**2016 VHSL Regionals - Round 06 - First Period, Fifteen Tossups**

1. Russ Landau **(LAND-dow)** composed this show's theme song, "Ancient Voices." This show's fourth season controversially used a purple rock tiebreaker in place of a fire-making challenge. Rob Mariano **(mare-ee-AH-noh)** played this game four times and finally won in *Redemption Island.* Themes of this reality show include *Heroes Versus Villains* and *Fans Versus Favorites*. Contestants on this show can find hidden immunity idols to avoid being voted out at Tribal Council. For 10 points, name this show that often ends with host Jeff Probst saying, "The tribe has spoken."
ANSWER: ***Survivor***

2. During this war, William Hull surrendered a fort to a much smaller enemy force and was later court martialed. In another engagement in this war, Isaac Brock was killed at Queenston Heights. A naval commander in this war sent the message "we have met the enemy and they are ours" and was Oliver Hazard Perry. Ended by the Treaty of Ghent, it featured the burning of Washington D.C. For 10 points, name this early nineteenth century war fought between the United States and Great Britain and named for the year it started.
ANSWER: War of **1812**

3. In a field that investigates these objects, skeleton plots are used in conjunction with the principle of crossdating. Working with these things can be complicated by the appearance of false bands, which are dark. Organic material in these objects, such as lignin, is replaced during the process of per-mineralization. Prior to human management, wildfires controlled ecological succession among the longleaf pine examples of these objects. For 10 points, name these items that are studied in the field of dendrochronology, a field that dates their rings.
ANSWER: **tree**s [or **wood**; or tree **ring**s until "rings" is read]

4. An escaped zoo flamingo named Pink Floyd began living alone at this body of water in 1987. A large bison herd lives on Antelope Island in this lake. Robert Smithson's *Spiral Jetty* protrudes into this body of water, which is fed by the Bear and Jordan Rivers. The Bonneville Flats, often used for setting land speed records, lie to the west of this lake. Only a few organisms, including brine shrimp, live in this American lake because of its high mineral content. For 10 points, name this body of water in northwestern Utah.
ANSWER: **Great Salt Lake**

5. Poliovirus encodes a namesake "internal entry site" that lets it interact with these structures in a five-prime cap-independent process. In prokaryotes **(pro-CARE-ee-otes)**, these structures bind to a region named after Shine and Dalgarno. These structures contain A, P, and E sites in their large 60S subunit, where they use RNA to catalyze reactions. Peptide bonds are formed in these structures after tRNA deposits amino acids in the order specified by mRNA. For 10 points, name these non-membranous organelles that perform translation.
ANSWER: **ribosome**s

6. This country is the namesake of an airline which bought the first Airbus A350s and is chaired by the outspoken Akbar Al Baker. In 2015, this country's Wage Protection System began mandating electronic paychecks, in an attempt to reform the "kafala" system. In this country controlled by the Al Thani family, over forty percent of the population consists of foreign citizens in migrant laborer jobs, including those building stadiums for an event which will be held in the winter for the first time. For 10 points, name this Sheikh Hamad-led host of the 2022 World Cup.
ANSWER: **Qatar** [State of **Qatar**; or Dawlat **Qatar**]

7. Signals in this noncardiac process are transduced along mitral **(MY-trull)** cells after traveling from non-kidney glomeruli **(glo-MARE-yu-lye)** innervated by cranial nerve one. Linda Buck and Richard Axel won a Nobel for their work on understanding this process. Inability to perform this sensory process is called anosmia. An accessory system to this process is used to detect pheromones **(FARE-uh-mohns)**. Molecules stimulating this process are dissolved in mucus lining the nasal cavity. It assists the sense of taste in detecting flavors. For 10 points, name this process in which odors are detected.
ANSWER: **smell**ing [or **olfaction**; or **olfactory** pathway]

