**VHSL Regular Season 2016-2017 - Round 17 - First Period, Fifteen Tossups**

1. In this novel, David Gamut and a man disguised a French medicine man rescue one of the daughter's of the colonel in command of Fort William Henry. After the death of Uncas in this novel, Chingachgook becomes the title character. Hawkeye is the name by which Natty Bumppo is known in this novel. For 10 points, name this "Leatherstocking Tale" titled for a tribe of Indians by James Fenimore Cooper.
ANSWER: *The* ***Last of the Mohicans***

2. This man ordered the Anti-Rightist Movement, which purged his own Minister of Defense after a 1959 conference. This man's final wife became a member of the "Gang of Four" after his death. During this man's leadership, his country industrialized in the disastrous Great Leap Forward, and his Red Guards persecuted citizens during the Cultural Revolution. For 10 points, who was the first leader of the Communist People's Republic of China?
ANSWER: **Mao** Zedong

3. This country named its currency after the quetzal (KET-zahl), a native bird. This country, home to the colonial-era city of Antigua, was where the United Fruit Company backed a 1954 coup. Its K'iche (KEE-chay) people are supported by Rigoberta Menchú. This country, home to the Mayan city of Tikal, is the main source of immigrants entering its northwestern neighbor, Mexico. For 10 points, name this Central American country that borders Honduras and Belize.
ANSWER: **Guatemala** [or Republic of **Guatemala**; or República de **Guatemala**]

4. This concept's namesake "chain" is entirely managed or owned by a single company in a vertical integration scheme. A theory of economics named for this concept was implemented by Ronald Reagan and suggests that more capital will increase spending; thus this so-called "side" of economics is sometimes called "trickle-down economics." For 10 points, name this concept of the amount of product that a consumer may purchase, which is usually paired with demand.
ANSWER: **supply** [or **supply**-side economics]

5. In the opening sequence of this film, the protagonist's goggles are shown hanging from a tree after he crashes his motorcycle. This film's protagonist insists that "nothing is written" after rescuing a man in the Nefud (neh-FOOD). Peter O'Toole plays this film's title character, who persuades Auda abu Tayi (OW-duh AH-boo TAH-yee) to fight against the Turks. For 10 points, name this 1962 historical film about a British officer's activities in the Middle East.
ANSWER: ***Lawrence of Arabia***

6. This system is prohibited from being adjusted with the practice of "nasi" (NAH-see). It includes divisions named for "respect," "raising of tails," and "void." In this system, the period of Shawwal (shah-WAHL) begins with Eid al-Fitr (EED ahl FIT-ur), which marks the end of a period requiring "sawm" or fasting. For 10 points, name this timekeeping system, whose first year is the hijra (HEDGE-ruh), and which includes the month of Ramadan.
ANSWER: the **Islamic calendar** [or synonyms such as **Muslim calendar**]

7. A character created by this author is raped in a forest called The Chase, after which she gives birth to a child she names Sorrow, who dies in infancy. He also created a stonemason who scandalously has children out of wedlock with Sue Bridehead. The title character of one of his novels murders her supposed cousin Alec and is abandoned by Angel Clare. For 10 points, name this Victorian novelist of *Jude the Obscure* and *Tess of the d'Urbervilles.*
ANSWER: Thomas **Hardy**

8. In the aftermath of this case, the Supreme Court ruled that the response must occur "with all deliberate speed." Its unanimous opinion was helped by the sudden death of Chief Justice Vinson. During this case, psychologists revealed how a study revealed black children had clear preferences for white dolls. For 10 points, what 1954 Supreme Court case overturned *Plessy v. Ferguson* and ruled that segregated public schools were unconstitutional?
ANSWER: ***Brown*** *v. Board of Education of Topeka* [or *Board of Education of Topeka v.* ***Brown***]

