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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl****Regular Season 2014****Round 23****First Period, Fifteen Tossups** |

1. The Islamic Kalbid dynasty ruled this location. Holy Roman Emperor Frederick II began as a ruler of this island, which Charles of Anjoy lost control of after a 1282 rebellion. The Peace of Caltabellota ended a conflict begun after a French knight harassed a woman on this island, triggering its namesake “vespers.” This island has was once united in a kingdom with Naples, and has its capital at Palermo. For 10 points, name this island off the coast of italy, the largest in the Mediterranean.
ANSWER: **Sicily**

2. Some cells in this organ release intrinsic factor, which is required for the absorption of vitamin B12. This organ contains an upper portion called the fundus and folds called rugae. The chief cells in this organ secret pepsinogen. NSAIDs can cause this organ to develop ulcers. This organ's parietal cells secrete both gastric acid, which contains hydrochloric acid. For 10 points, name this digestive organ that lies between the esophagus and small intestine.
ANSWER: **stomach**

3. A character on this show invented a product called Kitten Mittens. Characters in this television series have made two sequels to *Lethal Weapon,* and a character on this show wrote the musical *The Nightman Cometh.* A character on this show, Frank, was thought to be the father of its characters Dennis and Dee, and might also be the father of Charlie. For 10 points, name this series about the owners of Paddy’s Pub, which features Danny DeVito and Charlie Day.
ANSWER: ***It’s Always Sunny In Philadelphia***

4. A player of this instrument overdubbed three different tracks for every song on his album *Conversations with Myself.* Fats Waller contributed to the ""stride"" style of playing this instrument. A virtuoso of this instrument composed the standards ""Epistrophy"" and ""Well You Needn't,"" and recorded the album *Round Midnight.* Yet another player of this instrument experimented with time signatures on ""Blue Rondo a la Turk"" and ""Take Five."" For 10 points, name this jazz percussion instrument played by Dave Brubeck.
ANSWER: **piano**

5. This poem mentions the “Indian Ganges” as a place where “thou shouldst rubies find.” The speaker of this poem predicts when “worms will try that long preserv’d virginity,” and worries about hearing “Time’s winged chariot.” This poem is addressed to a woman who can refuse the speaker “till the conversion of the Jews," and it begins with the line, “Had we but world enough, and time.” For 10 points, name this poem by Andrew Marvell.
ANSWER: “**To His Coy Mistress**”

6. An electrical double layer forms at the radius of shear for molecules in these systems, creating a zeta potential. These mixtures will scatter short-wavelength light, making them look blue, in the Tyndall effect. These systems form when two immiscible phases cannot separate by gravity, forming a dispersed and a continuous phase. Examples of them include sols and gels. For 10 points, name these mixtures in which solute particles are suspended in a solvent, such as in milk.
ANSWER: **colloid**s [or colloidal **suspension**s]

7. Its not Germany or the Netherlands, but three communists from this country were tried at Leipzig for burning the Reichstag, including its future leader Georgi Dimitrov. A coup by the Fatherland Front took this country out of World War II, laying the groundwork for communist rule under Todor Zhivkov. This country borders Greece and Turkey to the south and the Black Sea to the east. For 10 points, name this Balkan country whose capital is Sofia.
ANSWER: Republic of **Bulgaria**

8. Somerset Maugham popularized an ancient story about a merchant who meats death in a city on this river, whose al-Askari Mosque was bombed in a sectarian attack in 2006. Rising in the Taurus mountains, it flows past Samarra and Mosul before uniting with a southern counterpart to form the Shatt al-Arab and flow into the Persian Gulf. For 10 points, name this river that flows past Baghdad and bounds the region of Mesopotamia along with the Euphrates.
ANSWER: **Tigris** River

9. Depending on its formulation, this quantity has SI units of either Pascal-seconds or meters squared per second. This quantity must be relatively large for laminar flow, since it's in the denominator of the Reynolds number. In shear thickening, this quantity increases with agitation. Bernoulli's equation assumes that this quantity is zero, and therefore, no energy is lost from friction. For 10 points, name this measurement of a fluid's resistance to flow, which is very high for honey.
ANSWER: **viscosity** [or dynamic **viscosity**; or kinematic **viscosity**]

10. This man’s father of the same name was a senator who refused to sign the Southern Manifesto. His wife co-founded the Parents Music Resource Center to promote warning labels on music. He reluctantly conceded after a Supreme Court decision denied his argument for a recount of Florida vote totals. This man won a Nobel Prize for his book about global warming entitled *An Inconvenient Truth*. For 10 points, name this Vice President under Bill Clinton.
ANSWER: Albert **Gore** Jr.

