**VHSL Regular Season 2016-2017 - Round 01 - First Period, Fifteen Tossups**

1. Authors of this surname published the first volumes of the *Deutsches Wörterbuch* (DOYT-shuhs VER-ter-buke). A story about an imp who gives a woman three days to guess his name was popularized by authors with this surname, who also recorded a story about children who leave a trail of bread crumbs behind them. For 10 points, name this surname shared by the brothers Jacob and Wilhelm, who compiled fairy tales such as "Hansel and Gretel."
ANSWER: **Grimm**

2. Heracles broke this body part off of the river god Achelous (uh-KEEL-ous), when he was wrestling him with for his future wife Deianeira (DYE-uh-NYE-ruh). Pasiphae fell in love with a creature that had two of these body parts, and their child Asterion had these features as well. The cornucopia was one of these objects that held fruit and was often served at Greek feasts. For 10 points, name this body part which the half-bull Minotaur used to gore humans to death.
ANSWER: **horn**s

3. For each component of these systems, the Roche (ROESH) lobe is the region in which material is gravitationally bound to the component. Spectroscopic and eclipsing examples of these systems are valuable for distance calculations. Friedrich Bessel (BEH-suhl) discovered that Sirius was an example of this kind of system, so he suffixed its components with A and B. For 10 points, what astronomical systems consist of two stars orbiting their common center of mass?
ANSWER: **binary** star [prompt on double star]

4. In a novel by this author, members of an expedition aboard the *Abraham Lincoln* include the harpooner Ned Land. In another novel by this author, a 20,000-pound bet with other members of the Reform Club is accepted by Phileas Fogg. He wrote about a submarine called the *Nautilus* commanded by Captain Nemo. For 10 points, name this French author of the adventure novels *Around the World in Eighty Days* and *Twenty Thousand Leagues Under the Sea.*
ANSWER: Jules **Verne**

5. An early love interest for this character was the mermaid Lori Lemaris. The hero Steel filled in for this character during his supposed death at the hands of Doomsday. He has special powers only under a yellow sun because his home planet's native star was red. This character's secret identity is a mild-mannered reporter at the *Daily Planet* who is in love with Lois Lane. For 10 points, what DC Comics hero is an alien from the planet Krypton?
ANSWER: **Superman** [or **Clark**; or **Kent**; or **Kal-El**]

6. In a painting by this artist, several figures cloaked by a red cloth are arranged in the shape of a brain. After this artist's death, Daniele da Volterra censored one of his frescoes by painting fig leaves over it. During a four-year project funded by Pope Julius II, this artist painted God's outstretched right arm meeting Adam's outstretched left arm. For 10 points, name this painter of *The Last Judgment* and the Sistine Chapel ceiling.
ANSWER: **Michelangelo** [or Michelangelo di Lodovico **Buonarroti** Simoni]

7. Aviation pioneer Amy Johnson crashed into the outlet of this river, which was defended by the Maunsell sea forts during World War II. Pollution in this river led to a "Great Stink" in 1858. This river travels east from the Cotswolds and passes by a massive Ferris wheel nicknamed "the Eye." Tower Bridge crosses this river, which is overlooked by the clock tower home to Big Ben. For 10 points, name this river that flows through London.
ANSWER: River **Thames** [TEMS]

8. This philosopher argued that society was divided between a base and a superstructure in a book offering contributions to the "critique of political economy." This author urged the "workers of the world, unite!" at the end of a treatise he wrote during the 1848 revolutions with Friedrich Engels. For 10 points, name this German economic philosopher who wrote that a "spectre is haunting Europe" at the opening of his *The Communist Manifesto*.
ANSWER: Karl **Marx**

9. An opposition group in this country, the Justice and Equality Movement, fights a militia known as Janjaweed. In 2009, its leader became the first sitting head of state indicted by the International Criminal Court on charges of genocide. Its president, Omar al-Bashir, was widely criticized for genocidal acts during the War in Darfur. For 10 points, what African country's southern portion became independent in 2011?
ANSWER: Republic of the **Sudan** [or North **Sudan**]

