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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl**  **Regular Season 2014**  **Round 28**  **First Period, Fifteen Tossups** |

1. Near the end of this novel, a Medical Man examines two flowers retrieved by the protagonist. The protagonist of this novel breaks into a statue of a white sphinx before seeing white butterflies and red crabs on a strange beach. This novel’s protagonist also rescues Weena, then loses her while being chased through a forest by Morlocks. For 10 points, name this science fiction novel by H. G. Wells whose protagonist uses the title device to travel into the future.  
ANSWER: *The* ***Time Machine***

2. John Fian's death at North Berwick inspired a pamphlet by James I on these individuals, also the subject of Heinrich Kramer and Jacob Sprenger's *Malleus Maleficarum.* Giles Corey was pressed to death during a campaign against these people, begun after Ann Putnam accused the slave Tituba of consorting with demons. For 10 points, name these individuals often burned at the stake for using magic in medieval times.  
ANSWER: **witch**es

3. A leader of this empire was provoked into fighting a war by an ultimatum that Bartle Frere issued. A detachment of 139 British soldiers defeated 4,000 soldiers from this empire at Rorke’s Drift. Troops of this empire used short stabbing spears called iklwas and employed the “buffalo horn” formation. A ruler of this empire was assassinated and succeeded by his half-brother Dingane. For 10 points, name this African empire led by Cetshwayo and Shaka.  
ANSWER: **Zulu** Empire

4. When this man’s son was kidnapped, Dr. John Condor used the alias “Jafsie” to act as a voluntary intermediary between the kidnapper and this man. Before the United States entered World War II, this man served as the spokesperson for the America First Committee. In what was called the “Crime of the Century,” this man’s infant son was kidnapped by Bruno Hauptmann. For 10 points, name this pilot who flew from New York to Paris nonstop in the Spirit of St. Louis.  
ANSWER: Charles **Lindbergh** [Charles Augustus **Lingbergh**]

5. This man's *De Magistro* is a dialogue with his son, Adeodotus. A work by this theologian includes a pivotal conversation with Simplician and Pontician. This man disputed the claim that Christianity was responsible for the sack of Rome in one work, while another recounts his conversion from Manicheanism thanks to the efforts of St. Ambrose and his own mother, Monica. For 10 points, name this bishop of Hippo who wrote *City of God* and *Confessions*.  
ANSWER: St.**Augstine** of Hippo [or St.**Austin**]

6. In a painting by this man, a copy of Edgar Allan Poe's *Arthur Pym* sits on a mantle next to a man reflected incorrectly in a mirror. Candlesticks sit atop another mantle near another mirror in a painting by this artist in which a train juts out of a fireplace. In this artist's *The Son of Man,* a green apple obcures the face of a man wearing a bowler hat. For 10 points, name this surrealist painter whose *The Treachery of Images* declares, "This is not a pipe."   
ANSWER: René **Magritte**

7. The kinetics of these things can be graphically represented by Lineweaver-Burk plots, which are used to analyze the Michaelis-Menten equation. These molecules can be described by the induced fit model or by the lock and key model, both of which describe how these molecules act on a substrate that binds to an active site. For 10 points, name these molecules – often proteins – that lower the activation energy of reactions because they act as biological catalysts.  
ANSWER: **enzyme**s

8. In 2013, this country’s leader faced a scandal called The Route of the K-Money. In 2014, after failing to strike a deal with the American hedge fund companies NML Capital and Aurelius Capital Management, this country was forced to default. This country’s president, a member of the Judicialist Party, was married to the former president Nestor Kirchner, who died in 2010. For 10 points, name this South American country led by Cristina Fernandez from Buenos Aires.  
ANSWER: **Argentina** [**Argentine** Republic]

9. A powdery substance known as pounce was used in this art form. Rudolf Koch and Edward Johnston are considered the fathers of its modern revival. A type of this art form, khatt, flourished near the modern Iraqi town of Kufa. In China, this art form traces back to the patterns seen on oracle bones, and is heavily dependent on stroke order. Many styles of this art form, which dates back to ancient times, omit projections known as serifs. For 10 points, name this art of beautiful writing.  
ANSWER: **calligraphy** [prompt on **writing** before it is read] [or **typography**]

