**VHSL Regular Season 2016-2017 - Round 03 - First Period, Fifteen Tossups**



1. Kratos and Bia, the personifications of power and might, were children of Styx (STICKS) and one of these figures named Pallas. Another of these figures, Oceanus, personified the river that surrounded the world. The leader of these figures swallowed five of his children until he vomited them back up since his wife Rhea fed him a rock wrapped in swaddling clothes. For 10 points, name these deities led by Cronus, who were overthrown by the Olympian gods led by Zeus.  
ANSWER: **Titan**s

2. Dennis Tompkins designed shoes that allowed this dancer to perform a gravity-defying 45-degree lean during performances. This man donned an iconic red leather jacket in a video in which he transforms after walking through a cemetery. During the premiere of the TV special *Motown 25*, this dancer introduced his trademark "moonwalk." For 10 points, name this man who danced with zombies in the video for his song "Thriller."  
ANSWER: Michael **Jackson**

3. Residents of this ancient city created the MUL.APIN (mull-OP-inn) and the *Three Stars Each* star catalogues. It devised a sexagesimal (SEX-uh-GUESS-uh-MULL), or base 60, counting system to simplify astronomical counting. Unlike the Greeks, the residents of this city knew that the "evening star" and the "morning star" were one object, according to a tablet named for its gods, Anu and Enlil. For 10 points, name this city, the home of legendary "Hanging Gardens."  
ANSWER: **Babylon**

4. An equation describing this effect states that the curl of the E field equals minus the partial time derivative of the B field. Another equation describing this effect states that EMF equals minus the number of coils multiplied by the time derivative of the magnetic flux. It's demonstrated by pushing a bar magnet through a coil and is described by Faraday's law. For 10 points, what effect causes a current to be generated when a conductor is placed in a changing magnetic field?  
ANSWER: electromagnetic **induction**

5. A poem by this man describes "another kind of outdoor game, one on a side," that he plays with his neighbor maintaining the title structure. That poem by this man concludes, "Good fences make good neighbors." This man wrote a poem in which the speaker says, "But I have promises to keep, and miles to go before I sleep." For 10 points, name this New England poet of "Mending Wall" and "Stopping by Woods on a Snowy Evening."  
ANSWER: Robert **Frost**

6. Occasionally in this series, excerpts appear from a character's autobiography, *Under the Hood*. Before this series begins, Edward Blake is killed, leaving behind a blood spattered smiley face badge. This series takes place in an alternate universe where most superheroes are banned, and it ends with Ozymandias successfully uniting the world. For 10 points, what comic book series features such heroes as Doctor Manhattan and Rorschach (ROAR-shock)?  
ANSWER: ***Watchmen***

7. In a novel by this author, Eliot Rosewater stays in a mental institution where he is visited by his favorite writer, Kilgore Trout. In another novel by this author, Felix Hoenikker's children divide a substance that causes the world to freeze called "ice-nine." This author also wrote about Billy Pilgrim becoming "unstuck in time." For 10 points, name this American author of *Cat's Cradle* and *Slaughterhouse-Five*.  
ANSWER: Kurt **Vonnegut**

8. If one failed to pass the test conducted by this god, a fiendish hippopotamus named Ammit would devour his or her soul. This god used the feather of truth Ma'at in a ritual in which one's soul is weighed. This god was known as the protector of tombs and presided over the ritual of embalming, which used the canopic jars to store organs. For 10 points, name this jackal-headed Egyptian god, who presided over the preservation of mummies.  
ANSWER: **Anubis**

9. While serving as a First Lord of the Admiralty, this man was blamed for the Gallipoli disaster during a war. Pilots became known as the "Few" after he gave a speech expressing his gratitude to them. This man said that he had nothing to offer his country but "blood, toil, sweat, and tears." He entered his highest office after Neville Chamberlain resigned. For 10 points, what British Prime Minister proclaimed "we shall never surrender" during World War II?  
ANSWER: Winston **Churchill** [or Winston Leonard Spencer-**Churchill**]