10. This man's "Brain Trust" included advisers like Rexford Tugwell. He gave the "Four Freedoms" speech to argue against isolationism. This President's programs were known as "alphabet soup," and included the Civilian Conservation Corps, which put unemployed young men to work. He advocated supporting the British with the Lend-Lease program. For 10 points, what U.S. President gave "fireside chats" over the radio to encourage people during the Great Depression?
ANSWER: **F**ranklin Delano **Roosevelt** [or **FDR**; prompt on Roosevelt]

11. In a play by this man, the protagonist is haunted by twenty-one World War II pilots who died as a result of cracked cylinder heads he sold. This author wrote about the Keller family in his play *All My Sons.* In another play by this man, the protagonist is fired by a man he supposedly named, Howard Wagner, before committing suicide to secure the future of his sons Happy and Biff. For 10 points, name this American playwright of *Death of a Salesman.*
ANSWER: Arthur **Miller**

12. The common ion effect reduces this quantity, whose namesake "product constant" is symbolized K sub s p. The partial pressure of a gas above a liquid is directly proportional to this quantity for the gas in the liquid according to Henry's law. This quantity is at least 0.1 molars for compounds of group I elements, nitrates, and acetates. Its rules determine whether a compound will form a precipitate. For 10 points, what quantity dictates how well a substance will dissolve in a solvent?
ANSWER: **solubility**

13. One artist from this country painted a crying baby's head atop a pile of rubble in *Echo of a Scream*. Self-portraits by another painter from this country include one of herself as a deer and a double self-portrait with exposed hearts. Another painter from this country included portraits of Marx and Lenin in a mural near Rockefeller Center, *Man at the Crossroads*. For 10 points, name this home of David Siqueiros (SEE-kay-ROHS), Frida Kahlo, and Diego Rivera.
ANSWER: **Mexico**

14. This man was wounded by a member of the Grey Wolves named Mehmet Ali Agca. He attracted an over four million person crowd while speaking at Manila's World Youth Day. This man issued public apologies for the African slave trade and the persecution of Galileo. This pope took the name of his immediate predecessor, whose 33-day papacy ended with a mysterious death some link to the Mafia. For 10 points, what man served as pope form 1978 to 2005?
ANSWER: **John Paul II** [or **Saint John Paul the Great**; or Karol Jozef **Wojtyla**; prompt on John Paul]

15. The one-gene one-enzyme hypothesis was supported by experiments on a *Neurospora* species in this kingdom. Members of this kingdom form symbiotic relationships with roots called mycorrhizae (my-kuh-RYE-zee). These organisms contain a mycelium (my-SEE-lee-um) made of chitinous (KITE-un-us) filaments called hyphae (HIGH-fee). A very poisonous organism in this kingdom is the death cap. For 10 points, what kingdom includes mold and mushrooms?
ANSWER: **fungi** [accept word forms]

 **VHSL Regular Season 2016-2017 - Round 01 - Directed Period**

1A. What name referencing a Latin American country was applied to the 11.5 million leaked documents revealing financial information for offshore business entities?
ANSWER: **Panama Papers**

1B. What was the name for the set of domestic programs launched in the mid 1960's by Lyndon Johnson to improve American education and health care?
ANSWER: **Great Society**

2A. What law of fluid dynamics, named after a French mathematician, states that the pressure change in an ideal fluid is transmitted everywhere throughout the fluid?
ANSWER: **Pascal**'s principle

2B. "Braille" (BRAIL) and "Earl Grey tea" are what kind of terms, which are named after a person or place?
ANSWER: **eponym** [or **eponymous**]

3A. This is a 20-second calculation question. If a six-sided die is rolled, what is the probability it lands on a one, two, three, or four?
ANSWER: **2/3**

3B. This is a 20-second calculation question. What is the value of thirty-six degrees converted to radians?
ANSWER: **pi/5** radians

4A. In Spanish, what category of verbs ends with the suffix "*s-e*" in its infinitive form, and describes actions done to oneself?
ANSWER: **reflexive** verb [or *verbo* ***reflexivo***]