10. A plan in this movie relies on giving out the incorrect address "Avenue X at Cicero" while in police custody, which is part of a larger plan to kidnap the mob accountant Lau, who is burned alive atop a pile of money. A character in this film announces his plan to "kill the bus driver" and later makes a pencil disappear in a magic trick. This movie ends shortly after the capture of a man who asks “Why so serious?” and frequently explains the origins of his facial scars. For 10 points, name this 2008 film featuring Heath Ledger as the Joker.   
ANSWER: *The* ***Dark Knight***

11. For integers m and n, Brown numbers satisfy this function of n plus one when equal to m squared. Present in "super" and "hyper" varieties, this mathematical function appears in the denominator of every term in the Taylor series for e to the x. This function of n gives the number of ways to arrange n objects. For 10 points, name this function that, for a positive integer n, is the product of all integers from one to n, denoted by an exclamation point.  
ANSWER: **factorial**

12. The speaker of one of this man's poems hopes that "tomorrow, I'll be at the table when company comes." The narrator wishes for "Bessie, bop, or Bach" records in a poem of his that begins with an instructor telling him to "Go home and write a page tonight." In addition to "I, Too, Sing America" and "Theme For English B," this poet recalled hearing a "drowsy syncopated tune" "Down on Lenox Avenue." For 10 points, name this Harlem Renaissance poet who wrote "The Weary Blues" and asked what happens to a dream deferred.  
ANSWER: Langston **Hughes** [or James Mercer Langston **Hughes**]

13. The Sargasso Sea was named for the *Sargassum* genus of these organisms. The invasive species *Caulerpa taxifolia* is an example of these organisms primarily prized for ornamentation in aquariums. The decrease in the presence of sea otters on California's coast led to the devastation of "forests" of these organisms that were devoured by sea urchins. For 10 points, name these macroscopic and multicellular algae whose *Porphyra* genus is used to wrap sushi.  
ANSWER: **seaweed** [or **kelp**; or **sea vegetable**; or **macroalga**e until "macroscopic" is read; prompt on **alga**e]

14. A waterway that originates in this mountain range is where the Venus of Tan-Tan was found, and is named the Draa River. The Aures Mountains form the eastern part of this range, which also has a namesake “Tell” portion. This mountain range is primarily populated by the Berber people. For 10 points, name these mountains of northwestern Africa, which share their name with a Titan from Greek mythology.  
ANSWER: **Atlas** Mountains

15. The southern polar region of an object in this group contains unusual tiger stripes which are the center of cryovolcanism. That object in this group was found, like Mimas, by William Herschel and is Enceladus. Four of these objects were discovered by Giovanni Cassini. Several of these objects, such as Prometheus and Pandora are shepherds for the outermost ring of their planet's extensive ring system. For 10 points, name these satellites, numbering some 62, of the second-largest planet in the Solar System.  
ANSWER: **moon**s of **Saturn** [or **Saturn**ian **moon**s]

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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl**  **Regular Season 2014**  **Round 28**  **Directed Round** |

1A. What Elizabethan poet wrote the unfinished epic *The Faerie Queene*?  
ANSWER: Edmund **Spenser**

1B. What country fought the British during the Mau Mau Uprising and was founded by Jomo Kenyatta, its first president?  
ANSWER: **Kenya** [Republic of **Kenya**]

2A. What railroad junction's ten month siege during the Civil War included the "Battle of the Crater?"  
ANSWER: **Petersburg**

2B. In what novel by Gunter Grass does Oskar Matzerath stop growing after three years of age and treasure the title instrument?  
ANSWER: *The* ***Tin Drum*** [or *Die* ***Blechtrommel***]

3A. This is a 20-second calculation question. A random variable X is selected from a binomial distribution consisting of 10 trials, where the probability of success on any given trial is 0.2. What is the variance of X?  
ANSWER: **1.6** [or **8/5**]

