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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl**  **Regional Tournament 2015**  **Round 7**  **First Period, Fifteen Tossups** |

1. This prophet delivered a sermon that convinced a king to put on sackcloth and sit on ashes out of repentance. A worm ate the roots of a leafy plant under which this man took shelter from the sun. This prophet attempted to run away to Tarshish (tar-SHEESH) when he was told to preach to the people of Nineveh (NIN-uh-vuh). During a storm, a group of sailors threw him overboard, after which he was eaten alive. For 10 points, name this prophet who was swallowed by a large fish.  
ANSWER: **Jonah** [or **Jonas**; or **Younis**; or **Yona**; or **Yunus**]

2. This author created a character who believes that she drank her sister’s blood when she was breastfeeding from her mother. In one of her novels, Cholly (CHA-lee) rapes Pauline, who gives birth to Pecola Breedlove, a girl who longs for the title facial feature. Paul D arrives at 124 Bluestone Road in a novel by this author named for one of Sethe’s (SETH-uh’s) daughters, who comes back to life after being killed as a baby. For 10 points, name this African-American woman, the author of *The Bluest Eye* and *Beloved.*  
ANSWER: Toni **Morrison** [or Chloe Ardelia **Wofford**]

3. The southern portion of this island is an ecological hotspot which features Grandidier’s (gran-dee-dee-YAY’s) mongoose and “spiny thickets” vegetation. This island is home to the traveler’s palm, and a “natural monument” in its Menabe (meh-NAH-bay) region is known as the Avenue of the Baobabs. It is home to a “ring-tailed” primate and is separated from Africa by the Mozambique Channel. For 10 points, lemurs and the Malagasy (mah-luh-GAH-say) people are native to what “Big Red Island” in the Indian Ocean?  
ANSWER: **Madagascar**

4. This novel was written in response to Lord Byron’s proposal that each of the guests at his villa “write a ghost story.” The protagonist of this novel is motivated by his mother’s death from scarlet fever and an instance of lightning striking an oak tree. In this novel, the title character experiments with body parts from corpses to create a giant, ugly man. For 10 points, name this novel by Mary Shelley whose title character is often confused with the monster he creates.  
ANSWER: ***Frankenstein***[***Frankenstein****; or, the Modern Prometheus*]

5. This food is topped with gravy and cheese curds in the Quebecois (keh-beh-KWAH) dish poutine (poo-TEEN). Five Guys restaurants can serve this food in the “Cajun style.” After a certain country announced its opposition to the Iraq War, Republican representative Bob Ney attempted to change the adjective describing this food to “freedom.” In the United Kingdom, this food is known as “chips,” and is often served alongside fish. For 10 points, name these strips of potatoes that serve as side dishes at many fast food restaurants.  
ANSWER: French **fries** [or **pommes frites**; prompt on **potato**es until it is read]

6. One of these institutions called *The Argus* was created to support Andrew Jackson by Amos Kendall. Benjamin Franklin sent letters to one of these institutions under the pseudonym Silence Dogood. An owner of one of these institutions was defended by Andrew Hamilton in a trial resulting from his alleged libel of Governor William Cosby. The Zenger trial involved one of these institutions. For 10 points, name this type of publication owned by Joseph Pulitzer and William Randolph Hearst and exemplified by the *New York Times*.  
ANSWER: **newspaper**s [prompt on less specific answers such as **periodical**s]

7. This process mainly occurs through the extrinsic tissue factor pathway, which involves factor VIIa (“seven a”). It is decreased in von Willebrand disease. Deep-vein thrombosis may be treated with drugs that decrease this process, such as heparin (HEP-uh-rin), and warfarin (WAR-fuh-rin) limits this pathway by inhibiting vitamin K activity. In this process, fibrin and platelets clump at the site of tissue damage. Dysfunction in it can cause bruising and hemorrhages. For 10 points, name this process, defective in hemophilia, that stanches bleeding.  
ANSWER: **clotting** [or **coagulation**; prompt on **bleeding** until “Willebrand” is read but not after]

