**VHSL Regular Season 2016-2017 - Round 22 - First Period, Fifteen Tossups**



1. The most common allotrope of this element is an eight-member staggered ring. The amino acids methionine and cysteine unusually contain this element. A thiol group is formed when this element replaces an oxygen atom in a hydroxyl group, which is possible because this element is directly below oxygen on the periodic table. For 10 points, what element has atomic number 16, forms a compound with hydrogen that smells like rotten eggs, and has chemical symbol S?  
ANSWER: **sulfur** [or **S** until it is read]

2. After meeting Galatea Dunkel, the narrator of this novel concludes that his friend is a "HOLY GOOF." Neal Cassady inspired the primary companion of this novel's narrator. In this novel, Allen Ginsberg is portrayed as Carlo Marx. This novel follows the cross-country journey of Sal Paradise and Dean Moriarty. For 10 points, name this autobiographical travel novel by Beat Generation writer Jack Kerouac.  
ANSWER: ***On the Road***

3. This country's forces won the Battle of Cerro Cora, killing another nation's president, Francisco Solano Lopez. It was the last country in the Western world to abolish slavery, which occurred by order of Princess Isabel in 1888. This country teamed with Uruguay and Argentina in the War of the Triple Alliance. Its two monarchs were both named Dom Pedro. For 10 points, what large South American country won its independence from Portugal in 1825?  
ANSWER: Federative Republic of **Brazil** [or Empire of **Brazil**]

4. The protagonist of this story is unnerved by a lightning-struck tree allegedly haunted by the ghost of Major Andre. The protagonist of this story competes for the hand of Katrina Van Tassel with Brom Bones Van Brunt, who pretends to be a dead Hessian to scare the protagonist off. For 10 points, name this story by Washington Irving about Ichabod Crane and the Headless Horseman.  
ANSWER: "The **Legend of Sleepy Hollow**"

5. A famous example of these creatures was named after a Rita Marley song that means "all pull together." Ricky Gervais controversially tweeted that these animals made better parents than people. Both Jack Hanna and Jane Goodall defended the killing of one of these animals on May 28, 2016. For 10 points, what kind of animal was the 440-pound Harambe (HAH-rom-BAY), who was killed at a Cincinnati zoo after a toddler fell into his enclosure?  
ANSWER: Western lowland **gorilla** [prompt on ape]

6. This quantity is defined as the internal energy plus pressure times volume. Summing this quantity for each step in a reaction is equivalent to its change for the total reaction according to Hess's law. Whether this quantity is positive or negative determines whether a reaction is endothermic or exothermic, respectively. For 10 points, what thermodynamic quantity is symbolized H and whose change—delta H—is equal to the change in heat for a system?  
ANSWER: **enthalpy**

7. John Howard Yoder's *The Politics of Jesus* argued in favor of this position. Matthew 5:39 is used to justify this position, as is Isaiah's prophecy of beating "swords into plowshares". The Christadelphian (CHRIS-uh-DEL-fee-UN) denomination organized around this belief in order for members to be able to register as conscientious objectors. For 10 points, name this philosophy espoused by Christian groups such as the Mennonites and Quakers.   
ANSWER: **pacifism** [or **nonviolence**]

8. This future President led a group that returned to his country aboard the ship *Granma* as part of his 26th of July Movement. He gave the four-hour "History Will Absolve Me" speech after being arrested for attacking the Moncada Barracks run by the Batista government. Succeeded as President by his brother Raul, this man became Prime Minister after he and Che (CHAY) Guevara led a 1959 revolution. For 10 points, who stepped down as Cuba's head in 2008?  
ANSWER: Fidel **Castro** [or Fidel Alejandro **Castro** Ruz]

9. This country is home to a stadium that can seat a world record of 150,000 people, which it uses during the month-long Arirang Festival. The lair of the unicorn-like *kirin* is said to be in this country, which holds Mount Paektu sacred. This country's citizens embrace the ideology of *juche*, which was introduced by a man who was made its "Eternal President." For 10 points, name this politically isolated East Asian country once ruled by Kim Il-Sung and Kim Jong-Il.  
ANSWER: **North Korea** [or **Democratic People's Republic of Korea**; or **DPRK**; or **Choson** Minjujuui Inmin Konghwaguk; do not accept just "Republic of Korea," as that refers to South Korea]

