches as Denis Eady dances with his beloved in the church of Starkfield. In a pivotal scene from this novel, a cat breaks another character’s prized pickle dish. The title character of this novel is married to Zeena, but falls in love with Mattie Silver and attempts to commit suicide with her on a sled. For 10 points, name this short novel by Edith Wharton.

ANSWER: ***Ethan Frome***

3. The Taylor series for one form of this function starts *x* - *x*-squared over two plus *x*-cubed over three. Its derivative is always a multiple of one over *x*. This function can be found for the inverse of a number by multiplying by negative one. The result of this function on the product of two numbers *a* and *b* is equal to the sum of this function of *a* and *b* individually. For 10 points, identify this function that is the inverse of the exponential function.

ANSWER: **log**arithm [or natural **log**arithm; or **log**arithm base 2; or **log**arithm base 10; or binary **log**arithm; or common **log**arithm]

4. This artist painted a woman in a pink dress sitting in the grass, reading a book in a painting entitled *Springtime.* A late painting by this artist shows a train station at Saint Lazare. After moving to Giverny, this painter of the Rouen Cathedral created series of poplar trees and water lilies. A depiction of boats at Le Havre gave rise to an art movement that bears its name. For 10 points, identify this French painter of *Impression, Sunrise.*

ANSWER: Claude **Monet** [Oscar-Claude **Monet**]

5. A city in this state was the fourth-largest in the USA’s inaugural 1790 Census, and is found on Oyster Point. This state is home to a unique mustard-based barbecue sauce. Its northeast corner is known as the Pee Dee. Its Lowcountry is home to the Gullah culture and an aforementioned city which was devastated by 1989’s Hurricane Hugo and lent its name to a 1920’s dance craze. For 10 points, Charleston is located in what Southeastern state with capital at Columbia?

ANSWER: **South Carolina**

6. The acronym TORCH describes types of "vertically transmitted" infections that pass through this organ. This organ is composed of two parts called the decidua basalis and the villous chorion. Mammals that are not monotremes or marsupials are defined by their use of these organs. It develops in the endometrium following after blastocyst implantation. This organ is connected to two arteries and a vein in the umbilical cord. For 10 points, name this organ that develops in the uterine wall to nourish the growing fetus.

ANSWER: **placenta**

7. In one of his novels, this author wrote about the Hailsham boarding school residents Tommy, Kathy, and Ruth, who are revealed to be clones who exist so their organs can be harvested for “normals.” In another novel, he created the fascist Lord Darlington, who employs the self-deceiving butler Stevens. For 10 points, name this Japanese-born British novelist of *Never Let Me Go* and *The Remains of the Day.*

ANSWER: Kazuo **Ishiguro**

8. A *non*-constant value of this quantity characterizes meridians. The strength of the Coriolis frequency is proportional the the sine of this quantity, so the Coriolis deflection increases with this quantity, being zero at the equator. The Sun can only be directly overhead between the Tropics of Capricorn and Cancer, named examples of this quantity. For 10 points, identify this geographic coordinate that specifies how northerly or southerly a point on the Earth's surface is, in contrast to the east-west longitude.

ANSWER: **latitude**

9. This character has a counterpart named Fionna who exists only in a parallel universe. When this character kisses Lumpy Space Princess, she compares it to a “dip in the kiddy pool.” The appearance of Betty Groff means that this character is no longer the last human in the Land of Ooo which was created after the Mushroom War. For 10 points, name this character, whose adoptive brother is a dog named Jake and who appears on *Adventure Time*.

ANSWER: **Finn** the Human

10. In 1018, Boleslav the Brave chipped his sword after striking this city's Golden Gate during a succession crisis involving Sviatopolk the Accursed. Vladimir the Great and Yaroslav the Wise ruled from this city, which was captured under Oleg by Novgorod. A great Slavic state was known as this city's “Rus,” and it sits on the Dnieper River. The 2004 Orange Revolution and 2013 Euromaidan protests occurred in, for 10 points, what capital of Ukraine?

ANSWER: **Kiev**

11. The angular spacing in this experiment is given by the wavelength divided by spacing distance. The results of this experiment are nullified if a particle detector is added to the setup. Fringes were formed on a screen in the far field in this experiment, showing interference led to alternating bright and light bands. Coherent light diffracted through small holes in this experiment. For 10 points, name this experiment carried out by Thomas Young.