3B. This is a 20-second calculation question. If f of *x* is given by "1 plus the positive square root of *x*" and g of *x* is given by "*x* squared plus 2 to the *x*", what is f of g of 6?  
ANSWER: **11**

4A. What diatomic compound, which is involved in increasing vasodilation, is decomposed into nitrogen and oxygen in catalytic converters?  
ANSWER: **nitric oxide** [do not accept or prompt on **nitrous oxide**]

4B. Name the American author who wrote a memoir of Paris in the voice of her lover in *The Autobiography of Alice B. Toklas.*  
ANSWER: Gertrude **Stein**

5A. What mountain range lies on the border between Spain and France, and is home to the small Principality of Andorra?  
ANSWER: the **Pyrenees**

5B. What modern-day U.K. country historically sought independence under leaders like Owain Glyndower and several kings named Llywelyn?  
ANSWER: **Wales**

6A. What literary term refers to the repetition of a word or phrase at the beginning of consecutive lines, clauses, or sentences?  
ANSWER: **anaphora**

6B. What hockey team did not resign goaltender Martin Brodeur [BRO-durr] during the 2014 offseason, despite winning three Stanley Cups with him?  
ANSWER: **New Jersey** Devils [or New Jersey **Devils**]

7A. What Italian director created a version of Petronius’ *Satyricon* and directed the films *La Dolce Vita* and *8½?*  
ANSWER: Federico **Fellini**

7B. What Greek city was established by Cadmus after slaying the dragon at Castalia?  
ANSWER: **Thebes**

8A. This is a 30-second calculation question. Give all values of *x* between 0 and 2 pi, inclusive, that satisfy the equation sine of *x* equals cosecant of *x*. Express your answer in terms of pi.  
ANSWER: *x* = **pi/2** and *x* = **3pi/2** [do not accept or prompt on partial answers]

8B. This is a 30-second calculation question. An "oval" racetrack actually consists of two parallel straightaways of length 200 yards connected at each end by a half-circle with diameter 200 yards. What is the length of one lap around the track? Express your answer in terms of pi.  
ANSWER: **400 plus 200 pi** yards

9A. In contrast to local variables, what type of variable has scope throughout an entire program, allowing it to be modified by all of a program's functions?  
ANSWER: **global** variable

9B. What company purchased the Internet streaming site Twitch in 2014 for 970 million dollars?  
ANSWER: **Amazon**.com

10A. Which organ with four lobes and capable of regeneration is the largest internal organ and gland of the human body?  
ANSWER: **liver**

10B. What part of speech are the French words "jours" (JOOR), "parfois" (PAR-fwah), and "comme" (COM)?  
ANSWER: **adverb**s [or les **adverb**es]

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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl**  **Regular Season 2014**  **Round 28**  **Third Period, Fifteen Tossups** |

1. This god slept with Aethra on the same night as Aegeus and is often credited as the father of Theseus. This god gave his lover Pelops a winged chariot, and he sent the bull that killed Hippolytus. His wife turned Scylla into a monster, and with Apollo, this god built the walls of Troy after challenging Zeus. He fathered Triton with his wife Amphitrite, and he created a salty well on the Acropolis of Athens. For 10 points, name this trident-wielding god of ocean.  
ANSWER: **Poseidon** [or **Neptune**]

2. In this novel, the title character becomes impressed with its narrator after he kills a rattlesnake. In this novel, Lena Lingard dates a university student whose best friend is nearly molested by the moneylender Wick Cutter. The narrator of this novel grows up with the title character in Black Hawk, Nebraska, and is named Jim Burden. For 10 points, name this novel titled for a Bohemian girl, written by Willa Cather.  
ANSWER: ***My Antonia***

3. Heterozygotes for a disease in which these cells deformed in the shape of a sickle are conferred resistance to malaria. A molecule found primarily in these cells consists of a porphyrin ring surrounding a metal ion. These cells contain no nuclei, and are shaped like biconcave disks. These cells contain hemoglobin, which is used to carry oxygen through the circulatory system. For 10 points, name these most common cells in the blood.  
ANSWER: **red blood cell**s [or **RBC**s; or **erythrocyte**s]