10. Richard Owen and Thomas Huxley debated this man's ideas during the so-called "Great Hippocampus Question." A book by this author describes his voyages with Captain Robert Fitzroy. In his book *The Descent of Man*, this author argued that humans specifically descended from apes. For 10 points, name this 19th-century scientist whose book *On the Origin of Species* introduced the idea that natural selection was the cause of evolution.  
ANSWER: Charles **Darwin**

11. This composer imitated Ottoman Janissary bands in the Allegretto movement of his *Military* Symphony. His penultimate symphony opens with the title *Drumroll*, and is one of twelve he wrote in London; confusingly, the last of those is also called the *London* Symphony. In his Symphony No. 94, the quiet second movement is interrupted by an unexpected LOUD chord. For 10 points, name this composer of the *Surprise* Symphony.  
ANSWER: Joseph **Haydn** [or Franz Joseph **Haydn**]

12. An useful example of this type of relation exists between the arithmetic and geometric mean. The triangle example of these relations constrains the side lengths of valid triangles. Solving systems of these relations can be done by graphing them and shading the area of overlap. When solving them, one reverses the relevant sign when multiplying by a negative number. For 10 points, what mathematical relations use symbols like the greater than or less than sign?  
ANSWER: **inequalities** [or **inequality**]

13. This ruler was forced to dismiss the ladies of the bedchamber after the Whigs lost power. The Crystal Palace Exhibition took place during the reign of this monarch. This ruler celebrated a Diamond Jubilee near the end of the nineteenth century. Until Elizabeth II broke the record, this person was the longest reigning British monarch, and she was married to her cousin, Albert. For 10 points, what queen ruled the British Empire from 1837 to 1901?  
ANSWER: **Victoria**

14. An artist in this song says he "came back, dropped Megadef, took 'em to church / I like bleach man," before complaining that he has the stupidest verse. Another artist in this song claims "he doesn't need his name up in lights / he just wants to be heard whether it's the beat or the mic." The chorus of this song explains that being a great emcee is "10% luck, 20% skill, 15% concentrated power of will." For 10 points, name this most popular song by Fort Minor.   
ANSWER: "**Remember the Name**"

15. In a novel by this author, the protagonist falls in love with Clavdia Chauchat (CLAHV-dee-uh SHOW-shot) at a Swiss sanatorium. This creator of Hans Castorp also wrote about an aging writer who falls in love with a Polish boy named Tadzio (TOD-zee-oh) while visiting the title Italian city, where he dies of cholera. For 10 points, name this German novelist of *The Magic Mountain* and *Death in Venice.*  
ANSWER: Thomas **Mann**

**VHSL Regular Season 2016-2017 - Round 22 - Directed Period**



1A. In what Tchaikovsky (chai-KOFF-sky) ballet does Odette transform into a bird by day?  
ANSWER: ***Swan Lake***

1B. Libel is often contrasted with what other form of defamation, which is usually oral and not written?  
ANSWER: **slander**

2A. John Mitchell, H.R. Haldeman, and G. Gordon Liddy were all involved in what political scandal?  
ANSWER: **Watergate** scandal

2B. What American novelist who wrote *Infinite Jest* committed suicide in 2008?  
ANSWER: David Foster **Wallace**

3A. This is a 20-second calculation question. At what values of x between negative pi and pi are there vertical asymptotes of the function "tangent of x?"   
ANSWER: x = **–pi/2** and x = **pi/2**

3B. This is a 20-second calculation question. Farrah has a triangular prism whose height is 10 meters. If the volume of the prism is 75 meters cubed, then what is the area of one of the 2-dimensional triangles on either of its sides?  
ANSWER: **7.5** meters