9. While on a fishing trip, this god threw Hymir overboard after the latter cut his line. This god was saved from being crushed by the giant Hrungnir (RUNG-neer) by his son Magni. This husband of Sif will kill and be killed by Jormungandr (YOUR-mun-GAHN-der) at Ragnarok. This deity's possessions include a belt of strength and the hammer Mjollnir (MYOLL-neer). For 10 points, name this Norse god of thunder.
ANSWER: **Thor** [or **Donar**]

10. In response to being asked if he would rather be feared or loved, this man responds, "I want people to be afraid of how much they love me." His alter ego starred in the film *Threat Level Midnight* and is named Agent Michael Scarn. Jim Halpert and Dwight Schrute (SHROOT) are his employees at a Pennsylvania-based paper company. For 10 points, Steve Carell plays what Regional Manager of Dunder Mifflin Inc. on *The Office*?
ANSWER: Michael Gary **Scott** [or **Michael** until it is read]

11. The voltage at which the current caused by this effect becomes zero is known as the stopping potential. An explanation of this effect held that light travels in discrete wave packets with energy equal to Planck's constant times their frequency. This effect occurs when that energy exceeds the work function. In this effect, photons striking a metal plate cause the expulsion of electrons. For 10 points, explaining what effect earned Einstein his Nobel Prize?
ANSWER: **photoelectric** effect

12. In astronomy, this phenomenon can result in the creation of an Airy disk, which has a bright central spot. To properly explain this phenomenon, Augustin-Jean Fresnel (freh-NELL) incorporated interference of secondary wavelets into Huygens's principle. An interference pattern is generated by this phenomenon when a source shines through two narrow slits. For 10 points, name this phenomenon in which light bends around an obstacle.
ANSWER: **diffraction**

13. Water displays a notable exception to the rules of these plots because one of its boundaries has a negatively slope. The three boundaries on these plots intersect at the triple point, from which the vaporization curve extends until it hits the critical point. The y-axis of these plots is typically pressure while the x-axis is temperature. For 10 points, for a given substance, what type of plot shows the conditions at which the substance will be a solid, a liquid, or a gas?
ANSWER: **phase diagram**s

14. A character in this play delivers an incoherent monologue when a hat is placed on his head and he is ordered to "think." In the second act of this play, Pozzo is suddenly blind and Lucky is mute. At the end of each act of this play, a boy delivers a message that the title character will come tomorrow to see Vladimir and Estragon, who stand on a road performing the title action. For 10 points, name this absurdist play by Samuel Beckett.
ANSWER: ***Waiting for Godot***

15. This war's first battle occurred when a militia attacked a small enemy force at the Battle of Jumonville Glen. The winning side suffered a setback in this war when General Edward Braddock was killed in an ambush. Both James Wolfe and Louis-Joseph de Montcalm died in this war's Battle of the Plains of Abraham which led to the fall of Quebec City. For 10 points, what war ended in 1763 when the British took possession of Canada?
ANSWER: **French and Indian** War [prompt on Seven Years War]

 **VHSL Regular Season 2016-2017 - Round 17 - Directed Period**

1A. Lines that do not intersect and are not parallel are known by what term?
ANSWER: **skew** lines

1B. Aten was an Egyptian god who represented the disk of what object, which was also guarded over by Ra?
ANSWER: the **Sun**

2A. What film, mixing live-action and animation, features the title animated bunny teaming with a private eye to fight the evil Judge Doom?
ANSWER: ***Who Framed Roger Rabbit***

2B. What reddish-purplish color gives its name to a plant and is itself named for a 17th century German botanist?
ANSWER: **fuchsia** (FEW-shuh)

3A. This is a 20-second calculation question. John buys a pizza with a twelve-inch diameter and cuts it into sixths. After John eats two slices, what is the area of the remaining pizza?
ANSWER: **24pi inches-squared** [or **24pi square inches**]

3B. This is a 20-second calculation question. Oscar has a computer that has a 30% chance of failing every hour. What is the probability that has computer doesn't fail after two hours?
ANSWER: **49/100** [or **.49**]