4. An object found on this island features a spiral of hieroglyphics and is called the Phaistos disc. This island was covered in ash by the Thera eruption. The ritual of Bull-leaping was practiced on this island. Tablets written in the Linear A script were discovered on this island by Arthur Evans, who also unearthed the palace of Knossos here. For 10 points, identify this home of the Minoan culture, an island south of mainland Greece.  
ANSWER: **Crete**

5. This play opens as its protagonist is criticized for spending too much on Christmas gifts. In this play, the syphilitic Dr. Rank professes his love for the protagonist. A character in this play pays for her husband's vacation to Italy by forging her father's signature. Krogstad uses that information to blackmail its protagonist. For 10 points, name this play in which Torvald is left by his wife Nora, a Norwegian play by Henrik Ibsen.  
ANSWER: *A* ***Doll's House*** [or *A* ***Doll House***]

6. In this game series, transport between worlds is achieved using a Gummi Ship. A group of “Nobodies” without hearts form this series’s Organization XIII. The main character of this series wields a Keyblade and saves the Princesses of Heart, including Jasmine and Cinderella. For 10 points, name this video game series in which Sora, Donald and Goofy fight their way through worlds mixing elements of Final Fantasy and Disney.  
ANSWER: ***Kingdom Hearts*** series

7. This compound contains just two chemical bonds, both of order 3/2. The density of this compound is measured in Dobson units. This compound is the blue gas formed by corona discharge generators. Chlorine radicals that react with this compound are formed from the breakdown of chlorofluorocarbons. This allotrope consists of three oxygen atoms. For 10 points, name this compound which absorbs UV light in a namesake layer of the stratosphere.  
ANSWER: **ozone** [or **O3** until "three oxygen atoms" is read]

8. Several of this country’s natural treasures are found at the temple of Bulguksa. This country’s late 20th century economic boom is termed the Miracle on the Han River. Jeju Island is found off the southern coast of this country, which is east of the Yellow Sea. Its northern border is on the Dimilitarized Zone. For 10 points, name this country situated on a namesake peninsula with its capital at Seoul.  
ANSWER: **South Korea** [or **Republic of Korea**; or **Taehan-min'guk**; or **Han'guk**; or **ROK**; prompt on **Korea**]

9. In 1933, Executive Order 6102 made the private possession of this substance illegal in most circumstances. In 1971, the last guarantees of interconvertibility to this substance were removed by the Nixon administration, thus undermining the Bretton Woods system. Prior to 1933, anyone could claim a quantity of this substance by turning in U.S. currency. For 10 points, name this precious metal whose "standard" was formerly the backing of paper money.  
ANSWER: **gold**

10. Schubert composed "noble" and "sentimental" pieces in this genre, which is very similar to the Austrian landler. A piece in this genre that imitates the devil tuning his violin is the first of Franz Liszt’s "Mephisto" ones. A zither solo is found in the introduction of one of these pieces titled "Tales from the Vienna Woods." Johann Strauss, Jr. is called the "king" of this form for such pieces as "On the Beautiful Blue Danube." For 10 points, name this ballroom dance in 3/4 time.  
ANSWER: **waltz**es [or **valse**s; or **walze**r]

11. The density of this quantity is equal to the conductivity times electric field and is symbolized J. The magnetic field inside a solenoid is equal to the permeability times turns per length times this quantity. The net amount of this quantity flowing into any node in a circuit is zero by one of Kirchoff's laws. Its direction is conventionally defined as the direction of flow of positive charge. For 10 points, identify this quantity usually symbolized I.  
ANSWER: electric **current**

12. This politician’s former business partner Eddie Jacobson strongly influenced his decision to recognize Israel. This politician got his start in the political machine of Thomas Pendergast. This president lambasted the “Do-Nothing” Congress as lazy and vetoed the Taft-Hartley Act. A Chicago Tribune headline falsely declared that Thomas Dewey defeated this man in 1948. For 10 points, name this President who authorized the use of the atomic bomb against Japan.  
ANSWER: Harry S. **Truman**

