**2016 VHSL Regionals - Round 08 - First Period, Fifteen Tossups**

1. A character in this play asks for a Chinese lampshade to be placed over a "rude," naked light bulb. Its female lead was fired from teaching English and was married to the closeted homosexual Allan Grey. At the end of this play, the female lead is taken away to a mental hospital and says "I have always depended upon the kindness of strangers." The protagonist of this play goes to New Orleans to live with her sister, Stella, and brutish brother-in-law, Stanley Kowalski. For 10 points, name this Tennessee Williams play about Blanche DuBois.
ANSWER: *A* ***Streetcar Named Desire***

2. This belief was advocated by Richard Ryder's Oxford Group, after it was popularized in England by a Brigid Brophy article. Roger Scruton criticizes the "one way" approach of this belief, which makes certain subjects "uniquely vile." Richard Posner wrote a critique of the preference utilitarianism argument for this belief, advocated in a 1975 book by Peter Singer. This position is advocated by radical groups such as ALF and by Ingrid Newkirk's organization PETA. For 10 points, name this belief that certain nonhumans have ethical and legal interests.
ANSWER: **animal rights**

3. This magazine was criticized in 2013 for running paid content from the Church of Scientology. It was founded in 1857 by Francis Underwood, with the financial backing of Harriet Beecher Stowe and Ralph Waldo Emerson, and hired James Russell Lowell as its first editor. It includes the "Word Fugitives" and "Primary Sources" columns and has a news blog called *The Wire*. Jeffrey Goldberg and Ta-Nehisi **(TAH-nah-hah-see)** Coates are among its current columnists. For 10 points, identify this political commentary magazine named for an ocean.
ANSWER: *The* ***Atlantic*** [or *The* ***Atlantic*** *Monthly*]

4. This politician was criticized as presenting "a bunch of stuff," which was translated to mean "malarkey." He has claimed his supposed devout adherence to Ayn Rand's political views is an "urban legend." After the withdrawal of Kevin McCarthy, this man was called the "only person who can unite the Republican Party" by his predecessor. This former Vice-Presidential nominee under Mitt Romney was thus pushed into replacing John Boehner. For 10 points, name this Wisconsin congressman who became Speaker of the House in October 2015.
ANSWER: Paul **Ryan** [Paul Davis **Ryan**]

5. This television channel's network ID logo was first seen after adapted footage of the first moon landing. Cindy Crawford got her start on TV by hosting this channel's *House of Style* fashion program. A long-running reality show on this network claims to be "the true story of seven strangers picked to live in a house." This channel has aired such shows as the cartoon *Beavis and Butt-head* and the reality shows *The Real World* and *Jersey Shore*. For 10 points, name this cable channel originally founded in 1981 to play music videos.
ANSWER: **MTV** [prompt on **Music Television**]

6. During World War II, this country's government was dominated by the Legionaries, also known as the Iron Guard. Children in this country were often placed in hellish orphanages after Decree 770 banned contraception. A dictator of this country fled in a helicopter after attempting to calm a crowd and had earlier given the July Theses speech. Protests in Timisoara began the 1989 revolution in this country, which ended with the televised execution of its dictator. For 10 points, name this Eastern European country ruled by Nicolae Ceausescu **(nih-kuh-LY chou-SHESS-koo)** from Bucharest.
ANSWER: **Romania**

7. In a suburb of this city, a building shaped like a giant syringe is named in honor of Carlos Finlay, a doctor who worked against yellow fever. Most foreigners in this city live in the Miramar district, and its Vedado is found to the west of most "casas particulares," **(par-TEE-cue-LA-rays)** where rooms are rented. The Paseo del Prado is a main avenue extending from the Harbor Channel in this city, where a building named for Jose Martí is the center of the Plaza de la Revolución. For 10 points, name this city in the Greater Antilles, the capital of the last Communist country in the Western Hemisphere, Cuba.
ANSWER: **Havana**