11. At the end of one of this man’s plays, the protagonist, a writer who loves Nina, commits suicide while the other characters play lotto. Another of his plays begins with Madame Ranevskaya returning to her estate from Paris. In that play by this author of *The Seagull*, Lopakhin orders the destruction of the title garden. For 10 points, name this Russian playwright of *The Cherry Orchard*.
ANSWER: Anton **Chekhov**

12. This man was replaced by Regan Smith for an August 2014 event at Watkins Glen. He was earlier criticized for throwing a helmet at Matt Kenseth and trying to punch Joey Logano. While at a dirt track in Canandaigua, this man bumped another competitor, prompting that other man to get out of his car and make angry gestures prior to a fatal accident. For 10 points, name this NASCAR driver who killed Kevin Ward Jr. in an August 2014 accident.
ANSWER: Anthony "Tony" **Stewart**

13. After killing one of these animals near Mount Cithaeron, Heracles spent a night with the fifty daughters of Thespius. One of these animals with a goat's head and a snake's tail comprised the Chimaera. Eurystheus hid in a jar for the first time after seeing the body of one of these creatures, who was strangled to death despite having an invulnerable hide. For 10 points, identify these animals, the "Nemean" one of which was killed during the first labor of Heracles.
ANSWER: **lion**s

14. The speaker of one of this author's poems declares, “Herr God, Herr Lucifer, Beware, Beware.” This poet compared herself to “White Godiva,” stating “I unpeel,” in the poem “Ariel.” The title man “died before I had time” in a poem by this author beginning, “You do not do, you do not do.” This Confessional poet committed suicide by putting her head in an oven. For 10 points, name this poet of “Lady Lazarus” and “Daddy.”
ANSWER: Sylvia **Plath**

15. This hero cuts down 120 trees under the command of Urshanabi because he kills a group of stone-giants who could have helped him cross the Waters of Death. After the death of his friend, this character learns about the ephemerality of life from a flood survivor named Utnapishtim. This slayer of Humbaba kills the Bull of Heaven with his best friend Enkidu after he refuses to sleep with the love goddess Ishtar. For 10 points, name this namesake of a Mesopotamian epic.
ANSWER: **Gilgamesh**

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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl****Regular Season 2014****Round 23****Directed Round** |

1A. What synonym of “honest” and “frank” is a six-letter word that often designates pictures taken without their subjects' knowledge?
ANSWER: **candid**

1B. What Spanish word is placed after the first verb in Spanish when using the conjuctive, often translated as the word "that" in phrases like "I think that she is tired"?
ANSWER: "**que**" (KAY)

2A. What official in the Royal Navy wrote a diary containing a famous description of the Great Fire of London?
ANSWER: Samuel **Pepys**

2B. In what aria does the title character of a Georges Bizet opera sing that "love is a rebellious bird"?
ANSWER: "**Habenera**" [or "L'**amour est un oiseau rebelle**"]

3A. This is a 20-second calculation question. Lines QR and ST intersect at point U, creating similar triangles QUS and RUT. If angle TUR measures 40 degrees and angle RTU measures 50 degrees, what is the measure of angle QSU?
ANSWER: **50** degrees

3B. This is a 20-second calculation question. If the standard deviation of random variable X is 3 and the standard deviation of independent random variable Y is 4, what is the standard deviation of the random variable given by X-Y?
ANSWER: **5**

4A. What massive tree-like member of the Guardians of the Galaxy usually only speaks by identifying himself?
ANSWER: **Groot**