8. A character in this novel, Ampleforth, is derided for printing the word "God" in a Kipling poem. This novel's protagonist reads a book by Emmanuel Goldstein and is ultimately taken to the much-feared Room 101 where he is threatened with being eaten by rats. Set in Oceania, this novel has a protagonist who ultimately betrays his girlfriend, Julia, after he is tortured by the Thought Police. It ends with Winston Smith pledging blind loyalty to the party. For 10 points, name this George Owell novel about a dystopian society led by "Big Brother."
ANSWER: ***1984***

9. This sculpture's head was supposedly modeled after Antinous. This figure's inner thigh is brushed by a long feather and he is only wearing boots and a laurel-topped helmet. This bronze sculpture was the first freestanding nude since antiquity and features the title figure in contrapposto with his left foot on the head of a giant Philistine. For 10 points, name this Donatello sculpture of a biblical youth who Michelangelo also depicted with a slingshot in preparation for his fight with Goliath.
ANSWER: **David**

10. Chinese objects which hold this substance were made in the Purple Sand style. Michael Graves designed an iconic item used to prepare this substance, the Alessi 9093. This substance is served to people who arrive through the "crawling-in door" after the sounding of a bell, in a ritual known as "sado" or "temae," which involves viewing a scroll and a flower arrangement and is practiced in Zen Buddhism. For 10 points, identify this beverage brewed in a namesake Japanese "ceremony."
ANSWER: **tea** [or **ocha**; or **tea**pots]

11. Two servants of this man's wife, Oliver Whateley and Violet Sharp, died during a criminal investigation. This man gave a speech entitled "Who Are the War Agitators?" months after FDR publicly compared him to Clement Vallandigham. This man used the pseudonym Careu Kent to hide his identity from his German illegitimate children. This man was a prominent member of the America First Committee. Bruno Hauptmann **(HOPPED-man)** allegedly kidnapped this man's son in 1932. For 10 points, name this pilot of the *Spirit of St. Louis*, the first person to fly solo across the Atlantic.
ANSWER: Charles **Lindbergh**

12. This author wrote about Keawe's attempt to cure his leprosy by selling the title cursed object at a loss in his story "The Bottle Imp." The protagonist of a novel by this author is nearly killed when his uncle Ebenezer tricks him into climbing a faulty staircase and is forced into service aboard the *Covenant* by Captain Hoseason. This creator of David Balfour wrote a novel which opens with Billy Bones suffering an alcohol-induced stroke and describes the pursuit of Captain Flint's treasure. For 10 points, name this Scottish author of *Kidnapped* and *Treasure Island*.
ANSWER: Robert Louis **Stevenson**

13. This man's treatment of Rowland Hazard for alcoholism influenced the methodology of Alcoholics Anonymous. Sonu Shamdasani spent decades trying to publish this man's dream journal, the *Red Book*. He coined the terms "introvert" and "extrovert" in his book *Psychological Types*. This man believed that the wise mother, the tree of life, and the great flood are among the "archetypes" that every human has access to in the "collective unconscious." For 10 points, name this Swiss disciple of Freud who theorized the "animus" and "anima."
ANSWER: Carl **Jung** **(YOUNG, but accept phonetic pronunciations)** [Carl Gustav **Jung**]

14. People known as "woodpeckers" descended upon this location in search of souvenirs during its final months of existence. Peter Fechter bled to death near this location but received no medical assistance. It was partly created because of a "brain drain" feared by leaders such as Walter Ulbricht, **(uhl-BRICKED)** and this location was destroyed shortly after the resignation of Erich Honecker. The most famous way to pass through this thing was by using Checkpoint Charlie. For 10 points, name this barrier that divided a German city from 1961 to 1989.
ANSWER: **Berlin Wall** [or **Berliner Mauer**]

15. A passage in the third section of this book casts doubt on the authenticity of messages received in a dream from God. Tyranny and oligarchy are disregarded as types of Commonwealth in this book, which introduces the concept of the "body politic." According to this book, man exists in a state of *bellum omnium contra omnes*, or "war of all against all," while our lives are "nasty, brutish, and short." For 10 points, name this book that defends absolute monarchy written by Thomas Hobbes.
ANSWER: ***Leviathan***