ANSWER: Thomas Young's **double-slit** experiment [or the **Young** experiment until it is read]

12. This leader was planned to be overthrown by the Protocol of Sevres. British Prime Minister Anthony Eden resigned due to political backlash against a military operation opposing this man’s actions. This man and Mohammad Naguib led a 1952 revolution overthrowing King Farouk. The Soviet Union funded this man’s government to build the Aswan High Dam. Britain, France, and Israel invaded his country when he attempted to nationalize the Suez Canal. For 10 points, name this former President of Egypt.

ANSWER: Gamal Abdel **Nasser** [or Gamal Abdel **Nasser** Hussein]

13. This man created an artwork based on where three pieces of string fell by chance. This artist included nine “malic molds” in a “hilarious picture” that contrasts the title female in the upper panel with her nervous suitors below. This creator of *The Large Glass*, also known as *The Bride Stripped Bare By Her Bachelors, Even*, angered the Society of Independent Artists by submitting to them a urinal signed “R. Mutt.” For 10 points, name this French Dada artist whose “readymades” include *Fountain.*

ANSWER: Marcel **Duchamp**

14. When approached by the Pharisees and Sadducees, this person calls them a “generation of vipers.” This man declared that he was not a prophet, but rather a “voice crying in the wilderness.” This son of Zecharias and Elizabeth supposedly jumped in the womb when his mother encountered her pregnant sister Mary. For 10 points, name this man who baptized Jesus in the Jordan River.

ANSWER: **John the Baptist** [prompt on **John**]

15. This party was humiliated by the Blue Light scandal, in which members of its extreme pro-British faction, the Essex Junto, were accused of aiding the enemy during the War of 1812. Also during the war, this party held the secessionist Hartford Convention, dooming it to irrelevance during the Era of Good Feelings. For 10 points, name this political party which lost its struggle with the Democratic-Republicans despite sending John Adams to the Presidency.

ANSWER: **Federalist** Party

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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl****Regular Season 2014****Round 11****Tiebreaker/replacement questions** |

1. At this man's coronation, poor crowd control during the distribution of mementos led to attendees being trampled to death in the Khodynka (co-DINK-uh) Field tragedy. This emperor commissioned Sergei Witte (VIT-uh) to write the October Manifesto, creating the highly constrained First Duma. For 10 points, name this tsar of Russia who was ultimately shot at Yekaterinburg, following his deposition in the February Revolution during World War I.

ANSWER: **Nicholas II** [prompt on **Nicholas**]

2. Shira is the shortest of three cones which make up this mountain, and the Western Breach is the shortest but most dangerous route to its summit. This peak titles a story in which Harry, who is dying of gangrene while on safari, reflects on his failure to write, by Ernest Hemingway. Due to global warming, the glacier, or “snows”, on its Uhuru peak could disappear as soon as 2022. For 10 points, name this highest mountain in Africa.

ANSWER: Mount **Kilimanjaro**

3. This nation’s mythology appears in the *Red Book of Hergest*, which relates a story about a cauldron that a king uses to revive his dead soldiers. Lady Charlotte Guest compiled myths from this nation, including its “four branches,” into the *Mabinogion*. For 10 points, name this part of the United Kingdom whose folklore inspired Arthurian legends.

ANSWER: **Wales** [prompt on **Britain**; prompt on the **United Kingdom**]

4. The signum function equals this function of *x* divided by *x*. For a complex number *a* plus *b i*, it is the square root of *a*-squared plus *b*-squared. The square root of *x*-squared is equal to this function of *x*. Solving equations involving this function of *x* requires considering both *x* and its negative. For 10 points, identify this function which gives a quantity's distance from zero and thus can never be negative.

ANSWER: **absolute value** [or **modulus**]

5. While his younger brother worked at the *New England Courant,* this author had a series of letters published in that paper attributed to the fictional persona of a widow named Silence Dogood. He wrote, “A penny saved is a penny earned,” in his publication *Poor Richard’s Almanack.* For 10 points, name this Founding Father whose autobiography briefly mentions his famous experiment that involved flying a kite in a thunderstorm.

ANSWER: Benjamin **Franklin**

What mountain range, which includes the Boston Mountains and the Saint Francois Mountains, covers much of southern Missouri and northern Arkansas?

ANSWER: **Ozark** Mountains [or **Ozarks**; or **Ozark** Plateau]

A set of five numbers has a range of 31. If four of the numbers are 54, 37, 65, and 62, what are the two possible values of the fifth number?

ANSWER: **34** and **68**