



VHSL Scholastic Bowl  
State Championships 2016  
Round 3  
First Period, Fifteen Tossups

1. Low-slung vegetation in deforested portions of this biome is known as garrigue. Examples of this biome, which is found in the C-s-a and C-s-b regions of the Koppen system, include the fynbos of the Western Cape and the Chilean matorral. This biome is home to pyrophitic species such as the Aleppo pine, and it is known in California as chaparral. It is characterized by hot, dry summers and mild, moist winters. For 10 points, name this scrubland biome most widely seen around its namesake sea in southern Europe and north Africa.

ANSWER: Mediterranean forests, woodlands, and scrub [or chapparral until it is read]

2. A leader who reigned in this city assembled a three-person astronomical team to determine how the Black Plague started and also denounced the persecution of Jews at that time. A reign in this city effectively ended when a leader went south to supervise the War of the Eight Saints against Florence. Gregory XI proposed leaving this city, an idea encouraged by Catherine of Siena. Beginning with the election of Clement V, a reign in this city was known as the "Babylonian Captivity." For 10 points, name this French city, the site of the papacy in the 1300's.

ANSWER: Avignon

3. A clown in this play claims that "the whirligig of time brings in his revenges," impersonates the curate Sir Topas, and sings songs such as "O Mistress Mine" and "Hey, Ho, the Wind and the Rain." In this play, Maria forges a letter addressed to "M.O.A.I." that convinces another character to dress in yellow stockings and cross garters. This play opens with a duke saying, "If music be the food of love, play on." This play features the fool Feste and the puritan steward Malvolio. For 10 points, what Shakespeare comedy centers on the shipwrecked twins Sebastian and Viola?

ANSWER: Twelfth Night, or *What You Will*

4. These organisms use isoprenoid (**ai-SAW-pruh-noid**) side chains to make phospholipids (**FOSS-fo-lip-ids**), and their cell membranes contain L-glycerol (**GLISS-uh-rawl**) bonded to ethers instead of esters. The first group of these organisms to be discovered was the methanogens (**meth-AN-oh-jenz**), and many of the earliest ones found were extremophiles ("**extreme**"-**oh-files**) isolated from hydrothermal vents. For 10 points, name this domain of prokaryotic organisms more closely related to eukaryotes than to bacteria and named for their seemingly ancient origins.

ANSWER: Archaea [or Archaeobacteria]

5. This state contains a semicircular chain of cone-shaped hills known as its "Knobs." The Pottsville Escarpment separates this state's Pennyroyal Plateau from its eastern coalfields and is found in Daniel Boone National Forest. This state's namesake "Bend" is an exclave formed by an oxbow of the Mississippi River. Calcium-rich soils in this state's north-central region support a popular lawn species and hundreds of horse farms around Lexington. For 10 points, Louisville is the largest city in what Bluegrass State?

ANSWER: Kentucky

6. This structure lacks its namesake vermis in the Dandy-Walker malformation. The namesake deep nuclei of this non-cardiac structure receive inhibitory input from its Purkinje (**per-KIN-jee**) cells. With the spinal cord, this structure names a tract that transduces proprioceptive (**pro-pree-uh-SEP-tiv**) information. Damage to this structure can cause a namesake type of ataxia (**ay-TAX-ee-uh**) that can manifest with poor balance and lack of coordination, since this structure is heavily involved in motor control. For 10 points, name this brain structure meaning "little brain" that is contrasted with the cerebrum.

ANSWER: **cerebellum** [prompt on **brain** before it is read]

7. This performer contributed the song "Devil May Cry" to the soundtrack of *The Hunger Games: Catching Fire*, and appeared as a guest on Sia's "Elastic Heart." This man sang "I know your motives and you know mine" on a guest verse on Ariana Grande's "Love Me Harder." On a single from his album *Beauty Behind the Madness*, this performer sang "And I know she'll be the death of me, at least we'll both be numb." For 10 points, name this singer of "The Hills" and "Can't Feel My Face," known for his eccentric hairdo.