 **2016 VHSL Regionals - Round 06 - Directed Period**

1A. In December 2015, Japan recovered a dozen boats filled with what objects, which regularly appear on Japanese coasts in unmarked ships thought to originate in North Korea?
ANSWER: dead human **bodies** [or **corpses** or other equivalents]

1B. What often-circular DNA molecules are found outside of the chromosomal genome in bacteria and can be transferred through transformation, conjugation, and transduction?
ANSWER: **plasmid**s

2A. Novak Djokovic pulled to within one of Roy Emerson's record for men's singles titles at what Grand Slam event held in January?
ANSWER: **Australian Open**

2B. In what religion do the souls of the dead walk across the Chinvat bridge, which dumps into hell those who have served the evil Angra Mainyu?
ANSWER: **Zoroastrian**ism

3A. This is a 20-second calculation question. If I flip three coins, and at least one of them came up heads, what is the probability that all of them came up heads?
ANSWER: **1/7**

3B. This is a 20-second calculation question. If a square of area 18 is inscribed in a circle, what is the area of the circle? Express your answer in terms of pi.
ANSWER: **9 pi**

4A. Name the American pop artist who created comic-book inspired paintings such as *Whaam!*
ANSWER: Roy **Lichtenstein** [or Roy Fox **Lichtenstein**]

4B. What nickname was given to the heavy 1828 tariff which John C. Calhoun denounced in the *South Carolina Exposition and Protest*?
ANSWER: Tariff of **Abominations**

5A. What city, the capital of the Abbasid Caliphate, allegedly had its rivers run black with the ink from books after Hulagu Khan besieged it in 1258?
ANSWER: **Baghdad** [or **Bagdad**; or **Madinat al-Salam**; prompt on the **Round City**]

5B. What Norwegian leader of the Nasjonal Samling **(nah-suh-NAHL SAM-ling)** party collaborated with the occupying Nazis, resulting in his name becoming a synonym for "traitor?"
ANSWER: Vidkun **Quisling** [Vidkun Abraham Lauritz Jonssøn **Quisling**]

6A. What term refers to the physical or legal area which a person has some legal or corporate responsibility for, such as crimes in the county where a Commonwealth's Attorney is elected?
ANSWER: **jurisdiction**

6B. The suffix "-ment" **(read the individual letters)** is added to the feminine form of the adjective to create what part of speech in French?
ANSWER: **adverb**s [or les **adverbes**]

7A. What region of the brain responsible for memory storage is named for the Greek for "seahorse"?
ANSWER: **hippocampus**

7B. In what Edith Wharton novel does the title Starkfield resident attempt suicide in a sled with his cousin Mattie Silver?
ANSWER: ***Ethan Frome***

8A. This is a 30-second calculation question. How many real solutions exist to the equation x cubed minus 12 x squared plus 40x equals 0?
ANSWER: **1**

8B. This is a 30-second calculation question. Find all values of x that satisfy the equation: the arc-cotangent of quantity 5 x minus 13 equals 3 pi over 4.
ANSWER: **12/5** [or **2.4**; do not accept answers with more than one value]

9A. What lawyer defends Tom Robinson in Harper Lee's *To Kill a Mockingbird*?
ANSWER: **Atticus** Finch [prompt on **Finch**]

9B. Given a straight line and a point not on it, there exists only one straight line which passes through the point and has what property with respect to the original line?
ANSWER: **parallel**

10A. What American author wrote the short stories "Babylon Revisited" and "The Diamond as Big as the Ritz"?
ANSWER: F. Scott **Fitzgerald**

10B. The Mawenzi, Shira, and Kibo volcano cones arise from what tallest mountain in Africa?
ANSWER: Mount **Kilimanjaro**