8. In Java, a class named for Array and this structure is amenable to dynamic allocation. In Python, these structures are the most common to be constructed using a comprehension, and they can be "sliced" by postfixing them with a colon in between two numbers, all in square brackets. Nodes consisting of data and a pointer to the next piece of data can be used to construct a "linked" example of this structure. For 10 points, name this structure that consists of a sequence of some kind of data, such as groceries.
ANSWER: **list**s [do not accept "array"]

9. A composer from this modern-day country quoted songs from his "The Cypresses" in his B minor cello concerto. Another composer from this modern-day country wrote a cycle of symphonic poems which includes a depiction of Vysehrad **(veh-shay-rod)** Castle and the St. Johns Rapids on the Vltava **(vla-tah-vah)** River. *The Bartered Bride* is set in this country, home to a composer whose six-piece cycle *Ma Vlast* includes "Die Moldau" **(die mole-dow)**. For 10 points, the Bohemian composers Bedrich Smetana and Antonin Dvorak **(duh-vore-jahk)** are from what country, whose capital is Prague?
ANSWER: **Czech Republic** [or **Ceska republika**]

10. The vadose zone ends where the level of this compound in the soil equals atmospheric pressure. Drawdown of structures containing this compound can cause subsidence. This compound is the most abundant greenhouse gas in the atmosphere. In geology, this compound undergoes percolation through permeable rocks. Its creation through transpiration cools plants. The condensation of this compound is responsible for the creation of clouds and precipitation. For 10 points, name this compound with chemical formula H-2-O.
ANSWER: **water** [or atmospheric water **vapor**; or **H2O** until it is read]

11. This man won a battle where a group of British soldiers led by Colonel Thomas Ferrier defended some hills until General José Antonio Paéz **(pie-ehz)** destroyed the enemy's right flank. This leader was saved from an assassination attempt by his lover, Manuela Saenz. At the Guayaquil **(gwai-uh-KEEL)** Conference, this man discussed the future of South America with Jose de San Martin. This victor at the battles of Boyaca **(boy-ya-KAH)** and Carabobo **(car-rah-BOH-boh)** served as the first president of Gran Colombia. For 10 points, name this "Liberator" of South America.
ANSWER: Simon **Bolivar** [Simon Jose Antonio de la Santisima Trinidad **Bolivar** y Palacios]

12. In an opera by this composer, a woman describes the "sweet name" of a man she meets in the aria "Caro nome," but is later murdered by the assassin Sparafucile **(spah-rah-foo-chee-lee)**. In another of his operas, Alfredo sings the drinking song "Libiamo ne' liete calici" **(lee-bee-ah-mo neh lee-eh-tee cah-lee-chee)** and falls in love with Violetta, only to witness her die at the hands of tuberculosis. The Duke of Mantua sings that "woman is fickle" in the tenor aria "La donna è mobile" **(lah doe-nah ee moe-bee-lay)** from this composer's opera *Rigoletto*. For 10 points, name this composer of *La traviata*.
ANSWER: Giuseppe **Verdi** [or Giuseppe Fortunino Francesco **Verdi**]

13. These constructs can be categorized as strongly or weakly typed depending on how they implement type checking. These constructs are commonly divided into imperative, functional, and object-oriented. Most of these constructs start numbering array indices at zero, instead of at one. MIT developed a visual example of these things that allows a user to drag and drop commands, such as "move x steps", to manipulate a sprite. They include MIT's Scratch and Oracle's Java. For 10 points, name these constructs with which one might code an application.
ANSWER: **programming language**s

14. This poet wrote, "I stretched thy joints to make thee even feet, yet still thou run'st more hobbling than is meet," in a poem addressed to "thou ill-formed offspring of my feeble brain, who after birth didst by my side remain." In addition to "The Author to Her Book," this poet wrote "If ever two were one, then surely we," in a poem addressed to her "dear and loving" husband Simon, the last governor of the Massachusetts Bay Colony. For 10 points, name this poet of *The Tenth Muse Lately Sprung Up in America.*
ANSWER: Anne **Bradstreet**