4B. What word meaning "the way of the warrior" refers to the code of honor practiced by Japanese samurai?
ANSWER: **bushido**

5A. The Curie and Becquerel are units used to measure what concept, which is the amount of ionizing radiation released by a substance?
ANSWER: **radioactivity** [or word forms]

5B. In the Chinese novel *Journey to the West*, what kind of animal is Sun Wukong?
ANSWER: **monkey**

6A. What objects are half-buried at a so-called "ranch" in Amarillo, Texas and make up a replica of Stonehenge in Nebraska?
ANSWER: **car**s [or **automobile**s; or **Cadillac**s]

6B. Which Nordic country's national soccer team defeated England in Euro 2016 with goals from Ragnar Sigurdsson and Kolbeinn (COLE-bin) Sigthorsson?
ANSWER: **Iceland**

7A. What is the term for the velocity at which the drag on a falling object balances the gravitational acceleration, so the net acceleration on an object is zero?
ANSWER: **terminal** velocity

7B. What Norse god of war had his hand bitten off by the Fenris wolf?
ANSWER: **Tyr** (TEER)

8A. This is a 30-second calculation question. If a function exhibiting inverse variation contains the points three comma twenty, five comma twelve, and four comma y, find the value of y.
ANSWER: y equals **fifteen**

8B. This is a 30-second calculation question. The endpoints of segment AB are 7,4 and 5, 7, and the endpoints of segment CD are 8, 1 and x, 7. If AB and CD are perpendicular, find the value of y.
ANSWER: **17**

9A. What German king and son of Henry the Fowler is sometimes said to be the first true Holy Roman Emperor after his 962 coronation?
ANSWER: **Otto I** [or **Otto the Great**; prompt on Otto]

9B. Charles Ryder narrates what nostalgic novel by Evelyn Waugh?
ANSWER: ***Brideshead Revisited***

10A. What deformed sexton is the protagonist of *The Hunchback of Notre Dame*?
ANSWER: **Quasimodo**

10B. What composer's *Symphonie fantastique* uses a recurring motif called the *idée fixe* (EE-day "FIX") to depict his unrequited love for an English actress?
ANSWER: Hector **Berlioz**

 **VHSL Regular Season 2016-2017 - Round 01 - Third Period, Fifteen Tossups**

1. In this novel, a "traveling-box" is built for the protagonist to live in, but it is later picked up by a giant eagle and dropped into the sea. The title character of this novel steals the fleet belonging to the Blefuscudians (BLEH-foo-SKOO-dee-uns). This novel's title character visits the giant residents of Brobdingnag (BROB-ding-NAG) and the tiny residents of Lilliput. For 10 points, name this satirical novel by Jonathan Swift.
ANSWER: ***Gulliver's Travels***

2. Many English-speaking foreigners fought for this war's losing side in the Abraham Lincoln Brigade. The term "fifth column" was first used to describe civilian saboteurs by its winning side, which also employed the German Condor Legion. The pro-Republic and Popular Front forces lost this war, which featured the devastating bombing of Guernica. For 10 points, what 1930's war led to Francisco Franco becoming the fascist leader of an Iberian country?
ANSWER: **Spanish Civil** War [or Guerra **Civil Espanola**]

3. Gilbert Lewis formulated this principle based on Abegg's rule. Exceptions to this principle include compounds with highly electronegative atoms bound to an atom with d orbitals, such as P Cl 5, and trigonal planar boron compounds, such as B H 3 and B F 3. This principle equates to electronic configurations ending with s-two, p-six, which is how all the noble gases end. For 10 points, what principle states that atoms prefer to have eight electrons in their valence shells?
ANSWER: **octet** rule

4. This ruler was advised by the scholar Alcuin (ALK-win) of York. Pope Leo III awarded him his highest title on Christmas Day in 800. After the death of this man's son, Louis the Pious, his territory was divided between three heirs with the Treaty of Verdun. This oldest son of Pepin the Short was crowned Emperor of the Romans and united much of Europe. For 10 points, what King of the Franks founded the Carolingian (CARE-uh-LINJ-ee-un) Empire?
ANSWER: **Charlemagne** [or **Charles the Great**; or **Carolus Magnus**; prompt on Charles I]

