**VHSL Conferences 2016-2017 - Round 08 - First Period, Fifteen Tossups**

1. This city was where the drug abuse program D.A.R.E. was founded, as well as the city whose police force introduced SWAT teams. Reginald Denny was attacked in this city following the acquittal of white police officers for the videotaped assault on a black man. This city was consumed by the 1960's Watts riots and 1992 riots following the Rodney King incident. For 10 points, name this largest city in California.
ANSWER: **Los Angeles** [or **L.A.**]

2. This man's studies under Francis Hutcheson influenced his book *On the Theory of Moral Sentiments*. This man is usually held to be the formulator of a paradox concerning the value of diamonds and water. He used a study of a pin factory to illustrate the division of labor, and he theorized that free markets achieved optimal outcomes through the work of an invisible hand. For 10 points, name this Scottish economist who wrote *The Wealth of Nations*.
ANSWER: Adam **Smith**

3. Oddly, after molecular hydrogen, this molecule is the second most common molecule in the interstellar medium. A carbonyl is defined as containing this molecule, except that there is a double bond between its two constituents instead of a triple bond. This compound binds with more affinity than oxygen to the iron atoms in hemoglobin. It is formed by the incomplete combustion of hydrocarbons. For 10 points, what compound has the chemical formula C O?
ANSWER: **carbon monoxide** [or **C O** until it is read]

4. This playwright wrote about a proud general who betrays his city and joins forces with the Volscians under Tullus Aufidius. In another of his plays, the title ruler is afflicted with epilepsy, which is called the "falling sickness," and expresses his fear of a man with a "lean and hungry look" before being assassinated in the Senate by Cassius and Brutus. For 10 points, name this playwright of *Coriolanus* and *Julius Caesar.*
ANSWER: William **Shakespeare**

5. Gardiner Island, which lies to the north of this island, is still owned under a royal grant from England. Most of this island's water comes from an aquifer under its Pine Barrens region. A busy commuter rail system on this island runs 24/7 and has its eastern end at Montauk. This island's Rockaway Beach was heavily damaged during the final days of Hurricane Sandy. Brooklyn and Queens are on, for 10 points, what island that extends from mainland New York?
ANSWER: **Long** Island

6. The last words said *to* this being by his father are asked about in a riddle that stumps a giant. This god's killer is later slain by a god who grows to adulthood in one day named Vali. Because a giantess would not weep for him, he was not released from the underworld despite Frigg's request. The blind god Hoder inadvertently killed this being after being given a weapon by Loki. For 10 points, name this Norse god killed by the only thing that could harm him, mistletoe.
ANSWER: **Balder**

7. The failure of this campaign led to the cancellation of Operation Sea Lion. The lines "never…was so much owed by so many to so few" and "this was their finest hour" were said during it by a Prime Minister. This campaign featured a massive bombing assault perpetrated by the Luftwaffe (LOOFT-waff-UH) known as the Blitz. For 10 points, the R.A.F. defeated the German Air Force during what aerial campaign in World War II?
ANSWER: Battle of **Britain** [or the **Blitz** until it is read]

8. A member of this family named Cooper was forced to stop playing due to a spinal condition. Another member of this family refused to play for the San Diego Chargers, prompting him to be traded for Philip Rivers and sent to the New York Giants. A third member of this family known as the "Sheriff" recently retired and holds the NFL record for most touchdown passes. For 10 points, name this family which includes quarterbacks Eli and Peyton.
ANSWER: **Manning**

9. This artist's *The Red Vineyard* was bought by fellow painter Anna Boch and was the only painting he sold in his lifetime. This artist painted his bedroom while staying at the Yellow House in Arles (ARL) with Paul Gauguin. This artist, whose frequent subjects include sunflowers, painted the view from his room in the Saint-Paul Asylum, as well as a self-portrait after he cut off his own ear. For 10 points, name this Dutch painter of *The Starry Night*.
ANSWER: Vincent **van Gogh**

