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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl**  **Regular Season 2014**  **Round 9**  **First Period, Fifteen Tossups** |

1. The West Desert Pumping Project increased evaporation from this lake, which contains a reservoir that takes water from the Weber River called Willard Bay. This largest remnant of the prehistoric Lake Bonneville surrounds Promontory Peninsula and is found west of the Wasatch Mountains. The city of Ogden is near this lake, as is a state capital founded by Brigham Young. For 10 points, name this large lake in Utah.

ANSWER: **Great Salt** Lake

2. This ruler was rumored to have murdered his nephew Arthur of Brittany after he captured Arthur during a raid on Mirebeau. He was excommunicated by Innocent III when he refused to accept the appointment of Stephen Langton as Archbishop of Canterbury. This monarch was forced by his barons to sign a document limiting his power at Runnymede. For 10 points, name this King of England who signed the Magna Carta.

ANSWER: King **John** [**John** Lackland] [or **John** Softsword]

3. The archangel Michael provides Solomon with a ring to control these beings in the so-called *Testament of Solomon*. One of these named Abyzou was associated with the biblical Lilith. Raphael advises using fish entrails to defeat one of these beings named Asmodeus, the antagonist of the Book of Tobit. A man from Gadara was plagued by these beings until Jesus cast them into a nearby group of pigs; that group claimed its name was “legion, for we are many.” For 10 points, name these evil servants of the Devil in Judeo-Christian theology.

ANSWER: **demon**s

4. The absence of this interaction is required by the formulation of special relativity. A law describing this interaction uses a constant of 6.67 times 10 to the minus 11, which was first measured by Henry Cavendish, who used a torsion balance. This weakest fundamental force might have been discovered after an apple fell onto Isaac Newton's head. For 10 points, name this purely attractive force responsible for your attraction to the center of the earth.

ANSWER: **gravity** [or the **gravitation**al force]

5. This website features a counter in the lower right-hand corner, and the column “They Said What?!” It posted the entirety of *Moby-Dick* under the headline “This Time I Spent On A Commercial Whaling Ship Totally Changed My Perspective On The World.” Jack Link’s Jerky sponsors a section of this site, whose core belief is “all web content deserves to go viral.” For 10 points, name this website launched by The Onion which parodies Upworthy and Buzzfeed.

ANSWER: **ClickHole**

6. This man used the slogan "It's morning again in America" in his bid for re-election. In his first term in office, this president broke up a strike of air traffic controllers. This president, who ordered an invasion of Grenada, formed the Tower Commission to investigate the Iran-Contra affair. This president took office on the final day of the Iran hostage crisis. For 10 points, name this president who ordered Mikhail Gorbachev to "tear down this wall."

ANSWER: Ronald **Reagan** [Ronald Wilson **Reagan**]

7. An empire based on this modern-day country fought its western neighbor in the Lazic War and agreed to the Fifty-Year Peace. This country experienced golden ages undr Shapur II and Khosrau. Ardashir founded the Sassanian Empire in this country, ruling from Ctesiphon and replacing the Parthians. For 10 points, name this country that, prior to the arrival of Islam, upheld Zoroastrianism, and now is governed by an Ayatollah.

ANSWER: **Iran** [or **Persia**]

8. This philosopher argued that civilization arises out of the “unsocial sociability” of man in his essay “Idea for a Universal History.” This man responded to a question posed by Johann Zollner in the essay “What is Enlightenment?” In his *Groundwork for the Metaphysics of Morals*, this man conceived of an absolute moral law governing action called the “categorical imperative.” For 10 points, name this author of *Critique of Pure Reason*, an 18th century German philosopher.

ANSWER: Immanuel **Kant**

9. Examples of these systems that do not interact with the ocean are termed endorheic. During the fall and spring, overturn occurs in these systems, exchanging nutrients and oxygen. Organic detritus that drifts down to their profundal zone is consumed by benthic dwellers. The limnetic zone of these bodies of water receives enough light to support the photosynthesis of phytoplankton. For 10 points, name these freshwater ecosystems that are located in basins.