ANSWER: The **Weeknd** [or Abel Makkonen **Tesfaye**]

8. Tony Hoare developed an example of these algorithms that recursively picks a pivot and partitions a set. An efficient example of these algorithms divides a list into sublists of one element and then merges them. A simple example of these algorithms moves the element at the end of an array forward until it finds a smaller element. "Heap" and "quick" are examples of these algorithms. For 10 points, what kind of algorithm arranges elements in a certain order?

ANSWER: **sorting** algorithms

9. This composer included the movement "La Réjouissance" in a suite celebrating the end of the War of the Austrian Succession. Popular excerpts from his choral music include the tenor aria "Ev'ry valley shall be exalted" and the interlude "Arrival of the Queen of Sheba." He included "Alla Hornpipe" in a piece written for a concert on the River Thames. A chorus declares "And he shall reign forever and ever" in this composer's oratorio about the life of Jesus Christ. For 10 points, name this composer of *Water Music* and *Messiah*, which includes the "Hallelujah" chorus.

ANSWER: George Frideric **Handel** [or Georg Friedrich **Händel**]

10. In a 1974 play, this earlier play is being staged in World War I-era Zurich, and thus serves as the backdrop to Tom Stoppard's play *Travesties*. This play ends with a woman telling her nephew he is displaying "signs of triviality." A character in this play frequently claims to visit his imaginary sickly friend in the country named "Bunbury." At the end of this play, a character discovers he was lost in a handbag as a baby and is therefore related to Lady Bracknell's family. For 10 points, name this Oscar Wilde play in which Algernon and his friend Jack use the same pseudonym.

ANSWER: *The **Importance of Being Earnest**, A Trivial Comedy for Serious People*

11. This man painted a two-faced man and an anthropomorphic cat viewing the Eiffel Tower in *Paris in the Window*. A synagogue burns while a green-clad Elijah flees in the bottom right in this artist's painting *White Crucifixion*. A woman milks a goat and an upside down violinist plays against the background of a green-faced man and the face of a goat in his best-known painting. For 10 points, name this Russian-French Jewish painter of *I and the Village*.

ANSWER: Marc **Chagall** [Marc Zhakarovich **Chagall**]

12. On his way to find one of these animals, Heracles stops to enjoy wine with the centaurs Pholus and Chiron. For his fourth labor, Heracles captures and traps one of these animals from Erymanthia. One of these animals is summoned when Oeneus fails to sacrifice to Artemis; another of these animals mauls Adonis to death. Toxeus and Plexippus initially refuse to award the skin of one of these animals to Atalanta, even though she is involved in a hunt for it alongside Meleager. For 10 points, name these animals, which include one from Calydon that was killed in a namesake hunt.

ANSWER: **boar** [or **Calydonian Boar**; or **Erymanthian Boar**]

13. Prior to this battle, the *USS Blessman* was bombed during a recon mission. Ira Hayes, John Bradley, and Rene Gagnon became celebrities after this battle, which also gave the inspiration to Felix de Weldon to sculpt the Marine Corps War Memorial. After this battle, Joe Rosenthal took a Pulitzer winning photo of five Marines and a Navy corpsman on a mountain. For 10 points, name this early 1945 battle in the Pacific theater of World War II, which ended with U.S. soldiers raising the flag on Mount Suribachi.

ANSWER: Battle of **Iwo Jima**

14. A July 2015 *New York* magazine cover about this man featured thirty-five people sitting in chairs with the last chair empty. In a 2014 stand-up comedy routine, Hannibal Buress told an audience to Google this man to learn about his behavior. Phylicia ("**Felicia**") Rashad said this man's problems were an "orchestrated destruction of a legacy." In recent years, he has been accused of wrongdoing by supermodels Beverly Johnson and Janice Dickinson, among many others. For 10 points, name this comedian accused of sexual assault by more than fifty women.

ANSWER: Bill **Cosby** [or William **Cosby**, Jr.]