4B. Which cellular component is composed, in part, of a hydrophobic tail interior and is described by the fluid mosaic model?
ANSWER: **cell membrane** [or **plasma membrane**; or **cytpolasmic membrane**; or **phospholipid membrane**]

5A. What President of Venezuela expelled CNN in response to media coverage of social protests in his country?
ANSWER: Nicolas **Maduro**

5B. The “Friendship Games” were organized following an Eastern Bloc boycott of the 1984 Olympics held in what West Coast U.S. City?
ANSWER: **Los Angeles**

6A. What Balkan country is home to the walled city of Dubrovnik and contains much of the Dalmatian coast?
ANSWER: **Croatia** [or Republika **Hrvatska**]

6B. What principle named for a German physicist states that both the momentum and position of a particle cannot be known simultaneously to arbitrary precision?
ANSWER: Heisenberg **uncertainty** principle

7A. What woman made history by running for president under the banner of the Equal Rights Party in 1872?
ANSWER: Victoria **Woodhull**

7B. Flower Wars were ritualized events which supplied captives for what gruesome practice, which priests performed on the Great Pyramid of Tenochtitlan (teh-NOK-teet-lon)?
ANSWER: Aztec **human sacrifice**

8A. This is a 30-second calculation question. Carla is considering two fundraising plans. The first plan will give the school 10% of the gross income, while the second plan will give the school 1000 dollars plus 5% of the gross income. For what amounts of gross income will the first plan give *more* money to the school than the second?
ANSWER: income **greater than 20,000** dollars

8B. This is a 30-second calculation question. Find all values of theta between 0 and 720 degrees, inclusive, that satisfy the equation 2 cosine squared theta plus 5 cosine theta plus 2 equals 0.
ANSWER: **120, 240, 480, and 600** degrees

9A. What holy text in Judaism is divided into fifty-four weekly portions called parshiyot, and gets stored in a synagogue’s ark?
ANSWER: **Torah** scroll [or **Pentateuch**; or **Chumash**; or **Five Books of Moses**; prompt on **Old Testament**; prompt on Hebrew **Bible**]

9B. What creature does the speaker hear buzz upon her death in an Emily Dickinson poem?
ANSWER: a **fly**

10A. If every line segment joining two points of a function's graph never lies below the graph, what type of function is it?
ANSWER: **convex** [or **convex** downward; or **concave upward**]

10B. In what novel by Mikhail Bulgakov does Satan, in the guise of Woland, wreak havoc in Moscow alongside the cat Behemoth?
ANSWER: *The* ***Master and Margarita***

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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl****Regular Season 2014****Round 23****Third Period, Fifteen Tossups** |

1. This state experienced the “Plundering Time” and the Battle of Severn during the English Civil War. John Coode led a Protestant rebellion against this state's government in 1689. George Mann's tavern hosted a convention in this state's capital in1786 that challenged the Articles of Confederation. This colony passed the Toleration Act to protect its Catholic population established by George Calvert, Lord Baltimore. For 10 points, name this original colony whose capital is Annapolis.
ANSWER: **Maryland**

2. In one of this man’s plays, an intense desire for pig sends the main characters to the riotous title event, *Bartholomew Fair.* He created Subtle and Face in a play about con artists who pretend to create the philosopher’s stone. In another play, he wrote about an Italian “fox” who dupes his visitors into giving him gifts. For 10 points, name this comic playwright and contemporary of Shakespeare’s who wrote *The Alchemist* and *Volpone.*
ANSWER: Ben **Jonson**

3. Marshall Sahlins referred to people in this social structure as "the original affluent society," based on studies of surviving cultures that are arranged in this fashion such as the Kung. Humans likely succeeded at this strategy due to endurance running, and it is believed that essentially all Paleolithic cultures were organized around this food acquisition approach. For 10 points, identify this type of culture which forages by killing large animals and harvesting wild plants.
ANSWER: **hunter-gatherer** society [or word forms]

4. In this novel, the newly freed protagonist watches as Hal, Charles, and Mercedes are plunged into a river after the ice breaks. At the beginning of this novel, its main character is kidnapped by Manuel and brought away from Judge Miller’s mansion. The protagonist of this novel kills five Indians, avenging the death of his former master, John Thornton. For 10 points, name this novel about the dog Buck, written by Jack London.
ANSWER: *The* ***Call of the Wild***

5. In a lauded film by Dziga (JEE-guh) Vertov, a man doing this activity travels to Kiev, Kharkov, Moscow and Odessa. The documentaries *Lost in La Mancha* and *Hearts of Darkness* chronicle difficult attepts to do this action. R.F. Simpson's attempt to perform this activity in the late 1920s is the main storyline of *Singing in the Rain*. For 10 points, name this action whose end products might include *Lost in La Mancha*, *Hearts of Darkness*, or *Singing in the Rain*.