8. In 1992, this politician returned the black box from Korean Airlines Flight 007 to South Korea. In 1998, he dismissed Sergei Kirienko (keer-YANE-koh) as Prime Minister after his country defaulted on its debts. A coup attempt against this politician failed after military officers loyal to him shelled the parliament building. This leader began the First Chechen (CHEH-chin) War in 1994. He stood on a tank turret to voice his opposition to a coup attempt against Mikhail Gorbachev. For 10 points, name this politician, who served as the first President of Russia.  
ANSWER: Boris **Yeltsin** [Boris Nikolayevich **Yeltsin**]

9. The symmetric group of order 3 does not have this property, which is possessed by all pairs of elements in abelian (ah-BEE-lee-uhn) groups. Matrix multiplication does not always satisfy this property. Subtraction and division of real numbers do not have this property, but addition and multiplication do. For 10 points, name this mathematical property in which the order of operands does not matter, exemplified by the fact that a times b equals b times a.  
ANSWER: **commutativity** [or **commutative** property]

10. In a painting by this artist, a man steps over a wall in the background and three women pray at the feet of the subject. A group of women wearing habits watch Jacob wrestling the angel in this artist’s *Vision After the Sermon.* He depicted women representing life from childhood to adulthood to old age in his painting *Where Do We Come From? What Are We? Where Are We Going?* This artist left Paris in the middle of his career to travel to Tahiti. For 10 points, name this French painter of *The Yellow Christ.*  
ANSWER: Paul **Gauguin**

11. In February 2014, Japan Industrial Partners purchased this company’s computer manufacturing division. In 2014, this company was targeted by the Guardians of Peace, who released the phone numbers of various celebrities, as well as copies of films including *Annie* and *Fury*. North Korea called a 2014 cyber-attack against this company a “righteous deed.” For 10 points, name this company, which manufactures the Playstation, and whose film studio was hacked in November 2014, causing it to scale back the release of *The Interview*.  
ANSWER: **Sony** Corporation

12. This group signed the Treaty of Misenum (mee-SAY-num) with a man that it later defeated at the Battle of Naulochus (now-LOH-kuss), the pirate leader Sextus Pompeius. This group signed the Treaty of Brundisium after winning the Battle of Philippi. A member of this group was defeated by Agrippa at the Battle of Actium, leading him to commit suicide with his lover Cleopatra. For 10 points, name this government led by Lepidus, Marc Antony, and Octavian, which was modeled on a similar group headed by Julius Caesar.  
ANSWER: **Second Triumvirate** [prompt on **triumvirate**]

13. With Hermann Helmholtz, this physicist developed a trichromatic theory of vision. He is the namesake of a physical term equal to the ratio of stress to strain in a material. This man conducted an experiment in which he observed a pair of bands instead of the predicted interference pattern; that experiment characterized the wave nature of light. For 10 points, name this English physicist who performed the “double-slit experiment.”  
ANSWER: Thomas **Young**

14. This poet used the phrase “carmen et error” to identify the cause, lamented in his *Tristia,* of his exile to the Black Sea by Augustus. He wrote a fifteen-book poem, the first book of which describes the creation of the world and the flood survived by Pyrrha (PEER-uh) and Deucalion (doo-KALE-yun). In that poem, he described the old couple Baucis (BAO-kiss) and Philemon (FIE-luh-mon) being transformed into trees. For 10 points, name this Roman poet of the *Metamorphoses.*  
ANSWER: **Ovid** [Publius **Ovid**ius Naso]

15. The Myriad Botanical Gardens were designed in accordance with this man’s redevelopment plan for Oklahoma City. This longtime collaborator with Henry N. Cobb designed a triangular skyscraper for the Bank of China in Hong Kong and gave Boston its tallest building by designing the Hancock Tower. This architect’s design for the Rock and Roll Hall of Fame in Cleveland brought back a glass-and-metal element that he used as the entryway to a Paris museum. For 10 points, name this Chinese-American architect of the Louvre pyramid.  
ANSWER: I.M. **Pei** [Ieoh Ming **Pei**]