15. This man was first elected to the leadership of his party at the Zunyi Conference. This leader attempted to industrialize by encouraging individual citizens to use backyard furnaces. This man told students to go "up the mountains and down to the countryside" during a movement that saw the formation of his Red Guards, who distributed his sayings in the Little Red Book. He led the Great Leap Forward and the Cultural Revolution. For 10 points, name this first Communist leader of China.
ANSWER: **Mao** Zedong [**Mao** Tse-tung or Chairman **Mao**]

 **2016 VHSL Regionals - Round 08 - Directed Period**

1A. The double angle formula for what trigonometric function can be written as two times tangent theta over one plus tangent squared of theta?
ANSWER: **sine** [do not accept "cosine"]

1B. What Soviet foreign minister negotiated a nonaggression pact with Nazi Germany's Joachim von Ribbentrop and lends his name to a type of homemade fire bomb?
ANSWER: Vyacheslav **Molotov** [or **Molotov** cocktail]

2A. The Dish Network Joey device will support what resolution standard, which uses about eight million pixels and is found on TV panels which will succeed the 1080p generation?
ANSWER: **4K**TV [or **UltraHD** TV; do not prompt on "HD"]

2B. What highest peak in the Karakoram **(KAH-ruh-KOH-rum)** Range and second-highest in the world is considered one of the most dangerous mountains to climb?
ANSWER: **K2** [or Mount **Godwin-Austen**]

3A. This is a 20-second calculation question. I simulate from a geometric distribution with unknown probability of success and find that the mean of my simulated data is 4.8. What is my estimate of the probability of success?
ANSWER: **5/24** [prompt on **1 over 4.8**]

3B. This is a 20-second calculation question. The denominator of a fraction is currently the square root of 3 plus the square root of quantity 3x minus 7 end quantity. If I rationalize the denominator, what will the new denominator be?
ANSWER: **10 minus 3 x** [or **negative 3 x plus 10**; or **3 x minus 10**; or **negative 10 plus 3x**]

4A. Edward Ferrars appears in what 1811 Jane Austen novel, which focuses on the contrasting sisters Elinor and Marianne Dashwood?
ANSWER: ***Sense and Sensibility***

4B. What number describes both the number of each woodwind instrument in an orchestra in the Classical period and the number of sections into which violinists are usually divided?
ANSWER: **two**

5A. What performer, who released the album *No Jacket Required* and sang "I'm just an empty space" in "Against All Odds," was the former lead singer of Genesis?
ANSWER: Phil **Collins** [Philip David Charles **Collins**]

5B. Batesian **(buh-tease-ee-ahn)** and Mullerian are two types of what adaptation in which an organism copies distinctive features of a harmful organism to tell potential predators that it is dangerous?
ANSWER: **mimic**ry

6A. President George Washington personally commanded an army to put down what Western Pennsylvania revolt over a tax on distilled spirits?
ANSWER: **Whiskey** Rebellion

6B. What four-word phrase is used to describe the lack of partisan division in America following the collapse of the Federalist Party and during James Monroe's presidency?
ANSWER: **Era of Good Feelings**

7A. Judge Holden and "the kid" appear in what violent novel by Cormac McCarthy?
ANSWER: ***Blood Meridian***

7B. The Henderson-Hasselbalch equation is useful for calculating the pH of what kind of solution, which resists changes in pH?
ANSWER: **buffer** solution [or **buffer** system]

8A. This is a 30-second calculation question. If there is an 8 foot by 10 foot pool, with a 2 foot wide sidewalk wrapping all the way around the pool, what is the area of the sidewalk?
ANSWER: **88**

8B. This is a 30-second calculation question. Find all values of theta on the domain 0 to 90 degrees, inclusive, such that 2 sine cubed theta minus sine squared theta minus 4 sine theta plus 2 equals 0.
ANSWER: **30** degrees [do not accept answers with more or fewer than one value]

9A. Old English poetry extensively uses what formulaic phrases in place of common words, such as "bane of wood" for "fire" and "sky's jewel" for "sun"?
ANSWER: **kenning**s

9B. What ibis-headed Egyptian moon god is credited with the invention of writing and the creation of a 365-day calendar?
ANSWER: **Thoth** [or **Djehuty**]

10A. Adding the infinitive form to the auxiliary verb "werden" **(vee-AIR-den)** creates what verb tense in German?
ANSWER: **future** tense [or die **Futur** I]