ANSWER: **lake**s [or **pond**s]

10. On a graph of hours worked versus wages, this curve for an individual worker bends backwards due to the negative income effect. This curve representing this concept shifts to the right when a new firm enters a market in perfect competition. Under monopoly, this curve for a firm is a vertical line or absent. For 10 points, identify this curve which ascends to the right on an ordinary Y-axis price graph and intersects at the equilibrium point with demand.

ANSWER: **supply**

11. This story uses an epigraph from Pierre-Jean de Berenger that translates as “Her heart is a suspended lute.” The song “The Haunted Palace” appears in this story, whose narrator reads Sir Launcelot Canning’s "The Mad Trist." At the end of this story, Madeline, who had been buried in a vault, reappears before a disaster causes the death of her brother Roderick. For 10 points, name the Edgar Allan Poe short story titled for the collapse of an old family home.

ANSWER: “The **Fall of the House of Usher**”

12. An approximation for this value, conducted by Comte de Buffon, involves dropping a needle on a floor of parallel wooden planks. Four times the infinite quantity one minus one-third, plus one-fifth, minus one-seventh, and so on, estimates this value. It is equal to the radians in a semicircle. The ratio of any circle's circumference to its diameter is, for 10 points, what constant equal to approximately twenty-two over seven, or 3.14.

ANSWER: **pi**

13. The name of this painting’s title subject, whose head is covered in bandages, is written on a wooden stand in its bottom right. The subject of this painting holds a quill in his right hand and a piece of paper in his left hand, on which is written the name of his assailant, Charlotte Corday. For 10 points, name this painting that depicts a French revolutionary murdered in his bathtub, by Jacques-Louis David.

ANSWER: *The* ***Death of Marat*** [or *La* ***Mort de Marat***; or ***Marat Assassine***]

14. The infarction of this structure during pregnancies is known as Sheehan's syndrome. This structure develops from Rathke's pouch and has an intermediate section which secretes melanocyte-stimulating hormone. Uterine contractions are controlled by this structure's secretion of oxytocin produced in the hypothalamus. For 10 points, name this "master gland" whose posterior portion stores antidiuretic hormone and whose anterior portion produces growth hormone and ACTH.

ANSWER: **pituitary** gland

15. At the beginning of this novel, one boy mocks another for his asthma. In this novel, Maurice destroys sandcastles with Roger, much to the displeasure of the "littluns." Two characters known collectively as "Samneric" mistake a dead parachutist for a beast in this novel. In this novel, Simon is ritualistically killed after a boulder is dropped on Piggy. For 10 points, name this novel about Jack and Ralph's fight for dominance on a deserted island, written by William Golding.

ANSWER: ***Lord of the Flies***

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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl**  **Regular Season 2014**  **Round 9**  **Directed Round** |

1A. What Nathaniel Hawthorne story is about Beatrice, a girl with poisonous breath who tends to her father's garden?

ANSWER: “**Rappacini’s Daughter**”

1B. What Canadian author of *The Edible Woman* depicted the dystopian Republic of Gilead in her novel *The Handmaid’s Tale*?

ANSWER: Margaret **Atwood**

2A. What physicist from New Zealand ran the experiment that discovered the nucleus by firing alpha particles at a sheet of gold foil?

ANSWER: Ernest **Rutherford**

2B. What mystical Islamic sect includes the Mavlevi order, often known as “whirling dervishes?”

ANSWER: **Sufi**sm [or al-**sufiyya**; or as-**sufiyya**; or **tasawwuf**]

3A. This is a 20-second calculation question. What is the sum of the polynomials "3 *x* squared plus 6 *x* minus 7" and "2 *x* squared minus 5 *x* plus 4"?

ANSWER: **5*x*2 + *x* - 3** ("Five x squared plus x minus 3")

3B. This is a 20-second calculation question. A graduated cylinder can hold exactly 100 milliliters of water. How much water could be held in a second graduated cylinder that has twice the height and half the radius of the first?

ANSWER: **50** milliliters

4A. What name is given to the ion that results from protonation of water and has formula H3O+?