15. The Scottish merchant Thomas Blake Glover commissioned ships for this monarch's benefit, as he started building a navy modeled on the British one. A fleet sent to fight against this man's regime mistakenly fired on British fishing boats at Dogger Bank. Troops loyal to this ruler besieged Port Arthur a year before his navy successfully crossed the T to prevail at Tsushima (**soo-SHEE-muh**) Strait. For 10 points, name this man whose country prevailed in the Russo-Japanese War, thirty-seven years after he began rapidly modernizing Japan in his namesake "Restoration."

ANSWER: Emperor **Meiji** [or **Mutsuhito**]



VHSL Scholastic Bowl  
State Championships 2016  
Round 3  
Directed Round

1A. In French, what part of speech most frequently ends in the letters "-ment"?

ANSWER: adverb [or adverbe]

1B. What popular video game franchise created by Epic Games takes place on the planet Sera and follows Marcus Fenix, a soldier from the Coalition of Ordered Governments?

ANSWER: Gears of War

2A. The largest recorded iceberg, Iceberg B-15, was calved from which large ice shelf that lies in a namesake Antarctic sea and was previously called the Great Ice Barrier?

ANSWER: Ross Ice Shelf

2B. What phenomenon exists below the Curie temperature and allows the permanent magnetization of such metals as iron, cobalt, and nickel?

ANSWER: ferromagnetism

3A. This is a 20-second calculation question. Simplify the expression "secant of x over tangent of x" so that the simplified expression contains only one trigonometric function.

ANSWER: cosecant x [or csc x; or 1 over sine x]

3B. This is a 20-second calculation question. What positive values are excluded from the domain of  $f$  of  $x$  equals the reciprocal of the natural log of  $4x$ ?

ANSWER: 1/4 (one fourth) [or 0.25; do not accept answers with more than one value]

4A. Thornfield Hall and the Lowood Institution are among the settings of what novel in which the title orphan grows up under the harsh treatment of the Reed family?

ANSWER: Jane Eyre

4B. What country was led by Jorge Videla (**HORR-hey vee-DAY-la**) during the Dirty War and attempted to retake the Falkland Islands from Britain under Margaret Thatcher?

ANSWER: Argentina [Argentine Republic; or Republica Argentina]

5A. What poor Oklahoma migrant family is featured in John Steinbeck's *The Grapes of Wrath*?

ANSWER: the Joad family

5B. What dissonant interval, equivalent to an augmented fourth or diminished fifth, was once known as "diabolus in musica," or "the devil in music"?

ANSWER: tritone

6A. What scientist developed special relativity and explained the photoelectric effect as a quantum phenomenon?

ANSWER: Albert **Einstein**

6B. What term describes a mid-line break in a line of verse, common in Old English alliterative poetry?

ANSWER: **caesura**

7A. What politician, who was assassinated in 2007, became the first woman to lead a Muslim country when she was elected Prime Minister of Pakistan in 1988?

ANSWER: Benazir **Bhutto**

7B. What book of the New Testament chronicles the history of the early church in the immediate aftermath of the Ascension of Jesus?

ANSWER: **Acts** [or **Acts of the Apostles**]

8A. This is a 30-second calculation question. Suppose that you have two dice, one of which is weighted to come up 6 exactly half the time and one of which is a standard die. If you pick a die and roll three consecutive sixes with that die, what is the probability that you picked the *standard* die?

ANSWER: **1/28**

8B. This is a 30-second calculation question. Three balls of height 4 inches are stacked on top of each other in a cylinder of height 12 inches. What is the volume of air left in the cylinder? Express your answer in terms of pi.

ANSWER: **16 pi** cubic inches

9A. What Nobel-winning author set most of his works in the fictional Yoknapatawpha (**YAWK-nuh-puh-TAW-fuh**) County, Mississippi?

ANSWER: William **Faulkner** [or William Cuthbert **Faulkner**]

9B. What Nobel laureate leads the National League for Democracy, which won Burma's first free elections in 25 years in November 2015?

ANSWER: Aung San **Suu Kyi** [do not accept or prompt on "Suu" or "Kyi" alone]

10A. William McKinley was shot by Leon Czolgosz (**CHOL-goss**) while attending the 1901 Pan-American Exposition in what New York city?