ANSWER: **making a movie** [or **directing** or **producing** a movie or film, etc.]

6. A rare example of this classification was discovered in Bombay and results from a lack of substance H. RhoGAM is the trade name of an immunoglobulin used to prevent a disease caused by differences in this classification, involving Rhesus factor, between a mother and newborn. This classification is determined by the presence of antigens like A and B on certain cells in the circulatory system. For 10 points, name this classification of a circulatory fluid, whose most common type is O.
ANSWER: **blood type** [or **blood group**; or ABO **blood system**; or obvious equivalents; or **Rh** blood system]

7. This painter placed his eight year old son below St. Stephen, signing his name on the boy's kerchief. A man in green tries to remove the clothes of Jesus in this artist's *The Disrobing of Christ.* This artist contrasted white buildings with a dark sky in his *View of Toledo,* and also painted saints in gold tunics laying the title nobleman to rest. For 10 points, name this artist from Crete who painted *The Burial of Count Orgaz.*
ANSWER: **El Greco** [or Domenikos **Theotokopoulos**]

8. IBM introduced the "magic" Sys Req to this object, which was included on their revolutionary Model M, a "buckling spring" type of this object. The most popular alternative to the traditional layout of this thing in the US is the Dvorak layout. Compact examples of these things have long implemented an "fn," or "function," modifier. For 10 points, name this human interface device that normally has a QWERTY layout due to it being styled after a typewriter, unlike the mouse.
ANSWER: computer **keyboard**s [or mechanical **keyboard**]

9. A major text of this religion describes helpful attendants who try to help a king with no mouth or ear holes by drilling into his head, only to unsurprisingly kill him. That work includes the “dream of the butterfly” by this religion's thinker Zhuangzi. This religion venerates natural order through Wu-Wei, as expressed in its namesake text, often translated as “The Book of the Way.” For 10 points, name this religion that venerates concepts like Yin and Yang, founded in China by Lao Tzu.
ANSWER: **Tao**ism [or **Dao**ism]

10. A city in this state was the first American city to adopt an electric trolley system, nicknamed the Lightning Route. This state’s namesake river forms from the confluence of the Coosa and Tallapoosa Rivers. NASA’s George Marshall Flight Center is found near this state’s “Rocket City,” Huntsville. The southwestern corner of this state is cut into by Mobile Bay. For 10 points, name this southern state between Mississippi and Georgia.
ANSWER: **Alabama**

11. An important value for this method is calculated as the ratio of two standard deviations times the correlation coefficient. A well-distributed residual plot free of patterns or trends is essential to the reliability of this method. The R-squared value is an indicator for the accuracy of this method, and this technique is often calculated by "least-squares." For 10 points, identify this technique used to fit a trendline to a set of data.
ANSWER: linear **regression** [or least squares **regression**; prompt on **line of best fit**; prompt on **trendline**]

12. During an interview to promote *Guardians of the Galaxy,* Vin Diesel sang part of this song. In its music video, the singer walks down the street in a black-and-white coat before performing it with the backing of a church choir. A re-recorded version of this song is duet with Mary J. Blige. This song’s performer asks “Why am I so emotional?” before saying that he needs to “gain some self control.” For 10 points, name this song which is performed by Sam Smith.
ANSWER: “**Stay With Me**”