ANSWER: **hydronium** ion

4B. According to the theory of endosymbiosis, chloroplasts originated from what organism commonly known as blue-green algae?

ANSWER: **cyanobacteria** [or **Cyanophyta**]

5A. What country signed the Treaty of Bautzen with Holy Roman Emperor Henry II and later united with Lithuania in the Union of Lublin?

ANSWER: Poland [or **Polska**]

5B. Identify the agreement signed by Carlos Salinas and Brian Mulroney that in 1994 created a trade bloc between Mexico, the United States, and Canada.

ANSWER: **NAFTA** [or the **North American Free Trade Agreement**]

6A. What German state, led by Philip I “the Magnanimous” in the Schmalkaldic League, sent its namesake mercenaries to fight in the American Revolution?

ANSWER: **Hesse** [prompt on **Hessian**]

6B. Conjugating the Spanish verbs "mover" and "contar" into first or second person requires replacing the "o" in both verbs with what two letters?

ANSWER: **U** and **E**

7A. Name the Chinese-American architect and Yale graduate who designed the Civil Rights Memorial and the Vietnam Veterans Memorial.

ANSWER: Maya **Lin** [or Maya Ying **Lin**]

7B. What island off the coast of Africa is part of a British territory that includes Ascension Island and the Tristan de Cunha group, and was the final home of Napoleon?

ANSWER: **Saint Helena**

8A. This is a 30-second calculation question. Find a possible value for cosine of theta, given that cosine of 2 theta equals -7/9.

ANSWER: **1/3** [or **-1/3**; or **plus or minus 1/3**; or **positive or negative 1/3**]

8B. This is a 30-second calculation question. An urn contains eight red balls and two green balls. If three balls are randomly selected without replacement, what is the probability that at least one is green?

ANSWER: **8/15** [or **384/720**]

9A. What adjective beginning with the letter “p” describes things that are ordinary or dull, and is etymologically derived from a type of writing contrasted with poetry?

ANSWER: **prosaic**

9B. Name the television program featuring Billy Bob Thornton which won the 2014 Emmy for Best Miniseries, and is based on a Coen Brothers film.

ANSWER: ***Fargo***

10A. What contemporary British novelist wrote *Saturday* and *Atonement*?

ANSWER: Ian **McEwan**

10B. What umbrella corporation that controls the Taobao and Tmall sites for online retail in China was valued at over 230 billion dollars in its September 2014 stock offering?

ANSWER: **Alibaba**

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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl**  **Regular Season 2014**  **Round 9**  **Third Period, Fifteen Tossups** |

1. This author wrote a story in which John Marcher believes life will get him like the title “Beast in the Jungle.” In a novel by this man, the conniving Morris Townsend courts the plain Catherine Sloper, who lives on the title New York street, *Washington Square.* Caspar Goodwood and Gilbert Osmond are among the admirers of Isabel Archer in another of this man’s novels. For 10 points, name this American who wrote *The Portrait of a Lady.*

ANSWER: Henry **James**

2. This actor played paleontologist Jack Prescott in the 1976 remake of *King Kong,* and he appeared with his father on the television series *Sea Hunt.* He played Rooster Cogburn in the 2010 Coen Brothers remake of *True Grit.* In another role, this actor was a member of a bowling team with Walter and Donny. This actor played Kevin Flynn, who enters the world of a computer in the *Tron* film series. For 10 points, name this actor, who played the Dude in *The Big Lebowski.*

ANSWER: Jeff **Bridges** [Jeffrey Leon **Bridges**]

3. The complexity of the three dimensional structure of these molecules is the subject of Levinthal's paradox. These molecules are the end point of the central dogma, as they cannot transfer information back or sideways. The secondary structure of these molecules is composed of alpha helices and beta sheets. These compounds are formed by ribosomes during translation. For 10 points, name these molecules composed of polypeptide chains.