ANSWER: **Buffalo**, New York

10B. What regular polyhedron and Platonic solid has four sides?

ANSWER: **tetrahedron**



**VHSL Scholastic Bowl  
State Championships 2016  
Round 3  
Third Period, Fifteen Tossups**

1. This man's early paintings include a post-impressionist *Evening: Red Tree* and the cubist *Grey Tree*. Yves Saint-Laurent designed six A-line dresses based on this painter's work. This artist had a falling-out with Theo van Doesburg over the use of diagonals, and described his own style as "neoplasticism." His final completed canvas uncharacteristically avoided black, imagining Manhattan as a grid of yellow lines broken up by blocks of color. For 10 points, name this founder of De Stijl whose used straight lines and primary colors in paintings such as *Broadway Boogie Woogie*.

ANSWER: Piet **Mondrian** [Pieter Cornelis **Mondriaan**]

2. This man tweeted that he couldn't wait to leave college after he received a parking ticket. In 2015, he threw a water bottle at a heckler at a golf tournament. In the 2015 season, he was a third-string starter behind Austin Davis and Josh McCown. College coach Kevin Sumlin suspended this man for signing autographs for money. Coach Mike Pettine benched this man, the first freshman to win the Heisman Trophy, after a video of him partying surfaced on the Internet. For 10 points, name this Cleveland Browns quarterback known as "Johnny Football."

ANSWER: Johnny **Manziel** [or Jonathan **Manziel**]

3. It is not the inverse square law, but bound orbits are always closed in this type of system according to Bertrand's theorem. If the second-order linear differential equation describing these systems is inhomogeneous, then they are "driven." The Q-factor determines how "damped" this type of system is. A weight attached to a spring is a classic example of this system, as is a pendulum under the small angle approximation. For 10 points, name these systems that experience sinusoidal motion when displaced from their equilibrium points.

ANSWER: simple **harmonic oscillator** [or simple **harmonic motion**; or **SHO**; or **SHM**; or radial **harmonic oscillator**]

4. In a novel by an author from this country, a man is sent to study law by the UPU and ends up as a bribe-taking member of the Scholarship Board. A novel from this country includes a story about a tortoise breaking his shell after visiting the kingdom of the birds. In that novel from this country, the protagonist is exiled to his mother's town after his gun explodes and kills a boy. A novelist from this country wrote *No Longer at Ease* and created Umuofia and Okonkwo. For 10 points, what African country was the home of the author of *Things Fall Apart*, Chinua Achebe?

ANSWER: **Nigeria** [or The Federal Republic of **Nigeria**]

5. The Chinese breed of a species in this order is the source of CHO cells, which are derived from its ovaries. Several "spiny" species in this order are able to regenerate skin tissue and fur, and another species in it is poikilothermic (**POY-kuh-lo-THERM-ik**), unable to sense pain, and eusocial (**yu-"social"**). This order used to include the lagomorphs. Genes are inactivated in a "knockout" model organism in this order. This order of animals is distinguished by continuously-growing incisors, and the largest example in it is the capybara. For 10 points, name this order of mammals that includes hamsters and mice.

ANSWER: rodents [or Rodentia]

6. After bathing in this material, the Norse hero Siegfried is able to understand the speech of birds. This material is embedded in the tunic that kills Heracles. The Greek gods possess ichor (**rhymes with "sticker"**) instead of this substance. This substance is consumed by a mythical being that, in some traditions, must be invited inside before it can enter someone's home. Those creatures crave this substance, but can be repelled with garlic and killed with wooden stakes. For 10 points, name this liquid which comprises the main diet of a vampire.

ANSWER: blood [or dragon blood; or centaur blood]

7. This author wrote a novel in which Arabella March's house contains a pit in which a large snake-like monster dwells. In another novel by this writer, Quincey Morris helps to kill a "bloofer lady" named Lucy who is stalking children. Besides writing *The Lair of the White Worm*, this author wrote a book featuring an insane man who eats insects named Renfield. This author's best known work is an epistolary Gothic novel following the adventures of such characters as lawyer Jonathan Harker and Dr. Abraham Van Helsing. For 10 points, name this Irish author of *Dracula*.