13. This star is actually a triple-star system with a dwarf star so small it couldn't be imaged until the Hubble Telescope was put into orbit. This star is important for calibrating the astronomical distance scale because it is near enough to have its distance measured by the parallax method and is the closest Cepheid variable to Earth. It is the alpha star of the Ursa Minor constellation. For 10 points, name this star that was often used for navigation due to its location near the celestial pole.
ANSWER: **Polaris** [or the **North Star**; or **Alpha Ursae Minor**is until "Ursa Minor" is read]

14. Members of this ethnic group destroyed the inhabitants of the Chatham Islands in 1835. This people’s attempt to name a king for themselves led to their defeat in a punitive invasion of the Waikato region. These people use the term “pakeha” to refer to individuals of European descent. These people are grouped into tribes called “iwi.” The chiefs of these people became British subjects after the Treaty of Waitangi. For 10 points, name this indigenous Polynesian ethnic group of New Zealand.
ANSWER: **Maori** people

15. During this century, Palmyra (pahl-MY-ruh) attempted to expel Rome from the Levant in Zenobia's revolt. Near the end of this century, the winner of the Battle of the Margus attempted to curtail future civil wars by instituting the tetrarchy (TETCH-rar-kee). This century was plagued by incessant military coups that created the "barracks emperors." For 10 points, identify this century whose "crisis" was ended by the ascension of Diocletian (dye-oh-CLEE-shun). ANSWER **third** century CE or AD [or **200**s CE or AD; not necessary to specific CE/AD but if the player gives BCE/BC, it is wrong]

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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl****Regular Season 2014****Round 23****Tiebreaker/replacement questions** |

1. The Dayak people are indigenous to this island. Located east of Miri is this island's Gunung Mulu National Park, located in Sarawak. It is separated from Sulawesi by the Makassar Strait, and is bordered to the northeast by the Sulu Sea. Sabah comprises the northern tip of this island, where its highest point, Mount Kinabalu, is found. For 10 points, identify this third-largest island in the world, shared between Brunei, Malaysia, and Indonesia.
ANSWER: **Borneo**

2. This physicist atypically wrote a biology tract titled *What is Life?* On a skiing trip with his mistress, this physicist formulated an equation that gives energy as the eigenvalue of the Hamiltonian. This scientist objected to the Copenhagen interpretation of quantum mechanics by proposing that a wavefunction collapses once we figure out if a bottle of cyanide is shattered. For 10 points, name this German who hypothesized a cat sealed in a box.
ANSWER: Erwin **Schroedinger**

3. This man emerged as the winner of a civil war with his brother Ariq Boke (AH-rik BOH-kay) after succeeding Möngke (MUNG-kay) in 1260. This man's interest in foreign lands may have arisen from his mother's Nestorian Christian religion. At his court in Dadu, this man received and employed Italian travel writer Marco Polo. For 10 points, name this founder of the Yuan (WON) Dynasty in China, a grandson of Genghis.
ANSWER: **Kublai** Khan

4. This is the holiday on which the prayer "Hanerot Halulu" (HAH-nay-rote hah-LOO-loo) is recited. This holiday is celebrated using an object inscribed with the first letters of the phrase "a great miracle happened there." Participants in this holiday eat donuts or potato pancakes fried in oil to remember the miraculous eight-day burning of the Temple's menorah following the victory of the Maccabees. For 10 points, name this wintertime Jewish "festival of lights."
ANSWER: **Hannukah**

5. This poem is set “in the bleak December” when “each separate dying ember wrought its ghost upon the floor.” The speaker of this poem owns a “pallid bust of Pallas” and asks the title creature about “a rare and radiant maiden whom the angels name Lenore.” This poem takes place “Once upon a midnight dreary.” For 10 points, name this poem by Edgar Allan Poe in which the title bird repeats the word, “Nevermore.”
ANSWER: “The **Raven**”

What chemist died of ovarian cancer before she could be awarded the Nobel Prize for the role her diffraction images of DNA played in determining DNA's structure?
ANSWER: Rosalind **Franklin**

If the sine of an angle in the first quadrant is equal to 3/4, what is the cosine of that angle?
ANSWER: square **root** of **7**, **over 4** [or **rad**ical **7 over 4**; or square **root** of **7**, **divided by 4**; or square **root** of **seven-sixteenths**; or **rad**ical **seven-sixteenths**]