ANSWER: **protein**s [prompt on poly**peptide**s]

4. After Hayreddin Barbarossa captured this city's stronghold on Corfu, Pope Paul III formed the Holy League to assist it. Pope Julius II formed the earlier League of Cambrai to contain the power of this city, which signed the Pactum Warmundi with Jerusalem and diverted the Fourth Crusade to sack Constantinople at the urging of Enrico Dandolo, this city's Doge. For 10 points, name this Italian city-state that had a larger maritime empire and is home to many canals.

ANSWER: **Venice** [or **Venizia**]

5. This man and his mother were found in a wooden crate by a fisherman named Dictys. This man stole an eye from the Graeae, and he accidentally killed Acrisius with a discus while participating in an athletic competition. He was sent on a mission after being unable to gift Polydectes with a horse. Zeus visited his mother Danae by turning into a shower of golden rain. For 10 points, name this Greek hero who used Athena’s shield as a mirror to kill the Medusa.

ANSWER: **Perseus**

6. A plasma existing right after the Big Bang consisted of these particles and gluons. These particles are never found alone, according to the phenomenon of color confinement. The charge on these particles is either one-third or two-thirds of the elementary charge. The weak force causes them to change flavor, which drives beta decay. For 10 points, name these fundamental particles that constitute protons and neutrons and come in varieties like up and strange.

ANSWER: **quark**s

7. This man was charged with mutiny by Captain Christopher Newport while coming to America as part of a convoy of vessels including *Susan Constant* and *Godspeed*. This man proclaimed that "he who shall not work…shall not eat" while leading a colony, and he was once captured by the chief of the Powhatan Confederacy in 1607. For 10 points, name this Virginian explorer and leader of Jamestown, who was legendarily saved from execution by Pocahontas.

ANSWER: John **Smith**

8. This poet wrote of a man who "stopped being a poor prisoner" in "Ode to the Dead Millionaire." He also wrote to things such as salt and a pair of socks in his Elemental Odes. "The Sands Betrayed" and "The Heights of Macchu Picchu" appear in this man's collection *Canto General.* This poet began another poem with "Tonight I can write the saddest lines." For 10 points, name this Chilean poet who wrote *Twenty Love Poems and a Song of Despair.*

ANSWER: Pablo **Neruda** [or Neftali Ricardo Reyes **Basoalto**]

9. This author’s poems in dialect include one about the impending hanging of the title man, “Danny Deever.” This writer wrote, “send forth the best ye breed,” advocating imperialism in his popular racist poem “The White Man’s Burden.” Another of his books includes the stories of Toomai, Rikki-Tikki-Tavi, and the “man cub” Mowgli. For 10 points, name this British author of *The Jungle Book.*

ANSWER: Rudyard **Kipling**

10. This man led the Partisan movement against the Nazi occupation of his country. This man’s government deposed King Peter II in 1945. A 1956 meeting between Gamal Abdel Nasser, Jawaharlal Nehru and this man led to the formation of the nonaligned movement, of which this man served as the first Secretary-General. Joseph Stalin expelled this man’s home country from the Cominform in 1948. For 10 points, name this longtime communist leader of Yugoslavia.

ANSWER: Joseph **Tito** [Joseph Broz **Tito**] [or Josip Broz **Tito**; or Josip **Broz**]

11. This city is at the center of the Klang Valley, which includes the state of Selangor. After 1999, this city’s role as the seat of government was moved to Putrajaya. The state that this city is found in is on the western coast of the peninsular part of its country, across the Strait of Malacca from Indonesia. A pair of buildings in this city designed by Cesar Pelli were the tallest buildings in the world until 2004 and are called the Petronas Towers. For 10 points, name this capital of Malaysia.

ANSWER: **Kuala Lumpur** [or **KL**]

12. This quantity, symbolized gamma, multiplies the cosine of the contact angle in the Young equation. This quantity has units of Newtons per meter. Wetting occurs only when this parameter is low between a liquid and a solid. Surfactants decrease this quantity for a solution. This property drives capillary action and permits water to form a concave meniscus. For 10 points, name this property which allows some insects to walk on water.