10B. Anna Fierling is the title character of what Bertolt Brecht **(BAIR-tolt BRESHT)** play set during the Thirty Years War?
ANSWER: ***Mother Courage and Her Children*** [or ***Mutter Courage und ihre Kinder***]

 **2016 VHSL Regionals - Round 08 - Third Period, Fifteen Tossups**

1. Di-hydro-pyridine receptors mediate ion transport in a form of this tissue. Intercalated **(in-TUR-kuh-lay-ted)** discs can be seen between the cells of a type of this tissue that conducts electrical signals through gap junctions after stimulation by the sinoatrial **(sy-no-AY-tree-ul)** node. Its striated **(STRY-ay-ted)** class is made of repeated sarcomere **(SAR-co-meer)** subunits comprising its myofibrils **(MY-oh-fy-brils)**, which contain actin and myosin **(my-OH-sin)** filaments. The skeletal type of this tissue is attached to bone by tendons. For 10 points, name this tissue that makes up the heart and biceps.
ANSWER: **muscle** [or cardiac **muscle**; or skeletal **muscle**; or striated **muscle**; or heart **muscle**; prompt on "heart"]

2. Jimmy Buffett has a cameo in this movie as a man trying to escape an event caused by a helicopter crashing into an aviary. B.D. Wong reprised his role as scientist Dr. Henry Wu in this film. This movie is set on an island controlled by the Masrani Corporation called Isla Nublar. In the conclusion of this film, a beast called the *Indominus* is dragged underwater by a *Mosasaurus*. This film stars Chris Pratt as Owen Grady, a Velociraptor trainer. For 10 points, name this 2015 film, the latest in the *Jurassic Park* series.
ANSWER: ***Jurassic World*** [do not accept or prompt on "*Jurassic Park*"]

3. One stanza of this poem asks "Was there a man dismay'd?" before describing how "Someone had blunder'd." This poem describes how "All the world wondered" at the title group, asking "When can their glory fade?" This poem mentions how "Cossack and Russian reel'd from the sabre stroke" of the title group. This poem begins by noting how "Half a league, half a league, Half a league onward" six hundred men rode "in the valley of Death." For 10 points, name this Alfred Tennyson poem about an instance of bravery during the Battle of Balaclava.
ANSWER: "The **Charge of the Light Brigade**"

4. This woman was falsely implicated in a scandal for which the magician Cagliostro and the Cardinal de Rohan were prosecuted, the Affair of the Diamond Necklace. This woman participated in the unsuccessful Flight to Varennes, after which she and her family were confined to the Tuileries. This woman's brother was Joseph II and her mother was Maria Theresa. Reports of starvation apocryphally prompted this woman to remark "Let them eat cake!" For 10 points, name this wife of Louis XIV who was guillotined during the French Revolution.
ANSWER: **Marie Antoinette** [or **Maria Antonia** Josepha Johanna von Habsburg-Lothringen]

5. The Schrodinger **(shroe-din-ger)** equation was first used to solve for the energy levels of this element. This element's atomic spectral lines in the visible spectrum is called the Balmer series, while the lines in the UV range are the Lyman series. Saturated organic molecules contain the maximum number of atoms of this element. This element's two known isotopes are tritium and deuterium. When it carries a positive charge, it is often referred to simply as a proton. For 10 points, name this lightest element on the periodic table, which has chemical symbol H.
ANSWER: **hydrogen** [or **H** before mention]

6. An elector with this name known as the "Ostentatious" signed a secret 1700 treaty allowing himself to be called king. A king of this name wrote flute concertos, dubbed himself "the first servant of the state," and used his Sans-Souci Palace to host intellectuals like Voltaire. That king of this name took advantage of a violation of Salic Law to oppose the Pragmatic Sanction and fight Maria Theresa in the War of Austrian Succession. For 10 points, give this name of two Prussian kings, the second of which was known as "the Great."
ANSWER: **Frederick** [or **Frederick** the Great; or **Frederick** I, II, or III]