4A. What city was home to the largest library in the ancient world, as well as a massive lighthouse?
ANSWER: **Alexandria**

4B. What Italian phrase refers to singing without instrumental accompaniment?
ANSWER: **a cappella**

5A. The cochineal (COKE-uh-NEAL) insect is often used to make carmine, which is a dye used by artists consisting of a shade of what color?
ANSWER: **red**

5B. In September 2015, Jeremy Corbyn became leader of what United Kingdom political party and thus Leader of the Opposition?
ANSWER: **Labour** Party

6A. Elements in what group have one s electron, generally form one plus ions, and are found at the far left of the periodic table?
ANSWER: **alkali** metals [prompt on group I (one); do not accept "alkaline earth metals"]

6B. What future state was founded by James Oglethorpe partially as a haven for those formerly in debtors prisons?
ANSWER: **Georgia**

7A. What Roman poet wrote the *Ars Poetica* and coined the phrases "in medias res" and "carpe diem"?
ANSWER: **Horace** [or Quintus **Horatius** Flaccus]

7B. Martín Fierro is a fictional example of what kind of cowboy, who roamed the Argentine Pampas?
ANSWER: **gaucho**

8A. This is a 30-second calculation question. If the first term of a geometric series is one, the second term is a positive number, and the third term is one-fourth, what is the infinite sum of the series?
ANSWER: **2**

8B. This is a 30-second calculation question. What is the x-intercept between zero and pi of the function "four times the cosine of the quantity five x minus pi?"
ANSWER: x = **3pi/10**

9A. What portly Nazi was the leader of the Luftwaffe (LOOF-waff-UH) air force and was named Hitler's deputy in 1941?
ANSWER: Hermann **Goering**

9B. What technique involves operating a CPU at a faster rate than it was certified to be run, potentially increasing performance?
ANSWER: **overclock**ing

10A. What Irish satirist proposed eating babies in his pamphlet "A Modest Proposal"?
ANSWER: Jonathan **Swift**

10B. In the William Carlos Williams poem "This Is Just to Say," the speaker confesses to eating what fruits "that were in the icebox"?
ANSWER: **plum**s

 **VHSL Regular Season 2016-2017 - Round 17 - Third Period, Fifteen Tossups**

1. After the mortgage on Madison Square Garden was burned in this object, the Curse of 1940 supposedly hurt a New York team. Many players refuse to touch objects named for Clarence S. Campbell or the Prince of Wales out of respect for this thing. It is named for a former Governor-General of Canada, and the winning team drinks champagne from it. For 10 points, name this trophy recently awarded to the Pittsburgh Penguins, the National Hockey League champions.
ANSWER: **Stanley Cup** [or La **Coupe Stanley**; or Lord **Stanley's Cup**; prompt on the Cup]

2. In one of this author's novels, the title doctor from Winnemac studies under Max Gottlieb. In another of his novels, the title character's friend Paul Riesling shoots his wife Zilla. This author of *Arrowsmith* created both Carol Kennicott and a successful realtor who eventually encourages his son Ted to rebel. For 10 points, name this American novelist of *Main Street* and *Babbitt.*
ANSWER: Sinclair **Lewis**

3. After an incident in this state, Ohio's Leslie Rasmussen posted an online letter denouncing "party schools." A trial in this state led a man to denounce "a steep price to pay for 20 minutes of action" in describing his son's actions. In this state, Judge Aaron Persky gave a much criticized sentence of only three years of probation to Brock Turner. For 10 points, what state was the site of a trial for felony sexual assault involving a swimmer at Stanford University?
ANSWER: **California**

4. The Navier-Stokes equations reduce to the Euler (OY-ler) equations when thermal conductivity and this quantity are zero. The Reynolds number is equal to the ratio of inertial forces to forces related to this quantity. Applying shear stress to oobleck (ouh-BLEK) increases this quantity because oobleck is not a Newtonian fluid, so this quantity is not constant. For 10 points, name this quantity that measures a fluid's resistance to flow.
ANSWER: **viscosity**