 **2016 VHSL Regionals - Round 06 - Third Period, Fifteen Tossups**

1. This composer's opera *Gianni Schicchi* includes the popular soprano aria "O mio babbino caro." In another of his operas, Marcello's attention is sought by Musetta as she sings a waltz, while Rodolfo sings "Che gelida manina" as he comments on Mimi's freezing hands - those four characters are destitute friends living in an attic in Paris. Calaf sings the tenor aria "Nessun dorma" as the title Chinese princess struggles to discover his name in this composer's opera *Turandot*. For 10 points, name this composer of "La bohème."
ANSWER: Giacomo **Puccini** [or Giacomo Antonio Domenico Michele Secondo Maria **Puccini**]

2. The cross product produces a vector that has this property with respect to both inputs. Two vectors with this property have a dot product of zero. Two tangents of a parabola that intersect at the directrix have this property. Any line that has this property with respect to the endpoint of a circle's radius is a tangent line. The circumcenter of a triangle is where three bisectors named by this term meet. For two lines with this property, the product of their slope is minus one. For 10 points, name this property possessed by two lines that meet at a right angle.
ANSWER: **perpendicular** [or **orthogonal**; or **perpendicularity**; or **normal**]

3. This novel ends with the protagonist discovering "the world was a world for him," not "made of oaths and walking sticks." Its protagonist is questioned by a wounded "tattered man," and becomes shocked when his friend Jim Conklin dies. The title object of this novel is a wound received from being hit by a rifle, which ends up comforting Henry Fleming after he shamefully fled a Confederate charge earlier in this book. For 10 points, name this Stephen Crane novel about a young private's cowardice during the Civil War.
ANSWER: *The* ***Red Badge of Courage***

4. A variety of this phenomenon that occurs in p-n junctions is its "shot" type. The ratio of signal to the amount of this thing is a classic measure of the quality of a channel. Pollution of this thing can be determined by referencing its ambient level, measured in decibels. If the frequency spectrum falls off as one over frequency or is constant, this phenomenon is termed, respectively, "pink" or "white". For 10 points, give this term referring to random fluctuations in electrical signals, generally referring to some kind of unwanted sound.
ANSWER: **noise** [prompt on **sound**]

5. Licenses had to be issued for this activity under the Conflictus Gallicus decree. While participating in this activity with Gabriel Montgomery after the signing of the Treaty of Cateau Cambresis, **(CAT-oh cam-BREE-says)** Henry II of France was killed. An accident during this activity prompted the weight gain and bad temper of Henry VIII's later reign. This activity involved a wooden barrier called the "tilt" and often occurred alongside free-form fights called melees at tournaments. For 10 points, name this sport in which knights on horseback tried to unseat each other with lances.
ANSWER: **joust**ing [or **tilt**ting until "tilt" is read; prompt on **tournament**s, **fight**ing, or other less specific answers]

6. This hero dives to the bottom of a lake to retrieve a plant that grants eternal life. He chops down a large number of cedar trees after slaying Humbaba, their guardian, and kills the Bull of Heaven after spurning the advances of the goddess Ishtar. The immortal flood survivor Utnapishtim counsels this hero in the eleventh of twelve cuneiform tablets that recount his tyrant rule over Uruk and eventual friendship with the wild man Enkidu. For 10 points, name this title hero of an ancient Mesopotamian epic poem.
ANSWER: **Gilgamesh** [or **Bilgames**]

7. Variants of this beverage include a diet version once known as Like and a real-sugar Retro version with a disco ball on the packaging. In 1988, this beverage briefly departed from its "Never Had It, Never Will" campaign when it was released in a ginger ale-flavored "gold" variant containing caffeine. It later introduced an "upside-down" version called dnL. This drink, now owned by Dr. Pepper Snapple, was the number three beverage in the U.S. in the 1960s and 70s. For 10 points, name this competitor to Sprite and Sierra Mist, a lemon-lime soda.
ANSWER: **7 Up**