10. This man sent his steward, Eliezer, to find a wife for his son. While in Egypt, he asked his wife to pretend she was his sister. This person conceived a child with a servant named Hagar. He fathered Ishmael after not believing God would make his elderly wife, Sarah, pregnant. This man is the uncle of Lot. For 10 points, who, according to the book of Genesis, did God test by asking him to sacrifice his son, Isaac?
ANSWER: **Abraham** [or **Abram**]

11. High-gloss paper is often made from a group of this minerals called kaolinites (KAY-uh-lin-ites). The Atterberg Limits are used to distinguish this material from the coarser-grained silt. Many classes of this material, such as smectite, are produced by the chemical weathering of feldspars. Terra cotta is a ceramic made from this material. For 10 points, name this material, which can be put into a kiln or be molded to produce pottery such as flower pots.
ANSWER: **clay**

12. Gas centrifugation is used to enrich uranium when it is bound to six atoms of this element. A polymer containing carbon and this element is Teflon. Carbon, this compound, and chlorine are found in a class of compounds that degrades the ozone layer. This most electronegative element is the lightest element in group 17. The addition of its anion to drinking water can reduce the incidence of tooth decay. For 10 points, what element has chemical symbol F?
ANSWER: **fluorine** [or **F** until it is read]

13. In a poem by this author, he laments, "I'm truly sorry Man's dominion has broken Nature's social union" and notes the futility of "the best laid schemes of mice and men." In another poem, this poet compares his love to a "red, red rose." The chorus of another poem by this man declares, "we'll take a cup of kindness yet." That poem by this man asks, "Should old acquaintance be forgot?" For 10 points, name this Scottish poet who wrote "To a Mouse" and "Auld Lang Syne."
ANSWER: Robert **Burns**

14. If only one carbon atom is bound to the carbon atom that itself is bound to the functional group that defines this class of compounds, it is a primary type of these compounds. A 70% solution of the isopropyl type of these compounds is used to clean laboratory equipment. Their simple examples include the "wood" and "rubbing" types. For 10 points, what compounds are characterized by the presence of a hydroxyl, or O H, group and are exemplified by ethanol?
ANSWER: **alcohol**s

15. For years, the king of these people was served by very powerful "mayors of the palace" such as the victor at the Battle of Tours, Charles Martel. These people were first united under one ruler by Clovis. Their dynasties included the Merovingian and Carolingian kingdoms, with the latter founded by Pepin the Short. For 10 points, what people were ruled by Charlemagne (CHAR-luh-MAYNE) and whose name has been passed on to a modern-day European country?
ANSWER: **Frank**s [or **Merovingian**s until it is read; or **Carolingian**s until it is read]

 **VHSL Conferences 2016-2017 - Round 08 - Directed Period**

1A. The ruins of the ancient city of Tenochtitlan (TUH-nosh-TEE-lonn) are located in what modern-day world capital?
ANSWER: **Mexico City** [or the **City of Mexico**; or **Ciudad de Mexico**]

1B. What Thornton Wilder play is usually performed on a bare stage and is narrated by the Stage Manager, who directly addresses the audience?
ANSWER: ***Our Town***

2A. What 843 treaty divided the Carolingian Empire into three parts, one for each son of Louis the Pious?
ANSWER: Treaty of **Verdun**

2B. The HMS *Terror*, rediscovered in September 2016, sank while taking what often-explored route through the Arctic islands of Canada?
ANSWER: **Northwest Passage**

3A. This is a 20-second calculation question. What is the smallest degree measure of theta greater than 360 for which sine of 3 theta is equal to negative 1?
ANSWER: **450** degrees [Sine of x is -1 whenever x equals -90+360k, so sine of 3 theta is -1 whenever theta equals -30+120k. Letting k=4 gives our answer.]