13. This author wrote the line, “Where ignorance is bliss, ‘tis folly to be wise,” in his poem, “Ode on a Distant Prospect of Eton College.” Another poem by this author imagines “some mute inglorious Milton” in the title location. That poem of his begins, “The curfew tolls the knell of parting day.” For 10 points, name this English poet who wrote “Elegy Written in a Country Churchyard.”  
ANSWER: Thomas **Gray**

14. This man's government organized the Cheka, then later dissolved that group and formed the new NKVD. This author of a disputed "testament" on his successor retreated from the radical "War Communism" due to food shortages and instead implemented the New Economic Policy. This author of *What Is to Be Done?* led the October Revolution against the Provisional Government. For 10 points, name this founding dictator of the Soviet Union.  
ANSWER: Vladimir Ilych **Lenin**

15. In one of this philosopher's books, Demea, Philo, and Cleanthes discuss the existence of God. This author of *Dialogues Concerning Natural Religion* differentiated between matters of fact and relations of ideas in a book which also includes a section titled "Of Miracles." For 10 points, identify this Scottish philosopher who wrote *A Treatise of Human Nature* and *An Enquiry Concerning Human Understanding*.  
ANSWER: David **Hume**

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| High School Academic Pyramid Questions | **VHSL Scholastic Bowl**  **Regular Season 2014**  **Round 28**  **Tiebreaker/replacement questions** |

1. This man's apprentice Raffaello da Montelupo contributed to a monument for which this man created *Atlas,* *Awakening,* *Bearded,* *Young,* and *Dying Slaves.* Relying on a faulty description in the Vulgate, this man sculpted *Moses* with horns. For the Medicis, this artist created a seventeen-foot tall man, supported by a tree stump, who carries a sling over his shoulder. For 10 points, name this sculptor of a marble *David.*  
ANSWER: **Michelangelo** [or Michelangelo di Lodovico **Buonarroti** Simoni]

2. This poet exclaims, “O how that glittering taketh me!” in a poem about the “liquefaction” of the title garments. This poet of “Upon Julia’s Clothes” warned, “having lost but once your prime, you may forever tarry,” in a poem instructing the title characters, “Gather ye rosebuds while ye may, Old Time is still a-flying.” For 10 points, name this Cavalier poet who wrote “To the Virgins, to Make Much of Time.”  
ANSWER: Robert **Herrick**

3. While being held captive in this province, the barbarian king Chrocus was the first to proclaim Constantine as Roman emperor. This province is where the Battle of Watling Street finally put down Boudica's (BOO-dih-kuhz) rebellion. To separate the northern limits of this territory from Caledonia, the Antonine wall and Hadrian's wall were built. For 10 points, name this Roman province which included towns such as the hot spring center of Bath and the capital Londinium.  
ANSWER: Roman **Britain** [or **Britannia**; or Roman **England**]

4. The focal length of a lens equals this number times the radius of curvature. The moment of inertia of a disc through its center is this number times mass times radius squared. The potential energy of a spring equals k times x squared times this number. For an object starting at rest, displacement equals acceleration times time squared times this number. For 10 points, name this constant, the fraction of carbon-14 that remains in a sample after 5730 years.  
ANSWER: **one-half** [or **0.5**; or a **half**]

5. A proponent of this school of philosophy wrote "The Fixation of Belief" and "How to Make Our Ideas Clear"; that man was Charles Peirce. The most famous pioneer of this school of philosophy wrote *The Varieties of Religious Experience* and wrote a book subtitled "A New Name for Some Old Ways of Thinking." For 10 points, name this school which judges ideas by their practical consequences, as championed by William James.  
ANSWER: **pragmatism**

What object is the heart of the deceased weighed against on a scale in the Egyptian afterlife?  
ANSWER: the **feather** of Ma'at

If the tangent of a first-quadrant angle is equal to three-fourths, what is the sine of two times the angle?  
ANSWER: **24/25** [or **0.96**]