5. The first statistical theory of this phenomenon was created by Andrey Kolmogorov. This type of flow is characterized by high levels of *apparent* randomness, sensitivity to initial conditions, and the presence of vorticity. Because inertial forces are much more important than viscous forces for this type of flow, it is characterized by Reynolds numbers higher than about 4,000. For 10 points, what type of flow is contrasted with laminar flow and can lead to bumpy airplane rides?
ANSWER: **turbulence** [or **turbulent** flow]

6. In 1975 in this country, the U.S. and Soviet Union drafted accords pledging respect for human rights. A sniper working for this country known as "White Death" killed over 500 people during a war in which it used a defensive fortification known as the Mannerheim Line. The Molotov cocktail was invented during the invasion of this country in November 1939. For 10 points, what country fought the Winter War with its eastern neighbor, the Soviet Union?
ANSWER: Republic of **Finland**

7. In a film by this director, a general lost in Spider's Web Forest encounters a supernatural woman at a spinning wheel. This director adapted *Macbeth* in his film *Throne of Blood*. In another film by this director, a woodcutter, a ghost, a lady, and a bandit all present alternate accounts of the death of a samurai in the woods. For 10 points, name this Japanese director of *Rashomon* (ROSH-uh-mahn).
ANSWER: Akira **Kurosawa** (kur-uh-SAH-wuh)

8. According to one myth, this god was conceived when Chimalman (chee-MALL-mahn) swallowed an emerald. With the help of Xolotl (SHOW-LOW-tull), this deity retrieved bones from Mictlan to create humans in the Fifth Sun. This god became the planet Venus after being thrown out of Tula by Tezcatlipoca. One civilization that worshipped this god mistook Hernán Cortés for an incarnation of him. For 10 points, name this "feathered serpent" Aztec god.
ANSWER: **Quetzalcoatl** (KET-sa-KWOE-tull)

9. *Concord Days* was written by a man with this surname, Amos Bronson, whose daughter with this surname wrote about children educated at Plumfield in her novel *Jo's Boys.* That novel by a woman with this surname is the second sequel to a novel whose characters include Professor Bhaer and the March sisters Meg, Amy, and Beth. For 10 points, give this surname of Louisa May, the author of *Little Women.*
ANSWER: **Alcott**

10. The Art Institute of Chicago houses a sculpture by this man consisting of a headless and armless body. A Philadelphia museum dedicated to this artist of *The Walking Man* houses a sculpture depicting six men with rope around their necks. This sculptor's ensemble *The Gates of Hell* includes his depiction of a couple embracing, titled *The Kiss.* For 10 points, name this French sculptor who depicted a pensive man in his *The Thinker*.
ANSWER: Auguste **Rodin** [or François Auguste René **Rodin**]

11. For materials with this property, a plot of field strength versus magnetization exhibits a hysteresis loop. A material with this property will lose it above the Curie point. An external field can cause a permanent long-range ordering of magnetic domains in materials with this property. This type of magnetism is only displayed by cobalt, nickel, and one other element. For 10 points, what type of permanent magnetism is possessed by iron, for which it is named?
ANSWER: **ferromagnetism**

12. Under the influence of an external force, these systems are "driven." For these systems, the value of zeta in relation to one determines the type of damping that they experience, and they include RLC circuits. Their potential energy is proportional to the square of their displacement from equilibrium, which can be obtained from the equation force equals minus k times displacement, or Hooke's law. For 10 points, name these systems exemplified by pendulums and springs.
ANSWER: simple **harmonic oscillator**s [or S**HO**s; or quantum **harmonic oscillator**s; or simple **harmonic motion**; prompt on springs]

13. In the 19th century, this country began using Navassa Island and many other small islands for guano mining. Ecuador, El Salvador, and Panama all use this country's currency. The Arecibo (AH-ray-SEE-bow) Observatory is in a territory of this country, which the Mona Passage separates from Hispaniola. This country, which invaded Grenada in 1983, paid Denmark for part of the Virgin Islands. For 10 points, name this country that owns Puerto Rico.
ANSWER: **United States** of America [or the **US**A]