3B. This is a 20-second calculation question. Find the value of -i- to 34th power.
ANSWER: **-1** [find using cyclic nature of powers of i]

4A. Both Judaism and Islam explicitly forbid the eating of what kind of animal's meat, the former because this animal has a cloven hoof but does not chew its cud?
ANSWER: **pig** [or **pork**]

4B. What inventor tested his most famous creation by saying the words "Mr. Watson, come here, I want to see you"?
ANSWER: Alexander Graham **Bell**

5A. The National Diet is the legislature found in what country?
ANSWER: **Japan** [or **Nippon**]

5B. What name does Don Quixote give to his love interest, who is actually a local peasant girl?
ANSWER: **Dulcinea** del Toboso [or Dulcinea del **Toboso**]

6A. What Category 4 hurricane struck Florida in October 2016?
ANSWER: Hurricane **Matthew**

6B. The ancient Greek Aesop (AAY-sop) compiled what kind of stories that are meant to teach moral lessons?
ANSWER: **fable**s

7A. What singer who started on *The Voice* featured a childhood version of herself, named Cry Baby, on songs like "Pity Party" and "Sippy Cup"?
ANSWER: Melanie **Martinez** [or Melanie Adele **Martinez**]

7B. In Italian, changing a noun's ending to "i," such as in the word "paparazzi," indicates what word form?
ANSWER: **plural**

8A. This is a 30-second calculation question. What is the area of the trapezoid with sides given by: the x-axis, the y-axis, the line y equals eight, and the line y equals forty minus four x?
ANSWER: **72** square units [The height is 8 units, and the two bases from the intersection points of the lines given are 8 and 10 units each.]

8B. This is a 30-second calculation question. Given that the probability of rolling doubles with a pair of dice is one-sixth, what is the probability that, when you start rolling a pair of dice, your first roll of doubles is rolled on the third roll?
ANSWER: **25/216** [The situation requires no-doubles, no-doubles, then doubles, so 5/6 x 5/6 x 1/6.]

9A. What is the name of the cell fragments involved in clotting?
ANSWER: **platelet**s

9B. Which function's graph is rotated around the x-axis to form Gabriel's horn and whose area diverges toward 0 and infinity since its antiderivative is the natural logarithm of x?
ANSWER: y=**1/x** or y=**x to the negative 1** power

10A. The recently released novel *Go Set a Watchman* is basically a first draft of what Harper Lee novel?
ANSWER: ***To Kill a Mockingbird***

10B. The paintings *Kindred Spirits* and *The Oxbow* were created by members of what art movement, named after a river in New York?
ANSWER: **Hudson River** School

 **VHSL Conferences 2016-2017 - Round 08 - Third Period, Fifteen Tossups**

1. The luminal A subtype of this disease is E-R alpha- and PR-positive. The "triple negative" form of this disease is unreceptive to HER2, estrogen receptor, and progesterone (pro-JES-tuh-rohn) receptor inhibitors and often occurs with BRCA1 (brack-uh-1) mutations. This form of cancer can be screened with self-exams and mammograms and treated with a double mastectomy. For 10 points, name this cancer that primarily originates in women's milk ducts.
ANSWER: **breast** cancer

2. This character sings an aria whose title translates as "If you want to dance" where he promises to take on a nobleman. In another appearance, he introduces himself by singing the aria "Largo al factotum." At one point, this character works as the valet to Count Almaviva, who lustfully pursues this man's betrothed, Susanna. For 10 points, name this title character in Rossini's opera *The Barber of Seville*, whose marriage is the focus of an by Mozart.
ANSWER: **Figaro** [prompt on the Barber of Seville until it is read]

3. In 1978, at age two, this man demonstrated his talents on television when competing against comedian Bob Hope. His real first name is "Eldrick." This man's career began to decline shortly after the revelation that he had many affairs while married to former model Elin Nordegren. In May 2016, he dropped out of the world Top 500 for the first time in his career. For 10 points, name this golfer, the youngest player to achieve a career Grand Slam.
ANSWER: Eldrick "Tiger" **Woods**