10. As a very successful Secretary of Commerce under President Harding, this man promoted affordable home mortgages. He was criticized for sending in Douglas MacArthur to clear out war veterans who were demanding unpaid bonuses. In the 1930's, shanty towns built by homeless people were named for this former President. For 10 points, what U.S. President lost re-election in 1932 because voters blamed him for the Great Depression?  
ANSWER: Herbert **Hoover**

11. Alzheimer's is characterized by plaques of amyloid (AA-muh-loyd) described with this Greek letter. This Greek letter prefixes an enzyme encoded by the *lac* operon called galactosidase (guh-lak-TOH-suh-daze). Alpha helices and pleated sheets named with this letter comprise the secondary structure of proteins. For 10 points, name this Greek letter that precedes gamma and follows alpha.  
ANSWER: **beta**

12. The first example of this substance was created in 1995 by Eric Cornell and Carl Wieman by laser-cooling rubidium atoms. This type of matter is of theoretical interest because it allows particles with half-integer spin to all occupy a single quantum state. In this type of matter, particles form a degenerate gas with integer spin and it can be created near absolute zero. For 10 points, what type of "condensate" is named for a German physicist and an Indian physicist?  
ANSWER: **Bose-Einstein** condensates [or **BEC**s; prompt on degenerate matter or degenerate gas]

13. For 2015, this territory had the world's highest life expectancy according to the United Nations. The longest outdoor covered escalator system, which covers over 2,600 feet in distance, is in this territory. It has the highest ranking in the Financial Development Index and built a park on the site of the former Kowloon Walled City. For 10 points, name this territory which is a special administrative region of China, which acquired it from the British in 1997.  
ANSWER: **Hong Kong** Special Administrative Region of the People's Republic of China

14. This ruler announced "I am born of a rank which recognizes no superior but God" to the Holy Roman Emperor. On his way home, he was captured by Duke Leopold V and held for ransom. During the Third Crusade, this monarch worked out a truce with Saladin, allowing access to Jerusalem. While off in the Holy Land, this man's kingdom was taken over by his brother, John. For 10 points, what English king was nicknamed "the Lionheart"?  
ANSWER: **Richard I** [or **Richard the Lionheart**; or **Richard Coeur de Lion**; prompt on Richard]

15. Albert Brown first used this term, whose etymology is an English word meaning "pirate," to describe a speech given by Abraham Venable. In the U.S., this kind of practice can be ended with three-fifths of a body voting for cloture. Senator Ted Cruz used this kind of technique for over 21 hours in 2010 to protest the passage of the Affordable Care Act. For 10 points, name this technique in which a legislator stalls the passage of a bill by talking.  
ANSWER: **filibuster**

**VHSL Regular Season 2016-2017 - Round 03 - Directed Period**



1A. At the beginning of World War One, Britain and France formed the Triple Entente (ONN-tont) with what other European country?  
ANSWER: **Russia** [or **Russian** Empire; do not accept "Soviet Union"]

1B. What verb, derived from a Latin word meaning a "cow's stomach," means to ponder?  
ANSWER: **ruminate**

2A. Ontology, or the study of being, is considered to be a branch of what other area of philosophy, which takes its name from a book by Aristotle?  
ANSWER: **metaphysics**

2B. What thermodynamic cycle represents the most efficient hypothetical heat engine?   
ANSWER: **Carnot** (car-NOE) cycle [or **Carnot** engine]

3A. This is a 20-second calculation question. Find the infinite sum of the geometric series whose first term is two and whose second term is four thirds.   
ANSWER: **six**

3B. This is a 20-second calculation question. What is the product of the sine of fifteen degrees and the cosine of fifteen degrees?  
ANSWER: **1/4** [or 0**.25**]

4A. What quantity is equal to the partial pressure of a gas divided by its mole fraction in the liquid phase, according to Raoult's (RAH-oot's) law?  
ANSWER: equilibrium **vapor pressure** [prompt on pressure]

4B. *Xenopus* (ZEN-oh-pus) is also called the "African clawed" type of what animal?  
ANSWER: **frog**s [or **Anura**ns; or **toad**s]

5A. What autobiography by Maya Angelou recounts her upbringing with her grandmother and uncle in Stamps, Arkansas?  
ANSWER: ***I Know Why the Caged Bird Sings***