14. This political party once used a strategy of running four presidential candidates in different parts of the country. It was the final party of a man who had earlier become Secretary of State in a supposedly "corrupt bargain" with John Quincy Adams. This party only elected two presidents, both of whom died early in office. Many of its former members became Know-Nothings or Republicans. For 10 points, what party of Henry Clay opposed Andrew Jackson's Democrats?
ANSWER: **Whig** Party

15. A ruler of these people names a cylinder sometimes cited as the first charter of human rights which was produced after they won the Battle of Opis (AH-pis) against Nabonidus. Their ruler issued an Edict of Restoration encouraging the once exiled Jews to return to their homeland. These people conquered such rivals as the Medes and Babylonians, while they were ruled by Cyrus the Great. For 10 points, what people's name was also given to ancient Iran?
ANSWER: **Persians** [or the **Achaemenid** Empire]

 **VHSL Regular Season 2016-2017 - Round 17 - Tiebreaker Questions**

1. This planet's surface features clear differences between the northern lowlands and the southern highlands. A plateau called the Tharsis on this planet features three of the Solar System's largest shield volcanoes. It has two moons that are likely captured asteroids, Phobos and Deimos, and it is home to the largest volcano in the Solar System, Olympus Mons. For 10 points, the high concentration of iron oxides in what planet's soil is why it is nicknamed the "Red Planet"?
ANSWER: **Mars** [or the **Red Planet** until it is read]

2. Orual (OR-"wall") is the protagonist of this writer's novelistic retelling of the myth of Cupid and Psyche entitled *Till We Have Faces.* He contributed to Christian apologetics with his book *Mere Christianity.* He also wrote a series of fantasy novels including *The Horse and His Boy*, *The Voyage of the Dawn Treader*, and *Prince Caspian.* For 10 points, name this British author who wrote *The Chronicles of Narnia.*
ANSWER: C. S. **Lewis** [or Clive Staples **Lewis**]

3. A legend holds that after dirt was heaped onto the mythical turtle Hahnunah, this continent was created and is thus called Turtle Island. This continent's Kwakiutl (KWAH-kee-oo-tul) and Tlingit (TUH-ling-it) cultures believe that a mischievous raven created the world. The coyote animal tried to impersonate the creator of the world according to this continent's Crow people. For 10 points, name this continent, whose indigenous inhabitants include the Algonquins.
ANSWER: **North America**

4. To help Trajan conquer Dacia, Apollodorus of Damascus designed one of these objects. Before a battle named for one of them, its eventual winner was told "In this sign, you shall conquer" after seeing the sign of a cross in the sky. The term "pontifex maximus" means "greatest builder" of these structures. Constantine the Great defeated his rival Maxentius at the Milvian one of these structures. For 10 points, name these structures, some of which cross the Tiber River.
ANSWER: **bridge**s [or Milvian **Bridge**]

5. This concept is said to be present in an "object of delight, which involves no cognition of the object" according to Immanuel Kant's *Critique of Judgment*. This concept, which is often contrasted with the terror-inducing sublime, was held to be present in objects exhibiting the "golden ratio" according to the Ancient Greeks. For 10 points, name this concept that is studied in aesthetics, which is often said to be "in the eye of the beholder."
ANSWER: **beauty** [or the **beautiful**]

Points A, B, and C are collinear, B is between A and C, and B and C are the endpoints of a chord of a circle. Points A, D, and E are collinear, E is between D and A, and D and E are the endpoints of a chord of the same circle. AB measures 10 inches, AE measures 8 inches, and DE is 5 inches longer than BC. In inches, find the length of BC.
ANSWER: **2** inches

What protagonist of George Orwell's *Nineteen Eighty-Four* is tortured by O'Brien in the Ministry of Love?
ANSWER: **Winston** Smith [or Winston **Smith**]