7. The Wright and Giemsa **(gee-EM-suh)** types of this technique are performed on blood smears. A type of this technique employs hematoxylin **(he-muh-TOX-uh-lin)** and eosin **(ee-OH-sin)**. Safranin or fuchsine **(FOOK-seen)** is added at the end of one of these techniques. That one of these techniques first introduces crystal violet, which binds to peptidoglycan **(pep-tid-oh-GLY-can)** in the cell wall and distinguishes Gram positive from Gram negative bacteria. For 10 points, name these techniques in which a colorful dye is used to visualize samples on microscope slides.-
ANSWER: **stain**ing [or **stain**s; accept **dye**ing or **dye**s before it is read; prompt on **histology**]

8. This man's disciples were known as the Śrāvaka **(sh-rah-vah-kuh)**, and he is the first of the Three Jewels. He was mistaken for a ghost by a girl named Sujata, who brought him a bowl of rice pudding. His tooth is currently kept as a relic at a shrine in the city of Kandy on Sri Lanka. This man first gathered the "sangha" after an experience at the Deer Park near Varanasi, where he sat under a Bodhi tree. This person preached the Eightfold Path and Four Noble Truths. For 10 points, name this founder of a religion that seeks nirvana.
ANSWER: **Buddha** [or Siddhārtha **Gautama**; or **Shakyamuni**]

9. In this play, a character admits that only "saints and poets" truly "ever realize life." Characters that die in this play include choir director Simon Stimson, who hangs himself. Its first two acts both feature the delivery of milk, including on the day of George's wedding. At the end of this play, the deceased Emily Gibbs returns to Earth to relive one day of her life. This play has almost no scenery, with the audience being directly addressed by the Stage Manager. For 10 points, name this Thornton Wilder play set in the small community of Grover's Corners.
ANSWER: ***Our Town***

10. At his wedding, this hero breaks a divine bow while trying to string it. This hero is condemned for having his wife prove her fidelity by undergoing a trial by fire. He is unable to ascend to the throne when his stepmother uses two wishes granted to her by the king, and forces this hero and his brother Lakshmana to go into exile for fourteen years. With help from the monkey god Hanuman, this hero slays the demon Ravana and rescues his wife Sita. For 10 points, name this seventh avatar of Vishnu who titles a Hindu epic by Valmiki.
ANSWER: **Rama**

11. This character is working as a clam digger when he rows out to warm a copper mogul about an impending storm. The apprentice to Dan Cody, this man's funeral is not attended by houseguest Ewing Klipspringer. He works alongside the criminal Meyer Wolfshiem and is ultimately killed by mechanic George Wilson, who blames him for running over his wife. This character buys a mansion in West Egg, befriends Nick Carraway, and throws lavish parties with his bootlegging funds. For 10 points, name this title "great" character of a F. Scott Fizgerald novel.
ANSWER: Jay **Gatsby** [or **Jay**; or **James**; or **Jimmy**; or **Gatz**]

12. A committee headed by this man reformed chemical nomenclature, introducing the "ite" and "ate" suffixes for acids. This chemist elucidated the law of mass conservation in the context of chemical reactions. This person named the elements hydrogen and oxygen and elucidated oxygen's role in combustion as part of his rejection of phlogiston theory. For 10 points, name this father of modern chemistry who was guillotined during the French revolution.
ANSWER: Antoine-Laurent de **Lavoisier** **(luh-vwa-zee-ay but accept phonetic equivalents)**

13. This country fought the Shifta War against ethnic Somalians. A military operation in this country occurred after General China was captured and interrogated. Operation Anvil was a response to an uprising in this country, which ended after Dedan Kimathi was captured. A leader of this country who promoted "harambee," or pulling together, was succeeded by Daniel arap Moi. This country's Kikuyu people led the Mau Mau Rebellion. For 10 points, name this African country that was founded by Jomo Kenyatta.
ANSWER: **Kenya** [Republic of **Kenya**; Jamhuri Ya **Kenya**]