ANSWER: Bram Stoker [or Abraham "Bram" Stoker]

8. In one of this author's short stories, two friends agree to meet after twenty years, only for one to return as a wanted criminal and the other as the cop who arranges for his arrest. In another of his stories, a homeless man is arrested for loitering after telling a policeman he is doing "nothing." This author collected many of his stories in *The Four Million*. In another story by this author, Della sells her hair to buy Jim a watch fob chain for Christmas. For 10 points, identify this American short story writer known for the twist endings of stories like "The Gift of the Magi."

ANSWER: O. Henry [or William Sydney Porter]

9. This author's writings are referenced using Bekker numbering. A popular legend says that for many years his writings were stored in a cellar at Scepsis (**SEP-siss**). In an eight-book treatise, this man wrote that "man is by nature a political animal," and he argued that society's highest aim was happiness, or "eudaimonia" (**YOO-day-oh-mah-nay-uh**). He claimed that an epic drama should produce catharsis in his text called *Poetics*. For 10 points, name this author of the *Nicomachean* (**NICK-oh-MACK-ee-own**) *Ethics*, a student of Plato.

ANSWER: Aristotle

10. This organization originated the myth that AIDS was invented in a lab via Operation INFEKTION. In its primary role, this organization replaced the NKVD, which in turn had replaced the Cheka run by "Iron Felix." Before becoming General Secretary, Yuri Andropov served as chairman of this organization. Vladimir Putin served as an officer in this organization before it became the Federal Security Service in 1991. For 10 points, name this organization that spied on Western countries and acted as a secret police in Soviet Russia.

ANSWER: KGB [or Komitet gosudarstvennoy bezopasnosti; or Committee for State Security]

11. Chylomicrons (**KYE-lo-MYE-kronz**) consisting of lipoprotein particles are absorbed by lacteals in this organ. In mice, alpha defensins called cryptidins are expressed in this organ's Paneth cells, which are found at the base of its crypts of Lieberkuhn (**LEE-bur-koon**). This organ transfers chyme (**kyme**) to the cecum (**SEE-cum**) through its final section, the ileum (**IH-lee-um**), which follows the jejunum (**jeh-JOO-num**) and duodenum (**doo-ODD-uh-num**). For 10 points, name this very long digestive organ that passes food remnants from the stomach to the large intestine.

ANSWER: small intestine [or small bowel; prompt on intestine and bowels]

12. A scholar in this dynasty wrote a book praising a wise king known as a "Raja-rishi"; that book was the *Arthashastra* (**ARF-uh-SHOSH-tra**). This dynasty won a battle that reportedly stained the Daya River red with blood. A king from this dynasty created 33 inscriptions containing edicts that urged kindness to others. This dynasty won the Kalinga War and was ruled by a man who embraced Buddhism after feeling remorse for his bloody actions; that king was named Ashoka. For 10 points, what Indian dynasty was founded by Chandragupta?

ANSWER: Maurya dynasty [prompt on Maghada kingdom]

13. According to a 1944 book titled for this phenomenon by Ludwig von Mises, Austrian economists believe that it cannot arise in a completely free market. It was defined as "domination through knowledge" in *Economy and Society*, which introduced the three criteria for its effectiveness including continuous activity and division of labor. This phenomenon was studied by Max Weber, who warned that its increasing power in society could lead to an "iron cage of rationality." For 10 points, give this term for the rules-based administration of large institutions.

ANSWER: bureaucracy

14. This city's original southern border is now the Spui public square, and a pair of wealthy sisters supposedly built this city's car-free "skinny bridge." A house with a one-meter-wide rear facade is found along this city's medieval moat. This city's Singel is the innermost part of the Grachtengordel (**GROK-ten-GOR-dul**), a series of semicircular canals that give it the nickname "Venice of the North." This city, which the Amstel River flows through, also includes a floating flower market and museums devoted to Vincent Van Gogh and Anne Frank. For 10 points, name this capital of the Netherlands.