8. During this decade, the book *Seduction of the Innocent* prompted the U.S. Senate to investigate publications aimed at kids. In this decade, Joseph Welch asked a senator "have you no sense of decency, sir, at long last?" Illinois Governor Adlai Stevenson lost two presidential elections in this decade. Sputnik was launched in this decade, which also featured the Supreme Court decision in *Brown v. Board of Education*. For 10 points, name this decade in American history, the majority of which featured Dwight Eisenhower as President.
ANSWER: **1950s** [or **nineteen fifties**; prompt on the **fifties**]

9. Applying this operation twice allows one to classify a function's local extrema. Applying this operation to a composition of functions, such as *x* plus one squared, requires use of the chain rule. A necessary but not sufficient condition for applying this operation is that a function be continuous. This operation is commonly defined as the limit as *h* approaches zero of *f* of *x* plus *h* minus *f* of *x*, all over *h*. For 10 points, name this operation that gives the instantaneous rate of change of a function and is symbolized by *d* over *d x* in calculus.
ANSWER: taking the **derivative** [or **differentiation**]

10. A thought experiment criticizing this movement was proposed by Robert Nozick involving a namesake "monster." An early thinker from this movement critiqued Christianity under the pseudonym Gamaliel Smith and judged actions with his hedonic calculus. This school of thought was promoted by a man who advocated gender equality in his essay *The Subjection of Women*. A prison known as the Panopticon was proposed by a thinker from this school. For 10 points, name this philosophy championed by Jeremy Bentham and John Stuart Mill.
ANSWER: **utilitarianism**

11. This island practices a variety of slash-and-burn agriculture known as tavy. Its largest mammalian carnivore is the cat-like fossa, and plants native to this island include the traveler's palm and six species of baobabs. A popular nickname for this island is derived from its laterite soils rich in iron, and a group of primates endemic to this island include the aye-aye and a ring-tailed variety. It is separated by the Mozambique Channel from the mainland of Africa. For 10 points, lemurs are found in what "Red" island nation whose capital is Antananarivo **(AHN-tah-nah-nah-REE-voh)**?
ANSWER: **Madagascar** [Republic of **Madagascar**; or Republique de **Madagascar**; or Repoblikan'i **Madagasikara**]

12. An element symbolized by this letter is found in the side chains of methionine and cysteine **(sis-teen)**, and can be replaced by selenium because it is directly above selenium on the periodic table. Chiral centers are marked with either R or this letter. Iron and the element with this symbol comprise the mineral pyrite, or fool's gold. That element is the second member of the oxygen family, and its elemental form is a yellow crystal. For 10 points, identify this letter, the designation for the amino acid serine and the element sulfur.
ANSWER: **S**

13. In this poem, the speaker states, "The tongue stuck in my jaw. It stuck in a barb wire snare," after describing a town "scraped flat by the roller of wars, wars, wars." This poem's speaker tells the addressee, "I made a model of you, a man in black with a Meinkampf look and a love of the rack and the screw." This poem begins, "You do not do, you do not do any more, black shoe," and ends by telling the title relative, "you bastard, I'm through." For 10 points, name this Confessional poem by Sylvia Plath addressed to her father.
ANSWER: "**Daddy**"

14. A sign in favor of this cause advised "Take the beam out of your own eye" and referred to the president as "Kaiser." That sign was held by one of the Silent Sentinels who picketed the White House in favor of this cause during World War I on behalf of the NWP. After this cause was achieved, advocates like Alice Paul began pushing for the failed Equal Rights Amendment. It was officially achieved with the passage of the 19th Amendment. For 10 points, name this political cause advocated for by Susan B. Anthony.
ANSWER: **women's suffrage** [or **women**'s right to **vote** or obvious equivalents]