5B. What actor played the undercover policeman John Kimble in *Kindergarten Cop*, and Mr. Freeze in *Batman and Robin*?  
ANSWER: Arnold **Schwarzenegger** (SCHWARTZ-uh-NEGGER)

6A. In Spanish, stem-changing verbs such as "*dormir*" (dohr-MEER) conjugate by changing the "o" to what combination of letters?  
ANSWER: **u-e**

6B. What grandson of a president wrote a posthumously published autobiography titled for his "Education"?  
ANSWER: Henry **Adams**

7A. An emperor of what Chinese dynasty was buried with a massive collection of terracotta sculptures depicting his armies?  
ANSWER: **Qin** (CHIN) Dynasty [or **Qin** Shi Huang; do not accept "Jin Dynasty"; do not accept "Qing Dynasty"]

7B. What emperor took the Japanese throne in 1867 and led a namesake "restoration" of power back to the emperor and away from shoguns?  
ANSWER: **Meiji** (MAY-jee) [or **Mutsuhito**]

8A. This is a 30-second calculation question. CD and AB are chords of a circle that intersect at point E. The measure of arc AC is 70 degrees, and the measure of angle AEC is 95 degrees. If the radius of the circle is 18 centimeters, find the length in centimeters of arc DB in terms of pi.   
ANSWER: **12 pi** centimeters

8B. This is a 30-second calculation question. Zach and Chris are among six students interested in serving in three class offices: president, secretary, and treasurer. If each student is eligible for each office, find the probability both Chris becoming president and Zach holding either of the other two offices.   
ANSWER: **1/15**

9A. What jazz saxophonist, nicknamed "Bird," was a pioneer of the bebop movement?  
ANSWER: Charlie **Parker** [or Charles **Parker** Jr.]

9B. What Director of the FBI said Hillary Clinton's behavior in the email controversy was "extremely careless"?  
ANSWER: James **Comey** Jr.

10A. In what mystery novel by Umberto Eco does William of Baskerville investigate a series of murders at a monastery?  
ANSWER: *The* ***Name of the Rose*** [or *Il* ***Nome della Rosa***]

10B. Lakes Tanganyika (TAN-guh-NEEK-uh) and Malawi lie within what trench that stretches across eastern Africa?  
ANSWER: **Great Rift Valley**

**VHSL Regular Season 2016-2017 - Round 03 - Third Period, Fifteen Tossups**



1. This mountain was the subject of a false story by Frederick Cook, who claimed to be the first person to climb it in 1906. It was named as a show of political support from a gold miner. Numerous Ohio politicians objected to a campaign to rename this mountain in favor of the name used by native Koyukon peoples. From 1917 to 2015, this peak was named for William McKinley. For 10 points, name this highest mountain in North America.  
ANSWER: **Denali** [or Mount **McKinley** until it is named]

2. A legend about this city states that its last ruler was turned into marble and awaits his return. That ruler who died here was the last emperor of the Palaiologos (PAY-lee-OH-loh-goes) Dynasty. During the Fourth Crusade, mutineers sacked this city and crowned Baldwin as a new emperor. The Topkapi Palace was built here after Mehmed II conquered it. For 10 points, the Ottomans conquered what city in 1453, which they then turned into their new capital, Istanbul?  
ANSWER: **Constantinople** [or **Istanbul** until it is read]

3. These objects are occasionally found at Westmoreland through megalodonning. Many of these objects were discovered at the Burgess Shale. Coprolites (COP-ro-lytes) belong to the "trace" type of these objects. Many of these objects were produced during the Cambrian explosion, whose "index" ones are trilobites (TRY-lo-bites). For 10 points, name these preserved, mineralized remains that provide a record of ancient organisms such as dinosaurs.  
ANSWER: **fossil**s [prompt on teeth before "coprolites" is read]

