

# Scobol Solo 2015

## Packet 10 (Round 10)



1. Epsilon-delta proofs involve applying this function to the difference between a function and its limit. The algebraic version of the triangle inequality compares this function applied to the sum of two numbers with this function applied to each number before they are added. The amplitude of a sine or cosine function is found by applying this function to the coefficient of the function. When the input into this function is negative, its derivative is negative one, while when the input is positive this function's derivative is positive one. Its graph looks like the letter 'V'. Name this function that leaves positive numbers unchanged but turns negative numbers into positive numbers.

Answer: absolute value function [accept complex modulus or norm; accept answers that additionally mention a variable]

2. This concept “matters”, according to the title of a book by *New York Times* writers edited by Bill Keller. Dennis Gilbert wrote about the structure of this concept in America. Max Weber [VAY-ber] wrote that status, party, and this concept influenced social stratification. One model of this structure divides people into the *bourgeoisie* [bour-zhwah-zee] and the *pro-let-ar-i-at* based on whether they own capital; that model of this concept was written by Karl Marx, who believed society should not have this structure. Marx also believed that conflicts were due to society being structured along this concept. Name this social concept in which people are put into groups such as “working”, “middle”, or “upper”.

Answer: class [accept more specific answers]

3. Robert Browning wrote a poem about an Englishman who had been in this country. A poet from this country wrote the collection *Day After Day* and was considered a leader of the Hermetic movement. Percy Bysshe Shelley's poem written to this country ends “be those hopes and fears on thee.” Alfred Austin wrote a poem about visiting Shelley's grave in this country. The sonnet form with an octave followed by a sestet is named for a poet from what is now this country. The poet who included *Inferno*, *Purgatorio*, and *Paradiso* in his *Divine Comedy* also lived in what is now this country. Name this modern-country where Petrarch and Dante lived.

Answer: Italy [or Italia]

4. This person supported an embargo in his pamphlet *A Full Vindication of the Measures of Congress*. He lost political support due to an affair with Maria Reynolds. This person started the first company traded on the New York Stock Exchange, the Bank of New York. He had the federal government both assume states' debts and pay off promissory notes that many war veterans had sold to speculators. This person also pushed for the creation of the First Bank of the United States. He also wrote most of *The Federalist Papers*, collaborating with John Jay and James Madison. Name this first U.S. Secretary of the Treasury, who was killed by Aaron Burr.

Answer: Alexander Hamilton

5. One painting by this artist shows a barefoot woman in a red dress and blue skirt seated near the floor while a woman in a white dress holds a basket of bread. That work is *Christ in the House of Martha and Mary*. Another painting by this artist shows on its left some houses on Kethel ["kettle"] Street and on its bottom some people across the River Schie [shee] from large buildings. Another of his paintings shows a girl wearing a Turkish turban that is blue on the bottom and yellow on the top, and there is a large round piece of jewelry in the center of that painting. Name this Dutch artist who painted *View of Delft* and *Girl with a Pearl Earring*.

Answer: Jan Vermeer [or Johannes Vermeer or Johan Vermeer]

**Check the score.**

6. This state was represented in the U.S. Senate for twelve years by Jim Bunning, whose son David is now a U.S. judge in its eastern district. David Bunning was criticized by the Oath Keepers and several other groups after his decision in a 2015 case brought by April Miller *et al* in this state's Rowan County over the consequences of *Obergefell v. Hodges*. As a consequence of that case, this state is removing the names of county clerks from marriage certificates. That case included a contempt-of-court jailing of County Clerk Kim Davis. Name this state currently represented in the U.S. Senate by Rand Paul and Mitch McConnell.

Answer: (Commonwealth of) Kentucky

7. An article describing this process performed by Sa-to-shi Ka-mi-mur-a with mouse blood was published in 2013. Samuel Wood performed this process on himself in 2008, and a recent controversy related to this process centers on whether Shoukh-rat Mi-ta-li-pov has done it. A common method for this process is somatic cell nuclear transfer, which involves removing a cell nucleus from its original host and placing that nucleus inside of an enucleated [ee-NOO-klee-ae-ted] egg cell. One result of this process, born in 1996, is Dolly the sheep. Name this process, the creation of a new organism that is identical to a single parent organism.

Answer: cloning [accept word forms, accept somatic cell nuclear transfer or SCNT before it is mentioned]

8. A discussion between this writer and his first-born son is called “The Education of Mr. Bumby”, which is a section in his memoir about his marriage to Hadley Richardson entitled *A Moveable Feast*. In one of this writer’s novels, a woman who is escorted around Paris by Count Mip-pi-pop-o-lous has affairs with Robert Cohn and Pedro Romero. A story this writer wrote about Harry suffering from gangrene starts by mentioning a dead leopard on top of a mountain. This author also wrote about the relationship between the nurse Catherine Barkley and the ambulance driver Frederic Henry. Name this author of “The Snows of Ki-li-man-jar-o”, who wrote about Jake Barnes in *The Sun Also Rises*, and also wrote *A Farewell to Arms*.