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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl**  **Regional Tournament 2014**  **Round 7**  **Directed Round** |

1A. Name the Dutch city where, in 1992, a treaty was signed which created the “pillar structure” of the present-day European Union and first proposed the euro?  
ANSWER: **Maastricht**

1B. What actor’s movie roles have included Stuart Twombly in *The Internship* and Thomas in the 2014 film *The Maze Runner*?  
ANSWER: Dylan **O’Brien**

2A. Give the English word for the part of a house which is known as a “schlafzimmer” (SHLAAF-zee-mur) in German, “chambre à coucher” (SHAHM-bruh ah COO-shay) in French, and “dormitorio” (dohr-mee-tor-EE-oh) in Spanish.  
ANSWER: **bedroom**

2B. In October 2014, Julia Pierson resigned as the head of what group after various embarrassing incidents, such as its failure to stop intruder Dominic Adesanya?  
ANSWER: United States **Secret Service**

3A. This is a 20-second calculation question. Over what interval is the function f of x equals x squared plus 2 x plus 1 increasing?  
ANSWER: x is **greater than -1** [or **(-1, infinity)**]

3B. This is a 20-second calculation question. For what value of w does the arctangent of 2w equal zero?  
ANSWER: **0**

4A. What twentieth-century Russian author wrote about Woland in *The Master and Margarita*?  
ANSWER: Mikhail **Bulgakov** [Mikhail Afanasyevich **Bulgakov**]

4B. Thymine (“THIGH”-meen) is replaced with which nucleotide (NOOK-lee-uh-tide) base in RNA?  
ANSWER: **uracil** [prompt on **U**]

5A. What city was legendarily founded by Cadmus, who was aided by men that sprang from planted dragon’s teeth?  
ANSWER: **Thebes**

5B. At the Constitutional Convention, instead of being counted as a full person in determining a state’s population count, slaves were counted as what fraction of a person?  
ANSWER: **three-fifths**

6A. What 1709 victory for Peter the Great over Swedish forces marked the turning point of the Great Northern War?  
ANSWER: Battle of **Poltava**

6B. What eponymous verb derived from the publisher of *The Family Shakspeare* refers to the act of censoring text deemed too vulgar?  
ANSWER: **bowdlerize** [or word forms]

7A. What property states that if a equals b and b equals c, then a equals c?  
ANSWER: **transitive** property of equality [or **transitivity**]

7B. What present-day city’s houses of worship include the Ottoman-era “Blue” Mosque and the Byzantine-era Hagia Sophia, which now serves as a museum?  
ANSWER: **Istanbul**

8A. This is a 30-second calculation question. If the range of Julia’s five test scores is 17 and her first four scores were 80, 90, 76, and 84, what are the two possible values of her score on the fifth test?  
ANSWER: **73** and **93** [do not accept only one answer by itself]

8B. This is a 30-second calculation question. Circle O and Circle A intersect at points B and C such that quadrilateral ABOC is a square. If both circles have a radius of 2 inches, what is the area of their intersection?  
ANSWER: **2 pi minus 4** inches [or **2 times quantity pi minus 2** inches]

9A. What term describes a set of equations that generates a curve in the x-y plane by setting x and y to different functions of a single other variable?  
ANSWER: **parametric** equations

9B. The Great Blue Hole, a popular diving destination, can be found in what country, whose capital was moved inland to Belmopan after Hurricane Hattie devastated its namesake city?  
ANSWER: **Belize**

10A. What author described the Stamper family in his novel *Sometimes a Great Notion* and also wrote *One Flew Over the Cuckoo’s Nest*?  
ANSWER: Ken **Kesey**