4A. What mnemonic (nuh-MAH-nick) is used to remember the standard method for multiplying two binomials?  
ANSWER: **FOIL** [or **first outer inner last**]

4B. The reaction of a hydrocarbon with oxygen to generate carbon dioxide and water vapor is what type of highly exothermic reaction?   
ANSWER: **combustion** reaction

5A. What country claimed that American sailors cried during a January 2016 incident when two U.S. Navy command boats were seized after entering this country's territorial waters?  
ANSWER: Islamic Republic of **Iran** [prompt on Persia]

5B. What people originally from Polynesia became the indigenous inhabitants of New Zealand?  
ANSWER: **Maori**

6A. What religion preaches that all people worship the same God and has been led by such men as the Bab (BOB)?  
ANSWER: **Baha'i** (BAH-hai)

6B. What figure is told "be not proud" in one of John Donne's *Holy Sonnets*?  
ANSWER: **Death**

7A. Rhizobia (ry-ZOH-bee-uh) in the root nodules of legumes carry out what biological process, in which an atmospheric diatomic gas is converted to ammonia?  
ANSWER: **nitrogen fixation**

7B. In what comedy by Aristophanes (air-ih-STAHF-uh-nees) does the chorus of the title animals say "brekekekex (BREK-uh-KEH-kex)-koax (KOE-ax)-koax"?  
ANSWER: *The* ***Frogs*** [or ***Batrachoi***]

8A. This is a 30-second calculation question. If there are 6 students in the quiz bowl club, how many different ways are there to pick four players for the "A" team and select one of those four as captain?  
ANSWER: **60**

8B. This is a 30-second calculation question. At what values of x do the parabolas two x-squared minus three x plus five and x-squared minus four x plus seventeen intersect?  
ANSWER: x = **3** and x = **-4**

9A. Sarah Koenig discusses the murder of Hae Min Lee on what podcast, a spinoff of *This American Life*?  
ANSWER: ***Serial***

9B. In Spanish, what unique punctuation mark begins written questions?  
ANSWER: **inverted question mark** [or **upside down question mark**; prompt on question mark]

10A. Idi Amin formerly led what African country which has recently been the site of a civil war with the Lord's Resistance Army?  
ANSWER: Republic of **Uganda**

10B. What mountain range divided into "Occidental" and "Oriental" zones runs through most of Mexico?  
ANSWER: **Sierra Madre**

**VHSL Regular Season 2016-2017 - Round 22 - Third Period, Fifteen Tossups**



1. A character in this poem trades his bronze armor for his opponent's gold armor after they realize that their ancestors were friends. At the beginning of this poem, Apollo afflicts an army with plague when its leader refuses to give up Chryseis (krih-SAY-is). In this poem, the protagonist makes peace with Agamemnon (ag-uh-MEM-non) before killing Hector. For 10 points, name this poem about the rage of Achilles (uh-KILL-eez) during the Trojan War, an epic by Homer.  
ANSWER: the ***Iliad*** [or ***Ilias***]

2. This island was once partially named for a Spaniard named Quadra. The highest peak on it is the Golden Hinde, which is named for Francis Drake's ship. This is the largest Pacific Island east of New Zealand and it is separated by the Strait of Juan de Fuca from the Olympic Peninsula. The capital city of Victoria is located on it. For 10 points, name this Canadian island in British Columbia, which shares its name with the province's largest city.  
ANSWER: **Vancouver** Island

3. Cerenkov (chair-en-kov) radiation occurs when the speed of an electron exceeds a local form of this quantity in a nuclear reactor. According to Einstein, energy is equal to mass times this quantity squared. The ratio of its value in a medium to its value in a vacuum gives the index of refraction. It is approximately equal to three times ten to the eighth meters per second. For 10 points, name this value symbolized c, the speed of a photon.  
ANSWER: **speed of light** in a vacuum [or **c** until it is read]