4. Six circus performers, including a man in a red costume, are featured in this painter's *Family of Saltimbanques* (sahl-tam-BAHNKS), the masterpiece of his Rose Period. The title musician appears to be dying in this man's *The Old Guitarist*. A disembodied arm holding a candle and a bewildered horse are featured in a painting by this man depicting a bombing of the namesake Basque (BASK) city. For 10 points, name this Spanish painter of *Guernica*. (GAIR-nee-kah)   
ANSWER: Pablo **Picasso** [or Pablo Ruiz y **Picasso**; or Pablo Diego Jose Francisco de Paula Juan Nepomuceno Maria de los Remedios Cipriano de la Santisima Trinidad Ruiz y **Picasso**]

5. This man painted pilgrims ascending Mount Sinai in the central back panel of his *Modena Triptych*. Saints Stephen and Augustine place the body of the title figure in a sepulcher in another of his paintings. This artist painted Alcantara bridge under menacing clouds in a landscape of a Spanish city. For 10 points, name this painter of *The Burial of Count Orgaz* and *View of Toledo* whose nickname suggests his Cretan origin.   
ANSWER: **El Greco** [or Domenikos **Theotokopolous**]

6. In an electrochemical cell, this type of reaction occurs at the cathode, the positive terminal. In a half reaction that is of this type, the electrons will be reactants, not products. The GER (grr) in the mnemonic LEO GER and RIG in the mnemonic OIL RIG refer to this type of reaction. For 10 points, name this type of chemical reaction that involves the gain of an electron and a decreased oxidation state, as opposed to an oxidation reaction.  
ANSWER: **reduction** reaction

7. A man holding this title avenged foreign raids by ordering a massacre on St. Brice's Day. This title was held by a man whose nickname, which meant "ill-advised," was "the Unready." This royal title would fall into the hands of Norse and Danish kings such as Canute (CONN-ute). A king of Wessex named Alfred the Great is sometimes said to be the first to hold it. For 10 points, what royal title was held by the ruler of a kingdom in the southern part of Great Britain?  
ANSWER: **King of England** [or **King of the English**; prompt on King of the Anglo-Saxons; prompt on King of Great Britain until it is read; do not accept "King of the United Kingdom"]

8. A prideful general from this city compares the love of its common citizens to "the dead carcasses of unburied men" after being banished. A resident of this city tells another that "the fault…is not in our stars, but in ourselves," before plotting to murder this city's leader on the Ides of March. For 10 points, name this city, the setting of Shakespeare's plays *Coriolanus* and *Julius Caesar.*  
ANSWER: **Rome**

9. Over 1,500 people were killed in this country during a massacre at Camp Speicher. The 2016 Operation Breaking Terrorism was focused here. The Anbar campaign in this country aims to recapture cities such as Ramadi. Prime Minister al-Abadi is a member of the Islamic Dawa Party in this country and succeeded Nouri al-Maliki (MAL-uh-KEE). For 10 points, in what Middle Eastern country was ISIL recently defeated at the Battle of Fallujah (FUH-loo-JAH)?  
ANSWER: **Iraq** [or Republic of **Iraq**]

10. The protagonist of this novel collapses after defeating Brian de Bois-Guilbert in a tournament. In this novel, Waldemar Fitzurse leads an ambush against the mysterious Black Knight, who reveals himself as the rightful king Richard I. In this novel, the disinherited son of Cedric of Rotherwood falls in love with Lady Rowena. For 10 points, name this historical novel written by Walter Scott.  
ANSWER: ***Ivanhoe***

11. In this novel, a man tries to do penance for his affair with an unfaithful French dancer named Celine by raising Celine's daughter Adele Varens. Richard Mason stops a wedding in this novel by revealing that his mad sister is the groom's lawful wife. In this novel, the title woman becomes a governess at Thornfield Hall, which is owned by the brooding Mr. Rochester. For 10 points, name this novel by Charlotte Bronte.  
ANSWER: ***Jane Eyre***

12. Many of this company's surplus products were buried in Alamogordo, New Mexico in 1982. A co-founder of this company also founded Chuck E. Cheese's. This company collapsed after a 1983 crash that was foreshadowed by the commercial failure of an *E.T.* video game. A two-player game produced by this company involves hitting a ball back and forth. For 10 points, name this early video game company that made Pong.  
ANSWER: **Atari**, Inc.