14. In 2003, this city dedicated a "Monument of Light," or its namesake spire, which stands on the site where Nelson's Pillar was destroyed by a bomb in 1966. This city is moving one of its major universities to the suburb of Grangegorman. The Book of Kells is stored at Trinity College in this city, which is home to the iron Ha'penny Bridge. The Tolka and Dodder rivers run through this city and join its major river at the mouth of the Liffey. For 10 points, name this city where Guinness was invented and the Taoiseach **(TEE-shock)** heads the government of Ireland.
ANSWER: **Dublin**

15. The title person in this painting became Lord Mayor of London in 1796 and said the painting showed anyone can succeed in spite of physical disabilities. The artist depicted the real-life Morro Castle in the background of this painting, although the title animal inaccurately has lips and air blowing out from nostrils. This painting presented a real-life incident in 1749 Havana in which a hapless cabin boy lost his leg. For 10 points, name this John Singleton Copley painting showing a boy being rescued from an ocean predator.
ANSWER: ***Watson and the Shark***

 **2016 VHSL Regionals - Round 08 - Tiebreaker Questions**

1. According to myth, this country was created when its creator god dipped his spear into the ocean; that creator god journeyed to Yomi to retrieve his wife. In this country's myths, the sun goddess fled to a cave, forcing the other gods to draw her out with a dancer on a tub. In a myth from this country, the eight-headed serpent Orochi was slain by the warrior Susano'o. For 10 points, name this country whose traditional religion reveres *kami* like Amaterasu.
ANSWER: **Japan**

2. The equality of women was ensured by this country's ancient Brehon laws. The Viking kingdoms in this country lost power after being defeated at the Battle of Clontarf by one of this country's High Kings. An abbey in this country was the long-time home of a manuscript called the Book of Kells. Legends about a religious figure from this country claim that he had a walking stick that turned into a tree, that he explained the Trinity with a plant, and that he drove all the snakes off this island. For 10 points, name this country Christianized by Saint Patrick.
ANSWER: **Ireland** [or **Eire**]

3. In a novel by this author, a swarm of buzzards devour the eyes and tongue of a girl who mothers the child Chunga with Don Anselmo, who builds the title brothel in the town of Piura. This author of *The Green House* wrote a novel in which Jaguar is the head of "the Circle," a group of four friends at the Leoncio Prado Military Academy. In a novel by this author, Pedro Camacho goes insane while creating several radio serials for Radio Panamericana. For 10 points, name this Nobel Prize-winning Peruvian author of *The Time of the Hero* and *Aunt Julia and the Scriptwriter*.
ANSWER: Mario **Vargas Llosa** **(VAR-gus YO-suh)**

4. This island doubled its area in the 1950s by filling in salt ponds to its east. This island in Monroe County is built around Mallory Square Plaza and Duval Avenue, and it is populated by many descendants of Bahamians known as Conchs **(konks)**. On April 23, 1982, this island briefly declared independence from the United States to protest Border Patrol harassment following the Mariel Boatlift. This island contains the southernmost points of publicly accessible land in the continental U.S. For 10 points, name this endpoint of a chain of islands off the tip of Florida.
ANSWER: **Key West**

5. Atelectasis **(a-tuh-LEK-tuh-sis)** may be indicated by rales occurring during this process. Diabetic ketoacidosis **(kee-toh-"acid"-OH-sis)** can cause a form of this process named after Kussmaul. This process is slowed down in bradypnea **(brad-up-NEE-uh)**. Diffusion occurs across capillaries lining alveoli **(al-vee-OH-lye)** in this process. Interruptions in this process can occur in sleep apnea, and it is inappropriately modified to release CO2 in hyperventilation. For 10 points, name this process in which gases are exchanged in the lungs via inhalation and exhalation.
ANSWER: **breathing** [accept **respiration** but do not accept "cellular respiration"; accept descriptions like "taking a **breath**"]

The 1122 Concordat of Worms eventually helped settle what medieval controversy, which concerned whether monarchs had the right to appoint bishops in their kingdoms without the permission of the church?
ANSWER: **Investiture** Controversy [or **Investiture** Contest]

This is a calculation question. At how many real values of x do the graphs of y = x-cubed + 2 x-squared and of y = 4x + 8 intersect?
ANSWER: **2** values [-2 and 2]