4. While dying of throat cancer, this man was helped by Mark Twain to finish a best-selling memoir. This President's brother-in-law joined Jay Gould and Jim Fisk to try to corner the gold market. He earned a nickname after demanding the complete surrender of Fort Donelson. This man's administration was marked by such scandals as the Whiskey Ring. For 10 points, name this President who had previously won battles like Shiloh during the Civil War.
ANSWER: Ulysses **Grant** [or Hiram Ulysses **Grant**]

5. This director made a film in which people search for the non-existent person "George Kaplan." In that film by this director, the protagonist is chased by spies on the top of Mount Rushmore. In another of his films, Jimmy Stewart plays a retired police detective who is haunted by a man falling to his death and thus suffers from the title phobia. For 10 points, who directed such suspense classics as *North by Northwest* and *Vertigo*?
ANSWER: Alfred **Hitchcock**

6. This author created Joy, a philosopher who changes her name to "Hulga" and whose artificial leg is stolen by a Bible salesman. In a story by this author, characters eat at Red Sammy's diner before suffering a car accident. She wrote a story in which the Grandmother and her family are killed by the escaped murderer known as the Misfit. For 10 points, name this Southern Gothic author of the short stories "Good Country People" and "A Good Man is Hard to Find."
ANSWER: Flannery **O'Connor** [or Mary Flannery **O'Connor**]

7. When accepting a Nobel Peace Prize, this person declared that abortion is "the greatest enemy of peace." This person was called a "friend of poverty" by frequent critic Christopher Hitchens, who wrote the book *The Missionary Position* attacking her. After the healing of a Brazilian man was declared her second miracle, she was canonised by Pope Francis on September 4, 2016. For 10 points, what nun was noted for her charity work in India?
ANSWER: Mother **Theresa** [or Saint **Theresa** of Calcutta; or Anjeze Gonxhe **Bojaxhiu**]

8. This poet observed, "Not a day passes--not a minute or second, without a corpse," in his poem "To Think of Time." This author described breathing in air when "houses and rooms are full of perfumes" in a poem whose speaker states "I contain multitudes." A poem written by this man begins "I celebrate myself." For 10 points, name this American poet who included "Song of Myself" in his collection *Leaves of Grass*.
ANSWER: Walt **Whitman**

9. This poet wrote "I cast thee by as one unfit for light" in a poem addressed to an "ill-form'd offspring of my feeble brain." The speaker of a poem by this author is wakened by "thund'ring noise" to discover a disaster. This woman wrote the poems "The Author to Her Book" and "Verses upon the Burning of Our House." For 10 points, name this author of the collection *The Tenth Muse Lately Sprung Up in America*, a female poet who lived in colonial Massachusetts.
ANSWER: Anne **Bradstreet**

10. Cyanobacteria (sy-AN-oh-"bacteria") filaments contain a few heterocysts (HET-uh-ro-"cysts") that metabolize this element anaerobically (AN-uh-RO-bik-lee). *Rhizobia* (rye-ZO-bee-uh) process this element in the root nodule as part of a symbiotic (sim-bye-AW-tic) relationship with legumes, which then use this element to make amino acids. For 10 points, name this most common atmospheric di-atomic gas that is "fixed" with hydrogen into ammonia.
ANSWER: **nitrogen** [or **N**; or **N**2]

11. This general resigned his commission after an emotional farewell to his officers at Fraunces Tavern. The Conway Cabal sought to replace this man, who brought in the Prussian Baron von Steuben (STOY-ben) to train inexperienced troops. This general lost thousands of men during brutal winters at Valley Forge. He won the Battle of Trenton after a 1776 Christmas crossing of the Delaware River. For 10 points, name this Revolutionary War general and future President.
ANSWER: George **Washington**

12. This country's official ideology, translated as "self-reliance," is a policy called "juche" (JOO-chay). Its "Eternal President" is a man who died in 1994, a "Great Leader" who was the father of his successor, the "Dear Leader" and "Eternal General Secretary." Some observers believe this country's current leader did not meet an American until the arrival of Dennis Rodman. For 10 points, name this country currently led by Supreme Leader Kim Jong-un.
ANSWER: **North Korea** [or **Democratic People's Republic of Korea**; or **DPRK**; prompt on Korea; do not accept "Republic of Korea"]