15. A character in this story grows pale after hearing the suggestion that he buy an elaborate dress with money that was intended for a gun to go lark hunting. Another character in this story is described as "born for every delicacy and luxury" and is married to a clerk at the Department of Education. In this story, Madame Forestier lends the title object to Madame Loisel **(lwah-ZELL)**, who loses it and labors for ten years to buy a brand new one, only to learn that the original was a fake. For 10 points, name this short story about a string of diamonds by Guy de Maupassant **(GEE duh MOE-puh-sahnt)**.
ANSWER: "The **Necklace**" [or "The **Diamond Necklace**"; or "La **Parure**"]

 **2016 VHSL Regionals - Round 06 - Tiebreaker Questions**

1. This author wrote a novel featuring an insane protagonist whose assistant is the tramp Thomas Marvel. He created an unnamed protagonist who saves a woman named Weena from drowning. This man wrote a book in which a man discovers a society in which people have become the peaceful Eloi and savage Morlocks. In a science fiction novel by this author, the world is saved from Martians when they die because of Earth's diseases. For 10 points, name this British author of *The Time Machine* and *The War of the Worlds*.
ANSWER: H.G. **Wells** [or Herbert George **Wells**]

2. A French proponent of this group believed its leader was actually Vishnu and took the pseudonym Savitri Devi. Many beliefs of this group were expanded by the creator of "Positive Christianity," Alfred Rosenberg. Theodor Adorno claimed that, after the actions of this group, writing poetry is "barbaric." Hannah Arendt wrote about the trial of a member of this group, and was the student of one of it members, who wrote *Being and Time*. For 10 points, philosopher Martin Heidegger was part of what political party that controlled Germany from 1933 to 1945?
ANSWER: **Nazi**s [or **Nazi** Party; or **NSDAP**; or **National Socialist** German Workers' Party; or **Nationalsozialistische** Deutsche Arbeiterpartei; or **national socialism**; or **national socialists**]

3. During this war, Breaker Morant was executed for his vengeful murder of prisoners. Emily Hobhouse investigated the use of concentration camps by the victors of this war, during which the sieges of Mafeking and Ladysmith occurred. Prior to this war, a raid led by Leander Star Jameson attempted to incite an uprising of Uitlanders **(EIGHT-landers)** against the Transvaal Republic. Paul Kruger signed the Treaty of Vereeniging to end this war. For 10 points, name this war fought between the British and a namesake group of Afrikaans-speaking Dutch settlers in South Africa.
ANSWER: **Boer** War [or Second Anglo-**Boer** War; prompt on **South African** War]

4. A university located in and named for this city has an "EPIC" program dedicated to "energy engineering." This city's Finger Plan led to the *Swann* Supreme Court case, upholding its attempt at integrating regional schools with mandatory busing. Companies headquartered in this city's metro area include Family Dollar, Lowe's, and Bank of America. This seat of Mecklenburg County is found just east of the Catawba River, and hosts the NASCAR Hall of Fame. For 10 points, name this air travel hub that is the most populous city in North Carolina.
ANSWER: **Charlotte**

5. Orthogonal matrices that perform this operation have a determinant of minus one. A central inversion is equivalent to the point form of this operation. For a line, performing this operation with respect to any vertical or horizontal axis yields a line with opposite slope. A function is symmetric about the origin if it's the same when this operation is applied with respect to both the x-axis and y-axis. It's commonly introduced with translation and rotation. For 10 points, name this mathematical operation that produces the mirror image of a function about some axis.
ANSWER: **reflection** [or **flip**]

The Calydonian Boar Hunt is led by what Greek hero and unrequited lover of Atalanta?
ANSWER: **Meleager**

This is a calculation question. The point (6,7) **(six comma seven)** is on the terminal side of an angle in standard position. What is the cosine of this angle? Express your answer in simplest radical form.
ANSWER: **6** times the square **root** of **85**, **over 85** [or **6** times **rad**ical **85**, **over 85**; or **6 divided by** the square **root** of **85**; or **6 over** the square **root** of **85**; or **6 divided by rad**ical **85**; or **6 over rad**ical **85**]