5. After this action was approved, a man mockingly told politicians that "virtually none" of them had done "a proper job" in their lives. A disturbed man possibly supporting this action shouted "death to traitors" and fatally attacked Jo Cox a week before it was approved. Nigel Farage (fuh-RAHJ) advocated for this action to take place, which was opposed by voters in Scotland. For 10 points, what June 23, 2016, decision was a victory for the "Vote Leave" faction?
ANSWER: **Brexit** [or the **United Kingdom leaving the European Union**; or Great **Britain leaving the European Union**; accept **UK** for "United Kingdom"; accept **EU** for "European Union"]

6. This artist depicted a man wearing a purple jacket and hat in his cubist painting *The Green Violinist*. This artist portrayed himself with some extra appendages in *Self-Portrait with Seven Fingers*. This man's most famous painting shows an upside down woman fiddling on a rooftop. That painting by this man also depicts two large faces, one of which has a woman milking a cow on its cheek. For 10 points, name this man who painted *I and the Village*.
ANSWER: Marc **Chagall** [or Marc Zakharovich **Chagall**]

7. These islands are where about one half of all the breeding pairs of blue-footed boobies nest. Lonesome George was the last of his subspecies and was discovered on Pinta Island within this chain. These islands feature a national park where Tortuga Bay can be found. Santa Cruz Island here is also the home of the Charles Darwin Research Station. For 10 points, what island chain in Ecuador also features namesake giant tortoises?
ANSWER: **Galapagos** Islands

8. The protagonist of this play is delighted by a pageant presenting the Seven Deadly Sins after he thinks about repenting his actions. The title character of this play asks, "Was this the face that launched a thousand ships?" when he summons Helen of Troy with the aid of Mephistophilis (MEFF-uh-STOFF-uh-LEEZ). For 10 points, name this play by Christopher Marlowe about a scholar who sells his soul to the devil.
ANSWER: ***Doctor Faustus***

9. This idea is said to be "personality writ large" in Margaret Mead's introduction to Ruth Benedict's book about its "Patterns." Robert Lowie championed a "relativist" approach to this concept when analyzing a society's beliefs and morality. Minorities adopt this concept from a majority group through the process of assimilation. For 10 points, name this concept often defined as a society's art and values, and whose "popular" form includes entertainment.
ANSWER: **culture**

10. SDS-PAGE uses a polyacrylamide ("polly"-uh-KRILL-uh-myde) type of this substance, which is also often made with other polymers like agarose. A sample and dye are loaded into wells in this substance and then subjected to electricity, which causes bands to travel specific distances through this substance based on the sample's size or charge. For 10 points, name this substance that separates proteins or DNA in a type of electrophoresis (electro-for-EE-sis).
ANSWER: **gel**s [or **gel** electrophoresis; or polyacrylamide **gel**; or agarose **gel**]

11. Molecules coated with COP-2 are sent to this organelle, and it sends molecules to lysosomes (LYE-suh-sohms) by adding a mannose-6-phosphate tag. This organelle is made up of flattened sacs called cisternae (sih-STUR-nee) that form its *cis* (sis) and *trans* faces. It performs protein processing and packaging. For 10 points, name this organelle that receives vesicles from the endoplasmic (endo-PLAZ-mik) reticulum and is named for an Italian scientist.
ANSWER: **Golgi** apparatus [or **Golgi** body]

12. In 2009, Mark Ingram became the first player from this college team to win the Heisman Trophy. This team defeated Michigan State 38-0 in the 2015 Cotton Bowl and beat Clemson in the National Championship game behind Heisman-winning running back Derrick Henry. That title was this team's fourth under coach Nick Saban. For 10 points, name this team which contests the Iron Bowl with in-state rival Auburn.
ANSWER: University of **Alabama** football team [or Alabama **Crimson Tide**; or **Tide**; or **'Bama**]