13. The mathematical theory of these objects was developed by Georg Cantor (KAN-tore). Russell's paradox involves these objects, which are defined using curly braces and a colon in their namesake "builder notation". Two operations on these objects are symbolized with a big U and an upside down U. Operations on these objects include intersection and union, which can be visualized using Venn diagrams. For 10 points, name these unordered collections of elements.
ANSWER: **set**s

14. The sound of a landslide on this state's highest point inspired explorers to name it Mount Magazine. This state produces almost half of all rice grown in the U.S. A park in this state lets visitors keep any diamonds they find there. A historic "Bathhouse Row" is found in this state's Hot Springs National Park. Its city of Bentonville is home to the headquarters of Walmart. For 10 points, name this "Natural State" directly north of Louisiana.
ANSWER: **Arkansas**

15. This philosopher wrote of "man's emergence from his self-incurred immaturity" in answering the question "What is Enlightenment?" He controversially argued that lying or deception was forbidden in any circumstance as part of his description of absolute requirements that must be obeyed at all times, which he referred to as "categorical imperatives." For 10 points, name this German philosopher who wrote the *Critique of Pure Reason*.
ANSWER: Immanuel **Kant** (CONT)

 **VHSL Conferences 2016-2017 - Round 08 - Tiebreaker Questions**

1. This composer wrote incidental music to the plays *Egmont* and *Coriolan*. During his "late period," this composer produced the *Grosse Fuge* (GROH-suh FOO-guh) and the *Hammerklavier* Sonata. His Symphony No. 6 depicts scenes of nature and is nicknamed *Pastoral*, but was actually premiered before his Symphony No. 5, which begins with a "fate knocking at the door" motif of four notes. For 10 points, name this deaf German composer.
ANSWER: Ludwig van **Beethoven**

2. The minimum resolution detail due to the effects of this phenomenon is described by the Rayleigh criterion. This phenomenon can be understood by considering every point on the wavefront as the source of interfering secondary, spherical waves, which is known as Huygen's principle. The near-field variety of this phenomenon is named for Fresnel. For 10 points, name this phenomenon in which light bends around an obstacle.
ANSWER: **diffraction**

3. In this novel, Roland Weary dies of gangrene after being forced to wear painful shoes as punishment by the Germans. While being held in a zoo, the protagonist of this novel is expected to mate with Montana Wildhack. This novel details the protagonist's experiences while being "unstuck in time," including his experience of the firebombing of Dresden. For 10 points, name this novel about Billy Pilgrim by Kurt Vonnegut.
ANSWER: ***Slaughterhouse-Five***

4. Some historians believe this world leader deliberately kicked off the Holodomor (HOLE-uh-DOH-more) famine. In 1928, he introduced a "five-year" economic plan for his country that emphasized collective farms. This leader ordered the 1940 assassination of Leon Trotsky and earlier kicked off a Great Purge, executing many enemies or sending them to gulags. For 10 points, name this leader of the Soviet Union during World War II.
ANSWER: Joseph **Stalin**

5. Microorganisms give this park's Grand Prismatic Spring its rainbow color. A landmark in this park was named because it consistently erupted at regular intervals. This park is home to a herd of nearly 5,000 bison, the largest herd in the U.S. A massive supervolcano lies beneath this park, which became the world's first national park in 1872. For 10 points, name this park mostly located in Wyoming, home to the Old Faithful geyser.
ANSWER: **Yellowstone** National Park

Find the intersection point of the lines y equals three x minus thirteen and five x plus two y equals eighteen. Give the answer as an ordered pair.
ANSWER: **4,-1** [or **x=4, y=-1**] [Substitute 3x-13 for y in the second equation to solve for x; use that to find y.]

Emily Dickinson wrote a poem saying that because she "could not stop" for what figure, "he kindly stopped for me"?
ANSWER: **Death**