10B. What poet wrote that the laurel “withers quicker than the rose” in his poem “To an Athlete Dying Young,” which is part of his collection *A Shropshire Lad*?  
ANSWER: A. E. **Housman** [Alfred Edward **Housman**]

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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl**  **Regional Tournament 2014**  **Round 7**  **Third Period, Fifteen Tossups** |

1. A band that hails from this country included “Beware The Dog” on their album *Be Impressive*. This country titles a song by The Shins that ends with a request to “give me your hand” and “jump out the window.” Another musical group from here sang, “My friends are gonna be there too” in a song that ends, “I’m on the highway to hell.” The Griswolds and AC/DC both hail from this country. The unofficial national anthem of this country is “Walzing Matilda.” For 10 points, name this country that the band Men at Work boasted about in the song “Down Under.”  
ANSWER: **Australia** [Commonwealth of **Australia**]

2. This man wrote that “history repeats, first as tragedy, then as farce” to describe the rise of Louis Napoleon. In another text, this man wrote that societal contributions should come “from each according to his ability, to each according to his need.” With a younger colleague, he wrote that all previous history was “the history of class struggles.” This man described the exploitation of labor in his text *Das Kapital*. For 10 points, name this German thinker who collaborated with Friedrich Engels on *The Communist Manifesto*.  
ANSWER: Karl **Marx**

3. Instead of applying this theory to the mentally ill, its creator studied “exemplary people” such as Albert Einstein and Eleanor Roosevelt. Represented as a pyramid, this idea’s lower four layers are called deficient, or “d-needs.” This construct, first proposed in “A Theory of Human Motivation,” suggests the fulfillment of physiological needs occurs before that of self-esteem and “self-actualization.” For 10 points, identify this theory developed by Abraham Maslow.  
ANSWER: Maslow’s **hierarchy of needs** [or **Theory of Human Motivation** until it is read]

4. This company offered stock to its competitors in the Cleveland Massacre. Its founder was behind the ill-fated South Improvement Company, which intended to pay secret rebates for use of freight rail. This company’s successors included Socony and Esso. An exposé of this corporation serialized in *McClure*’s portrayed this company as an octopus and was written by muckraker Ida Tarbell. It was broken up into thirty-four firms in 1911 under the Sherman Anti-Trust Act. For 10 points, John D. Rockefeller founded what petroleum monopoly?  
ANSWER: **Standard Oil** Company

5. This effort was orchestrated by the Akazu (ah-KAH-zoo) and carried out by groups such as the Impuza-mugambi (imp-OO-zah-moo-GAHM-bee). This event, which marked the failure of the Arusha Accords and UNAMIR, began the Lakes Crisis. The Interahamwe (in-tair-uh-HAHM-way) militias helped carry out this event, after a rocket took down a plane carrying Juvenal Habyarimana (hahb-yah-ree-MAH-nah) and the president of Burundi. For 10 points, name this campaign of mass killing pitting Hutus against Tutsis in 1994.  
ANSWER: the **Rwandan Genocide** [prompt on **Rwandan Civil War**]

6. This ruler’s control of Milan and Naples was recognized in the Treaty of Cateau-Cambresis (CAH-toe-cahm-BRAY-sis), which he signed with Henry II of France. With Juan Bautista de Toledo, this king designed the El Escorial (esk-ore-ee-AHL) palace. His half-brother Don Juan of Austria led the Holy League forces that defeated the Ottomans at Lepanto. This king sent an invasion force led by the Duke of Medina Sidonia in an attempt to overthrow Elizabeth I. For 10 points, name this Habsburg King of Spain who sent the Spanish Armada against England.  
ANSWER: **Philip II** [or **Felipe II**; or **Philip the Prudent**; or **Felipe el Prudente**; prompt on **Philip**; prompt on **Felipe**]