13. The standard gauge used to measure this phenomenon by the NWS consists of a funnel emptying into a graduated cylinder. The side of a mountain opposite the side subject to prevailing winds will experience a "shadow" named for this phenomenon. Emission of sulfur dioxide and nitrogen oxide are responsible for the "acid" type of this precipitation. For 10 points, what most common form of precipitation is less prevalent in climates stricken by drought?
ANSWER: **rain** [prompt on precipitation]

14. On the eve of this holiday, three people recite the phrase "we hold it lawful to pray with sinners." At the very end of this holiday, the shofar is blown, indicating that the fast is concluded. On the eve of this day, the cantor chants the Kol Nidre (NEED-ray) prayer. This holiday completes the period of High Holy Days that began with Rosh (RAWSH) Hashanah. For 10 points, name this Day of Atonement, the holiest day of the year in Judaism.
ANSWER: **Yom Kippur**

15. John Hay felt the man giving this speech looked "ghastly," perhaps because of smallpox. It followed a two-hour Edward Everett oration and took only a few minutes. In this speech, the speaker claims "we cannot consecrate, we cannot hallow" the ground. This speech mentions a "new birth of freedom" and its speaker says "we are met on a great battlefield." For 10 points, name this 1863 speech by Abraham Lincoln that begins "four score and seven years ago…"
ANSWER: **Gettysburg Address**

 **VHSL Regular Season 2016-2017 - Round 01 - Tiebreaker Questions**

1. The first three terms of the Taylor series expansion of this function is x, minus x to the third over three factorial, plus x to the fifth over five factorial. For a triangle, the law of this function involves setting up ratios of this function of an angle to the angle's opposite side, all of which ratios are equal. The tangent function is equal to this function over cosine. For 10 points, name this trigonometric function of an angle equal to the opposite side length over the hypotenuse.
ANSWER: **sine**

2. This substance names a hilly area that occupies much of western Nebraska. An Ojibwe legend states that a sleeping bear lies beneath this substance in northern Michigan. Punalu'u (POON-a-LOO-oo) in Hawaii is known for a black variety of this substance. The Trinity nuclear test took place at a missile range in New Mexico named for this substance. For 10 points, name this substance that forms dunes in Mojave (MOH-hah-VAY) Desert.
ANSWER: **sand** [or **silica**]

3. A presidential mansion in this city is named for its distinctive pink exterior. In 2015, this city was where the largest cultural center in Latin America, named after Nestor Kirchner, was opened. In this home of the Teatro Colón (tay-AH-trow ko-LOAN) and the Casa Rosada, grave robbers stole the severed hands of Juan Perón. This city lies across the Rio de la Plata from Montevideo (MON-tay-vi-DAY-oh). For 10 points, name this capital of Argentina.
ANSWER: **Buenos Aires**

4. This country lost a war that featured much destruction on the Highway of Death and mass exposure by soldiers to depleted uranium. The end of major combat here was announced with a banner reading "Mission Accomplished" hung on an aircraft carrier. An invasion of this country was justified with claims it possessed "weapons of mass destruction." For 10 points, the U.S. invaded what Middle Eastern country to overthrow Saddam (SUH-dom) Hussein?
ANSWER: **Iraq** [or **Iraqi** Republic; or Ba'athist **Iraq**]

5. The protagonist of this play woos Lady Anne in the street in the presence of her father-in-law's hearse on its way to interment. At the beginning of this play, the title character declares, "Now is the winter of our discontent made glorious summer by this sun of York." For 10 points, name this Shakespeare history about a vicious king who exclaims, "A horse! a horse! my kingdom for a horse!"
ANSWER: ***Richard III***

Amanda is on the first floor of a building and needs to get to the sixth floor. If the probability that the elevator stops on any given floor is 0.5, what is the probability that Amanda reaches the sixth floor having made no more than one stop?
ANSWER: **5/16** [or 0.3125]

What author wrote about the relationship between the teacher Grant and the condemned man Jefferson in *A Lesson Before Dying*?
ANSWER: Ernest **Gaines**