13. Mutations in this organism include *cinnabar* and *curly*. Sex combs reduced is a homeotic (ho-mee-AW-tic), or *Hox*, gene in this organism's Antennapedia ("antenna"-PEE-dee-uh) gene complex. Sex-linked traits were discovered by Thomas Hunt Morgan after he found a mutant of this organism with white eyes. The species name for this insect is *melanogaster* (muh-LAN-uh-gas-ter). For 10 points, identify this model insect also named for its fondness for apples.  
ANSWER: **fruit fly** [or ***Drosophila*** *(dro-SOFF-uh-luh) melanogaster*; or **vinegar fly**]

14. An example of these beings was once caught by Loki after transforming himself into a fish. That example of these beings had a magical ring, cursed his stolen gold, and was named Andvari. The Sons of Ivaldi are a group of these beings who make things such as a ship and spear for the Norse gods, while two others of these beings make the hammer Mjolnir (MYOLL-neer). For 10 points, what beings in Norse mythology are tiny but skilled blacksmiths?  
ANSWER: **dwarves**

15. Contrary to popular belief, this system probably never used colorful quilts to give directions to the people that used it. Agents within it encouraged people to follow "the drinkin' gourd" to the Promised Land, or, in other words, follow the Big Dipper on the way to Canada. This system employed a woman known as "Moses," whose real name was Harriet Tubman. For 10 points, what system featured "conductors" helping numerous slaves escape to the north?  
ANSWER: The **Underground Railroad**

**VHSL Regular Season 2016-2017 - Round 03 - Tiebreaker Questions**



1. Sporer's law gives the number of these objects that appear over the course of a stellar cycle as a function of latitude. Like eclipses, these objects consist of a penumbra surrounding an umbra. These number of these objects fluctuates on an eleven year cycle. They reside in the photosphere and are rarer during solar minimums. For 10 points, what term is applied to cooler regions of the Sun's surface, which appear as dark blots?  
ANSWER: **sunspot**s

2. The losing side in this war employed a general whose supposedly magical poodle died in one battle; that general was Prince Rupert of the Rhine. During it, the Battle of Naseby was won by Sir Thomas Fairfax's New Model Army. This war pitted Cavaliers and Roundheads against each other, with the latter supporting Parliament. For 10 points, what war resulted in the execution of the monarch Charles I and power passing to Oliver Cromwell?  
ANSWER: **English Civil** War [or First **English Civil** War; or Second **English Civil** War; or Third **English Civil** War]

3. In this poem, the protagonist crosses through regions called Antenora (an-teh-NOR-uh) and Judecca (joo-DEK-uh) before encountering a three-faced creature trapped in ice. The protagonist of this poem encounters Paolo and Francesca in an area occupied by men and women who gave in to lust. In this poem, Virgil guides the protagonist through the nine circles of Hell. For 10 points, name this epic poem, the first part of *The Divine Comedy* by Dante.  
ANSWER: the ***Inferno*** [prompt on *The Divine Comedy*; prompt on *La Divina Commedia*]

4. This artist is shown painting a self-portrait while looking in a mirror in his *Triple Self-Portrait*. The title figure steps on a copy of *Mein Kampf* in this man's version of *Rosie the Riveter*. This artist created covers for magazines such as *Boys' Life* and *The Saturday Evening Post*. Paintings in one series by this man include an elderly woman praying and a man speaking at a town meetings. For 10 points, name this American painter of the *Four Freedoms* series.   
ANSWER: Norman **Rockwell**

5. Russian businessman Moses Novomeysky founded a company that extracts potash from this body of water. The Wadi Mujib (MOO-jeeb) flows into this body of water, which has no rivers flowing out of it. The world's lowest land elevation is at the shores of this body of water. This body of water's high density makes it possible to float on it. For 10 points, name this incredibly salty sea shared by Jordan and Israel.  
ANSWER: **Dead** Sea

In degrees, what is the sum of the angles between zero and one hundred eighty degrees at which the absolute value of tangent theta equals the square root of three?  
ANSWER: **180**

What South African novelist wrote *Disgrace* and *Life and Times of Michael K*?  
ANSWER: J. M. **Coetzee** (KUT-zee) [or John Maxwell **Coetzee**]