ANSWER: Amsterdam

15. A newspaper in this leader's country, the *Granma*, takes its name from a yacht that once transported him. Severe energy shortages began in this leader's country during the Special Period that encompassed the breakup of the Soviet Union. This man spent time in prison after leading a failed attack on the Moncada Barracks. This man began leading his country after the overthrow of Fulgencio Batista (**bah-TEE-stah**) and as leader, he survived the United States' failed Bay of Pigs invasion. For 10 points, name this Communist leader who took power in Cuba in 1959.

ANSWER: Fidel Castro [or Fidel Alejandro Castro Ruiz]





**VHSL Scholastic Bowl  
State Championships 2016  
Round 3  
Tiebreaker/Replacement Questions**

1. Ivemark syndrome is characterized by underdevelopment or lack of this organ. This organ contains periarterial lymphoid sheaths as part of the Malphigian corpuscles. In order to assist in healing injuries, this organ's Cords of Billroth stores about half of the body's monocytes. The marginal zone of this organ acts as the intermediary between the red pulp and the white pulp. Some of this organ's important roles include the synthesis of antibodies and metabolization of hemoglobin. For ten points, identify this blood filtering lymphoid organ of the body.

ANSWER: spleen

2. This man wrote a story about Reefy, a doctor who continually stuffs bits of paper in his pockets. Another of his stories is about a former schoolteacher, Wing Biddlebaum, who was disgraced for putting his hands on one of his students. This author's best known book contains such stories as "Hands," "Paper Pills," and "The Book of the Grotesque." He wrote a collection whose protagonist is the young George Willard, who lives in the title Midwestern small town. For 10 points, name this author of the short story collection *Winesburg, Ohio*.

ANSWER: Sherwood Anderson

3. The Porcupine Mountains are south of this body of water. It contains an "underwater preserve" to protect historical artifacts in its Whitefish Bay, near where it drains via the St. Mary's River and Soo Locks. This lake was home to prehistoric copper mining in its Keewenaw Peninsula and Isle Royale, and it was called Gichi-Gami by the Ojibwe (**oh-jib-WAY**) Indians. In 1975, the *SS Edmund Fitzgerald* sunk in this lake while carrying iron ore from Duluth, Minnesota. For 10 points, name this largest of the five Great Lakes.

ANSWER: Lake Superior

4. A woman in this poem is kidnapped when a disguised ascetic tricks her into stepping outside a protective circle. A character in this poem burns down a city after his tail is set on fire, and then grows enormous and jumps across the ocean in a single leap. The title character of this poem is exiled for fourteen years with his brother Lakshmana, during which time he befriends the monkey god Hanuman. Near the end of this poem, that title character defeats the demon Ravana and rescues his wife Sita. For 10 points, name this epic poem by Valmiki about the title seventh avatar of Vishnu.

ANSWER: Ramayana

5. While working as a drug dealer in New York, this man was known as "Detroit Red." He named two of his daughters with Betty Sanders after Attila the Hun and Kublai Khan. This man noted it was "chickens coming home to roost" after John F. Kennedy's death and in 1964, he gave a speech called "The Ballot or the Bullet." His autobiography was finished by Alex Haley. This man was killed in a Manhattan ballroom in 1965, a murder praised by former mentor Elijah Muhammad. For 10 points, name this Nation of Islam leader born Malcolm Little.

ANSWER: Malcolm X [or el-Hajj Malik el-Shabazz; or Malcolm Little until mentioned]

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**This is page 9 of 10 total pages in this round.**

This is Round 3 of 4 total rounds in the VHSL State Championships 2016 question set.

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The breakaway territory of Transnistria (**tranz-NEES-tree-uh**) is on the other side of the Dniester (**NEES-tur**) River from the rest of what post-Soviet republic whose capital is Chişinău (**kee-shee-NOW**)?

ANSWER: Moldova [Republic of Moldova; or Republica Moldova]

Three fair dice are rolled. What is the probability that the top faces on an even number of dice show a six?

ANSWER: 35/54 [or 140/216]