ANSWER: **surface tension** [or **surface energy**]

13. The beginning part of this composition was improvised by Ross Gorman before being written into its score. This piece plays over shots of New York City at the start of Woody Allen's film *Manhattan.* It opens with a trill followed by a glissando played by the clarinet, and its rhythm was inspired by a train ride its composer took to Boston. This piece was branded as an “Experiment in Modern Music” at its premiere, fusing elements of classical and jazz. For 10 points, name this composition by George Gershwin.

ANSWER: ***Rhapsody in Blue***

14. This artist depicted three identical hunched people with their left hands pointing down together in *The Three Shades.* This sculptor removed a too-joyous depiction of Paolo and Francesca from a monumental set of bronze doors inspired by Dante’s *Inferno.* Another sculpture by this man, originally titled *The Poet*, depicts a seated man resting his right elbow on his left knee. For 10 points, name this French sculptor whose *The Gates Of Hell* includes *The Kiss* and *The Thinker*.

ANSWER: Auguste **Rodin** [or François-Auguste-René **Rodin**]

15. In 2010, Quicken Loans moved its national headquarters to this city. In June 2014, this city’s decision to cut off water to some residents was denounced as a human rights violation by the United Nations. In October 2013, a former mayor of this city, Kwame Kilpatrick, was sentenced to twenty-eight years in jail on corruption charges. In July 2013, this city filed the largest-ever chapter nine bankruptcy claim for a U.S. city. For 10 points, name this largest city in Michigan.

ANSWER: **Detroit**

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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl**  **Regular Season 2014**  **Round 9**  **Tiebreaker/replacement questions** |

1. This number is the degree of unsaturation in a linear alkane. This integer is the pH of a one molar solution of nitric acid. Compounds with trigonal bipyramidal and octahedral molecular geometries have this many lone pairs. A spontaneous reaction will have a change in Gibbs free energy less than this number. This number is the oxidation state of any pure element. For 10 points, name this value, which is also the overall charge on any neutral compound.

ANSWER: **zero**

2. The Hindu god of this concept used a bow with a string of bees to hit Shiva, who retaliated by turning him to ash. The Sumerian goddess of this subject was Inanna. The Greek god of this idea married Psyche and took the form of a young boy with wings. For 10 points, name the emotion represented by the Hindu god Kama and the Greek god Eros.

ANSWER: **love** [or **lust**; or **fertility**; or equivalents]

3. This country’s Bay of Arrows is named for a skirmish fought by its Ciguayo people in 1493. The Yuna River and Yaque del Norte both originate in this country’s Cordillera Central. Pico Duarte and Lake Enriquillo, respectively the highest and lowest points in the Caribbean, are in this country, which takes up the eastern half of the Caribbean’s second-largest island. For 10 points, name this country that shares the island of Hispaniola with Haiti.

ANSWER: **Dominican Republic** [or **DR**; or **Republica Dominicana**; do not accept “Dominica”]

4. This author collected four short plays by him as his “Little Tragedies.” In a story by this man, Hermann learns a secret to playing cards from a Countess, but accidentally bets on the title card, “The Queen of Spades.” A novel in verse by this writer concerns a man who flirts with Olga then accidentally kills Vladimir Lensky in a duel. For 10 points, name this pioneer of Russian literature, the author of *Eugene Onegin*.

ANSWER: Alexander **Pushkin**

5. This commander told his troops to wave strips of cloth in order to fulfill a prophecy that "winged men" would be required to scale a cliff face at the Battle of the Sogdian Rock. He greatly regretted his drunken murder of Cletus the Black, who had saved his life at Granicus. This man's victories at Issus and Gaugamela caused Darius III to surrender the Persian Empire. For 10 points, name this young conqueror who reached India from his base in Macedonia.

ANSWER: **Alexander** the Great [or **Alexander** III of Macedon]

What national position was held by Newt Gingrich for the second half of the 1990's?

ANSWER: **Speaker of the House** of Representatives [prompt on **Representative** from Georgia]

What is the secant of the second-quadrant angle whose sine is equal to one-half times the square root of two?

ANSWER: **negative** square **root** of **2** [or **negative rad**ical **2**]