7. An odd m-over-z ratio in mass spectrometry usually means that this element is present. Hydrogen atoms bonded to this element form hydrogen bonds between base pairs in DNA. Both this element’s oxide and its dioxide are free radicals. In most compounds, this second-period element has a trigonal pyramidal geometry, with a single lone pair. This element is stable as a diatomic gas with a triple bond. For 10 points, name this element that makes up the majority of the Earth’s atmosphere.  
ANSWER: **nitrogen** [or **N**]

8. This practice is guided by the three Rs of “replacement, reduction, and refinement.” William Bayliss’s use of this practice led to the creation and then destruction of a statue in the Brown Dog Affair. This practice is used to determine a substance’s LD50 for oral administration. Pharmaceutical and cosmetics companies usually follow this practice with euthanasia. For 10 points, name this practice in which the effects of products or drugs are assessed using non-human organisms, such as rabbits and mice.  
ANSWER: **animal test**ing [or **animal experimentation**; or **vivisection**; or obvious equivalents; prompt on **medical test**s; prompt on **dissection**]

9. Many modern descriptions of this object are based on the writings of Robert de Boron. Some legends claim that Joseph of Arimathea brought this object to Glastonbury, England and hid it in a well. Other legends portray this object as having the power to heal the wounds of The Fisher King. This object became the focus of a quest undertaken by King Arthur’s knights. For 10 points, what is this object that, according to many legends, was the cup Jesus drank from at the Last Supper?  
ANSWER: the **Holy Grail**

10. The southernmost settlement in this island chain is built around Silver Lake Harbor and contains its state’s oldest lighthouse, Ocracoke (OAK-ruh-coak). The highest point in this region is the constantly-shifting sand dune system Jockey’s Ridge, in the town of Nags Head. Its Bodie Island is now part of the Currituck Banks peninsula, and it is separated from the mainland by Albemarle and Pamlico Sounds. For 10 points, Cape Hatteras National Seashore and the Wright Brothers Memorial are found in what barrier island chain in eastern North Carolina?  
ANSWER: **Outer Banks**

11. Two of the four main TORCH infections are caused by members of this family. One species of this group causes Kaposi’s sarcoma. This family’s members include the two causes of mono, cytomegalovirus (SAI-toh-MEG-uh-loh-“virus”) and Epstein-Barr virus. All species in this family can be reactivated after latency, such as when shingles occurs decades after chickenpox infection. Oral blisters are caused by two types of this family’s *simplex* species. For 10 points, name this viral family with members that cause cold sores and can be transmitted sexually.  
ANSWER: ***herpes****virus* [or ***herpesviridae***]

12. This poem was originally a much longer manuscript entitled *He Do the Police in Different Voices,* but its author edited it down to its current 434 lines with the help of Ezra Pound. This poem alludes to the opening of *The Canterbury Tales* in its first lines and concludes by repeating the Sanskrit word for profound peace. This poem’s five sections include “What the Thunder Said” and “The Burial of the Dead,” which begins, “April is the cruelest month.” For 10 points, name this 1922 modernist poem by T. S. Eliot.  
ANSWER: “The **Waste Land**”

13. With an Indian scientist, this physicist names a state of matter that is a dilute gas of bosons that forms at ultra-cold temperatures. This man, who co-names a state of matter with Satyendra Bose (saht-YEN-druh BOHZ), put forth a theory later verified by Jean Perrin (JON PAY-ron) about how Brownian motion works. This scientist proposed that light was quantized in his explanation of the photoelectric effect. He developed both special and general relativity. For 10 points, name this German physicist responsible for the formula “E equals m c squared.”  
ANSWER: Albert **Einstein**

14. After noticing mud on Demeter’s backside, this god killed his own son Iasion (ee-EY-sun). This god was tricked into believing that his wife will go to Oceanus (oh-kee-AH-nus) and Tethys (TETH-iss) in a story ending inside a golden cloud. The Curetes (CURE-uh-tayz) clashed shields and spears to conceal the cries of this god, who was switched with a rock in swaddling clothes so that he would not be eaten by his father. This god overthrew his father Cronus as the leader of a war against the Titans. For 10 points, name this thunderbolt-slinging king of the Greek gods.  
ANSWER: **Zeus** [do not accept “Jupiter”]