Answer: Ernest Hemingway

9. This is the instrument played in *Nocturnal after John Dowland* by Benjamin Britten, who wrote it for Julian Bream. Heitor Villa-Lobos [ay-TOR VEE-lah LOH-bohss] composed five preludes for this instrument. Composers who focused on this instrument include Agustín Barrios and Francisco Tárrega. An important maker of this instrument was Antonio Torres Jurado [hoo-RAH-doh]. Several works by classical composers were transcribed for this instrument by Andrés Segovia, who used a combination of his fingernails and fingertips to play it. This instrument usually has frets and six strings. Name this instrument played by Wes Montgomery, Jerry Garcia, and Eric Clapton.

Answer: guitar [accept longer answers]

10. The end of this war featured Operation New Life, Operation Babylift, and Operation Frequent Wind, all of which moved people out of the country it was in. The Nobel Peace Prize was given to the negotiators of the Paris Peace Accords to end this war, but one of the negotiators refused the prize because this war continued. Though the U.S. won the Battle of Huế [h’way], that battle caused public opinion to turn against the war. The United States entered this war following an incident involving the USS *Maddox* in the Gulf of Tonkin. Eventually, Saigon was taken over by the Communists and renamed Ho Chi Minh City. Name this war during the 1960s and ’70s.

Answer: Vietnam War

### ***Check the score.***

11. This body of water is the location of the Hawar Islands, which are near the Zekreet peninsula but part of a different country. The Bushehr Nuclear Power Plant near this body of water was built with Russia’s support. The Shatt al-Arab feeds this body of water after being fed by the Tigris and the Euphrates, allowing easy access to this body of water from Basra. This body of water is very close to the world’s tallest building, the Burj Khalifa. This gulf is located on the northwestern side of the Strait of Hormuz, across from the Gulf of Oman. Name this gulf that borders Bahrain, Qatar, and Kuwait, and whose name is based on the ancient name of Iran.

Answer: Persian Gulf [prompt on Indian Ocaen before “gulf”]

12. The effective value of this quantity is increased by the proximity effect, and a reduction in both this quantity and parasitic capacitance is achieved by basket winding. This quantity is also decreased by using litz wire to reduce the skin effect. This quantity measures how much a material converts electrical energy into heat energy. This quantity's complex analogue, which is often used to analyze alternating current circuits, is impedance. This quantity becomes zero in superconductors. Name this quantity, the reciprocal of conductance, which equals electromotive force divided by current and which is measured in ohms.

Answer: resistance

13. This author wrote a novella in which Polina has Alexei play roulette for her. In another novella by this author of *The Gambler*, the narrator introduces himself as "sick, spiteful, and unattractive". That work is *Notes from Underground*. In one of this author's novels, Ivan tells a story about Jesus being imprisoned and then kissing a Grand Inquisitor. In that novel, Ivan is one of Dmitri's half brothers. In another novel by this author, the pawnbroker Al·yo·na and her half-sister Li·za·vet·a are killed by Ras·kol·ni·kov. Name this Russian author of *The Brothers Ka·ra·ma·zov* and *Crime and Punishment*.

Answer: Fyodor (Mikhailovich) Dostoyevsky

14. Many years after Henry VIII [8] was excommunicated, Pope Pius V [5] excommunicated this leader *Regnans [RAY-nuns] in Excelsis*. That statement came years after an attempt under this leader to reconcile the Church of England with Catholicism, the Thirty-Nine Articles. This leader was protected by Sir Francis Walsingham, who helped stop the Ridolfi and Babington plots to both assassinate this leader and rescue Mary, Queen of Scots. This daughter of Anne Boleyn and Henry VIII [8] succeeded her half-sister, who was known as Bloody Mary. Name this queen who supported Francis Drake and ruled England for most of the life of William Shakespeare.

Answer: Queen Elizabeth I [prompt on Elizabeth]

15. This god, while pretending to be a man named Grim·nir, was tortured by King Geirrod ["GAY-rod"] before Geirrod fell on his own sword. This god gave up one of his eyes to attain wisdom. He gets advice from the head of Mimir ["ME-mere"], which he carried around after embalming it. He will be killed by the wolf Fenrir during Rag·na·rok. He was accompanied by the wolves Geri and Freki and the ravens Huginn and Muninn, and he rode the eight-legged horse Sleipnir [SLEP-"near"]. This god led the Aesir [AY-sir] when they went to war against the Vanir. Name this husband of Frigg, father of Thor, and ruler over Valhalla, the chief Norse god.

Answer: Odin [or Woden]

**Check the score.**

16. This tissue is killed by *Geosmithia morbida*, causing thousand-cankers disease. The consumption of this tissue by a type of insect called adelgids [uh-DEL-jidz] is blamed for a reduction in the hemlock population in the United States. The bean tobacco mosaic virus was once believed to only exist in this tissue. The cortex is immediately exterior to this tissue, which is made up of companion cells and sieve tube members. Ernst Munch proposed the pressure flow hypothesis of this tissue, in which bulk material flows from source to sink. Name this sugar-carrying plant tissue that moves nutrients from the leaves, in contrast with the water-transporting xylem [ZY-lim].