4. When bound to glucose, a protein in these cells is called HbA1c. Reticulocytes (ruh-TIC-yu-lo-sites) are immature forms of these cells lacking a nucleus. The kidney secretes erythropoietin (uh-RITH-roh-POY-uh-tin) to stimulate production of these cells. They lose their bi-concavity in sickle-cell anemia. These cells use hemoglobin to bind oxygen and circulate it in the body. For 10 points, name these cells that give blood its characteristic color.  
ANSWER: **red** blood cells [or **erythrocyte**s; or **RBC**s]

5. This politician had his wife Lurleen run for governor to bypass term limits and was nearly killed by Arthur Bremer. He chose Curtis LeMay as his running mate during his third-party run under the American Independent Party in 1968. This politician made a "Stand in the Schoolhouse Door" to protest the enrollment of two black students at a university in Tuscaloosa. For 10 points, name this Governor of Alabama who promoted segregation during the 1960's.  
ANSWER: George **Wallace** [or George Corley **Wallace**, Jr.]

6. This deity granted speech, hearing, and sight to the first humans, Ask and Embla. In order to drink from the wisdom-granting well belonging to Mimir (mee-MEER), this god gouged out one of his eyes. This chief Aesir (ay-SEER) deity owned the ravens Hugin and Munin. This god hung himself for nine days and nights, after which he could decipher the runes. For 10 points, name this husband of Frigg sometimes called "Allfather," the chief Norse god.   
ANSWER: **Odin** [or **Woden** or **Wotan**]

7. In a story by this author, the protagonist tells a little girl to look for the title creature under the waves before going back to his hotel room and shooting himself. This creator of Seymour Glass wrote "A Perfect Day for Bananafish," as well as a novel about a phony-hating teenager and Pencey Prep dropout named Holden Caulfield. For 10 points, name this author of *The Catcher in the Rye.*  
ANSWER: J. D. **Salinger** [or Jerome David **Salinger**]

8. In this film, an old man determined to find a berry cures the infertility of his great-granddaughter. The protagonist of this film is opposed by his father's killer Tubal-cain and aided by stone golems called the Watchers. In this film, Anthony Hopkins plays the title character's grandfather Methuselah (METH-oo-SUH-lah). For 10 points, name this recent Biblical epic in which Russell Crowe plays a man who builds an ark.  
ANSWER: ***Noah***

9. Giampetrino (JAHM-pay-TREE-no) and Andrea (ahn-DRAY-uh) Solari created copies of this painting, which was damaged by French soldiers who scratched out the eyes of the central figures. Tintoretto painted a non-horizontally aligned painting with this title. One man to the left of this painting's central figure tips over a salt cellar and holds a bag; that man is Judas Iscariot. For 10 points, name this painting of Jesus and the Apostles eating, created by Leonardo da Vinci.   
ANSWER: *The* ***Last Supper***

10. When Governor of Massachusetts, this man said "there is no right to strike against the public safety" when opposing a policemen's strike. He claimed "the chief business of the American people is business." This man's campaign slogan urged voters to "keep cool" with him, and he became President upon the death of Warren G. Harding. For 10 points, what U.S. President was notoriously "silent" and led the country during the 1920's?  
ANSWER: Calvin **Coolidge** [or John Calvin **Coolidge** Jr.]

11. These structures can be maintained by shepherd moons. James Keeler and Johann Encke name two gaps found in one planet's example of them. Giovanni Cassini discovered a division between these structures, which were proposed by Christian Huygens during his observations of the sixth planet from the Sun. For 10 points, name these very large and thin extraplanetary structures that are comprised of dust, and other small particles, and which are most prominent around Saturn.  
ANSWER: planetary **ring**s [or **ring**s of Saturn; or planetary **ring** systems]

12. This man did not meet his father Niccolo until 1269 because the latter was working as a trader in Constantinople. This person dictated a book to a fellow inmate after being captured by Genoa. Despite this man's descriptions of things like paper money, many historians question why he never mentioned things like footbinding and also doubt he ever knew Kublai Khan. For 10 points, what merchant from Venice wrote a book about his travels to China?  
ANSWER: Marco **Polo**