15. This composer’s third symphony opens with two E-flat major chords played by the entire orchestra. He lamented his lack of artistic fulfillment in a letter called the Heiligenstadt (HEEL-ey-gensh-tot) Testament. This composer called for woodwind instruments to imitate a nightingale, quail, and cuckoo in the “scene by the brook” section of his sixth symphony. His fifth symphony begins with four notes described as “fate knocking at the door.” For 10 points, name this German composer who used “Ode to Joy” in his ninth symphony after going deaf.  
ANSWER: Ludwig van **Beethoven**

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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl**  **Regional Tournament 2014**  **Round 7**  **Tiebreaker/replacement questions** |

1. A statue of the Virgin Mary can be accessed by lift from Jounieh (joo-NEE-uh), a suburb of this country’s capital. This country’s agricultural industry is centered around its Beqaa (BEK-uh) Valley. A World Heritage Site in this country is named “Cedars of God” after its national symbol, the cedar tree. The Orontes (ore-AHN-tayz) River flows into Syria and Turkey after starting in this country. The Phoenician civilization was centered on this modern-day country. For 10 points, name this Middle Eastern country located north of Israel, whose capital is Beirut.  
ANSWER: **Lebanon** [or **Lebanese Republic**]

2. This composer featured eighteen anvils in an opera that opens with a lengthy drone in E-flat major representing a river. In another opera by this composer, Mime (MEE-meh) intends to teach his foster son fear by taking him to the dragon Fafner. This composer used the Magic Fire Music to end an opera in which Loge (LOH-guh) encloses Brunnhilde in a circle of flame as ordered by Wotan. This composer of *Das Rheingold* and *Siegfried* opened the third act of another opera with the “Ride of the Valkyries.” For 10 points, name this German composer of the “Ring” cycle.  
ANSWER: Richard **Wagner** [Wilhelm Richard **Wagner**]

3. This modern-day country is home to a city which, during the tenth century, was the most populous in the world and boasted a 400,000-volume library under Al-Hakim II. The battle of Covadonga took place here. Charlemagne established a buffer zone known as this country’s “march.” This country was home to taifa (tai-EE-fuh) kingdoms after the collapse of the Caliphate of Cordoba (CORE-doh-buh). For 10 points, name this country where Muslim rule was replaced by Christians in the Reconquista (REE-kahn-KEE-stuh), which ended in 1492.  
ANSWER: **Spain** [Kingdom of **Spain**; or Reino de **España**]

4. In this novel, a woman throws a key into a fireplace to force her husband to fight her childhood friend. As children, one of those characters in this novel throws applesauce in the face of the other. This novel, mostly narrated by Nelly Dean, relates the history of the Linton and Earnshaw families, the latter of which adopts the orphan Heathcliff. For 10 points, name this novel by Emily Brönte.  
ANSWER: ***Wuthering Heights***

5. In Cartesian coordinates, these functions graph a shape with an eccentricity of one. These functions will equal zero at exactly one real number if their discriminant is zero. A namesake formula states these functions have zeros at “negative b plus or minus square root b squared minus 4 a c all over 2 a.” The coordinates of their minimum or maximum point can be found by completing the square. For 10 points, name these functions with an “x squared” term.  
ANSWER: **quadratic** functions [or **quadratic** equations; or **second degree polynomial**s]

What class of molecules has an oxygen single-bonded to both a carbon and a hydrogen, and includes propanol and ethanol?  
ANSWER: **alcohol**s

This is a calculation question. Given that in triangle ABC, angle A measures 30 degrees and angle B measures 80 degrees, order the three sides of triangle ABC from smallest to largest.  
ANSWER: **BC, AB, AC** [or **CB, BA, CA**]