Answer: phloem [FLOH-um]

17. One of this composer's operas features the "Spinning Chorus", after which Senta sings about saving the title character, who searches for a wife every seven years. Another opera by this composer, about a man who is loved by Elisabeth but loves Venus, is *Tannhäuser*. This composer of *The Flying Dutchman* helped design an opera house, the Bayreuth Festspielhaus [by-ROYT FEST-shpeel-"house"]. One of this composer's operas begins when the dwarf Alberich [AL-beh-reek] steals gold from maidens on the Rhine River. That opera is often followed by one featuring the "Ride of the Valkyries". Name this composer who used Germanic mythology when writing his *Ring* cycle.

Answer: (Wilhelm) Richard Wagner [REEK-hart VAHG-nur]

18. In *Politics*, Aristotle describes this location's Council of One Hundred and Four. This location was the original home of Masinissa [ma-sih-NIS-sah] and his wife So-pho-nis-ba, who committed suicide to avoid Roman capture. This location allied with Rome during the Pyrrhic War. A legend states that this location started out as the area that could be covered by an ox-hide by Elissa, who is called Dido [DIE-doe] in the *Aeneid* [uh-NEE-id]. Cato the Elder famously stated that this area should be destroyed. One of its leaders was Ha-mil-car Barca, who was the father of Mago, Has-dru-bal, and Hannibal. Name this city in North Africa, which fought against Rome in the Punic Wars.

Answer: Carthage [or Carthaginian Republic or Carthaginian Empire; prompt on Tunisia or Africa]

19. One character in this novel expresses his excitement by saying the words "wacco, wizard, smashing". Before fainting, another character in this novel believes he is asked "My poor, misguided child, do you think you know better than I do?". At a few points during this novel, Percival Wemys Madison cries; one of those times is when Roger and Maurice destroyed a group of sandcastles. Roger later rolls a great rock, causing another character in this novel to fall forty feet to his death. It features a power struggle between Jack and Ralph, who calls for meetings using a conch [kawnk] shell. Name this novel about boys on an island, written by William Golding.

Answer: Lord of the Flies

20. Trouton’s rule states that the entropy change due to this process is around 10.5 times the gas constant for almost every substance undergoing it. This process occurs at a lower temperature in neo-pentane than in *n*-pentane due to lower intermolecular forces. Azeotropes [AY-zee-oh-“tropes”] have the same composition after undergoing this process, which makes them difficult to separate. The elevation of the temperature at which this process occurs is an example of a colligative [kuh-LIG-uh-tiv] property. For water, this process occurs at 100 degrees Celsius. Name this process in which a liquid becomes a gas.

Answer: boiling [accept evaporation before “Azeotropes”]

***This is the end of regulation. Check the score. If it is tied, proceed to overtime tossups. If it is not tied, the game is over.***

21. Thomas Campbell’s poem “The Pleasures of Hope” claimed that this concept shrieked as Kosciusko [kohss-CHOOSS-koh] fell. In a poem named for this concept, Ra-bin-dra-nath Ta-gore claims it for his motherland. In another poem named for this concept, Tennyson wishes that it will “make bright our days and light our dreams”. This is the last word of Maya Angelou’s poem “Cage Bird”, because the bird sings for things unknown and for this concept. Norman Rockwell painted a series of paintings for four types of this concept following a Franklin Roosevelt speech. Name this concept that we should “let ring” according to the end of the first verse of Samuel Francis Smith’s song “My Country, ’Tis of Thee”.

Answer: freedom [accept variations like being free]

***If the score is still tied, continue. If it is not tied, the game is over.***

22. This country’s easternmost point, on Avalon Peninsula, is Cape Spear. A hybrid bear was found in this country in 2006 on Banks Island. This country’s northernmost point, Cape Columbia, is on the same island as Barbeau [BAR-boh] Peak—Ellesmere Island. This country’s largest island, which includes Iqaluit [ee-KAH-loo-it], formerly known as Frobisher Bay, is Baffin Island. Its northernmost islands are in the territory Nunavut, which used to be part of the Northwest Territories. This country’s three easternmost provinces, called the Maritime Provinces, are Prince Edward Island, New Brunswick, and Nova Scotia [SKOE-shuh]. Name this country that includes Toronto and Montreal.

Answer: Canada

***If the score is still tied, continue. If it is not tied, the game is over.***

23. This state’s governor is Tom Wolf. This state’s senators are Bob Casey and Pat Toomey. This state is north of Maryland. Name this state whose cities include Allentown, Harrisburg, and Philadelphia.

Answer: Pennsylvania

***There are no more overtime questions available. If the score is still tied, contact the control room for further instructions. If it is not tied, the game is over.***