13. The librettist for this opera, Emanuel Schikaneder (SHEE-kah-NAY-der), played the role of the bird-catcher Papageno (pah-puh-JAY-no). In this opera, in the aria "Der Hölle Rache" (dair HUR-luh ROCK-uh), a woman threatens to disown her daughter if she does not kill the sorcerer Sarastro. The prince Tamino and the Queen of the Night appear in this opera. For 10 points, name this Wolfgang Amadeus Mozart opera about an enchanted instrument.  
ANSWER: *The* ***Magic Flute*** [or *Die* ***Zauberflöte***]

14. The author of this text criticizes the "lukewarm" church at Laodicea (lay-ODD-ih-SEE-uh). A literal interpretation of the twentieth chapter of this book is the basis of the doctrine of premillennialism. The opening of the first of the seven seals in this book unleashes the Four Horsemen. Tradition attributes the authorship of this book to John of Patmos, who prophesies about the Second Coming in this book. For 10 points, name this last book of the New Testament.  
ANSWER: Book of **Revelation** [or **Revelation** to John; or **Apocalypse** of John]

15. The French doctor Jean Marie Joseph Capgras gives his name to one of these conditions characterized by the suggestion that a person has been replaced by an impostor. Paranoia is often defined as a condition in which a person suffers from the persecutory type of these symptoms. Those who suffer from megalomania have these beliefs characterized by grandeur. For 10 points, name these symptoms, which, along with hallucinations, characterize schizophrenia.  
ANSWER: **delusion**s

**VHSL Regular Season 2016-2017 - Round 22 - Tiebreaker Questions**



1. In this play, Aegeus (ay-JEE-us) agrees to harbor the protagonist at Athens in exchange for regaining his potency. In this play, the title character flees in a chariot drawn by dragons sent by her father Helios. This play's title character poisons the princess Glauce (GLAW-kay) and her father Creon and murders the children she had by her unfaithful husband. For 10 points, name this tragedy by Euripides (yer-IP-ih-dees) about the murderous wife of Jason.  
ANSWER: ***Medea***

2. A proverb states that while a wise man climbs this mountain once, only a fool does it twice. The forest at its base is the most popular non-American location for suicides. That forest here supposedly has many ghosts and demons and is called Aokigahara (AH-oh-KEE-guh-HAR-uh). This over 3,700 foot tall mountain is a snow-capped stratovolcano located on the island of Honshu. For 10 points, name this highest mountain in Japan.  
ANSWER: Mount **Fuji** [or **Fuji**san]

3. In this speech, the speaker proclaims "we've come to cash this check" from the "bank of justice." This speech is the most well known to take place at a Bayard Rustin organized event calling "for Jobs and Freedom." This speech, delivered at the Lincoln Memorial, ends with the phrase "Thank God Almighty, we are free at last!" For 10 points, what August 28, 1963, speech was delivered during the March on Washington by Martin Luther King, Jr.?  
ANSWER: "**I Have a Dream**" speech

4. Many crystals, including calcite, exhibit the "double" type of this phenomenon called birefringence. This phenomenon will occur below the critical angle. This phenomenon's indices, represented by *n*, are used in Snell's law to determine the angle of this phenomenon based on the angle of incidence. For 10 points, what phenomenon results in light bending as it passes from one medium into another?  
ANSWER: **refraction**

5. A resident of this location once set a gadfly to prevent a hero from reaching it. After Ganymede was abducted from Troy, he was taken to this place where he served a cupbearer to its residents. The residents of this location all have ichor (EYE-kor) instead of blood and drink a nectar called ambrosia. Bellerophon tried to ride the flying horse Pegasus to reach this place. For 10 points, name this mountain on which gods such as Artemis and Hera dwell.  
ANSWER: Mount **Olympus**

Lauren has a cylindrical cup that is two inches in diameter. If she fills the cup with four inches of water, what volume of water does she have to drink for the cup to be half-empty?  
ANSWER: **2pi inches-cubed** [or **2pi cubic inches**]

Name the Old Testament book whose name translates as "Second Law" and which contains the Jewish Shema Israel prayer.  
ANSWER: Book of **Deuteronomy**