

# Scobol Solo 2018

## Packet 11 (Round 11)



1. Dandelin spheres are tangent to a plane and this type of solid. This shape can be generated in spherical coordinates by setting the azimuthal angle equal to a constant, or in 3D Cartesian coordinates by the equation  $z = \sqrt{x^2 + y^2}$  ["z equals the square root of the quantity x squared plus y squared"]. Putting two of these shapes together gives a solid that is asymptotic to both types of hyperboloid ["hi"-PUR-buh-loyd], and which can be sliced by a plane to generate a hyperbola. A single one of these solids can be sliced to give a parabola or ellipse. Name this solid with one circular base and an apex.

Answer: cone [accept nappe]

2. This leader called his daughter Julia a "disease in my flesh" and exiled her to the island of Pandateria. Though this person was not a censor and usually was not a tribune, he had the powers given to both positions as part of the Second Settlement. This leader, who had Caesarion executed, referred to himself as "princeps", or "first citizen". Troops led by this leader's admiral Marcus Agrippa escaped the Ambracian [am-BRAY-shun] gulf and crushed the quinqueremes [KWIN-kwuh-reeemz] of Marc Antony at the Battle of Actium. This leader—who was succeeded by Tiberius—started a long era of no major wars for his empire, known as the Pax Romana. Name this first emperor of Rome.

Answer: Augustus Caesar or Octavian [or Gaius Octavius or Gaius Julius Caesar Octavianus; do not accept or prompt on "(Julius) Caesar"]

3. In a short story by this writer, a father tells his son "Whatever may occur, do what you conceive to be your duty." This writer wrote about that son falling asleep in a clump of laurel near a large cliff; when the son, Carter Druse, wakes up, he shoots a horse at the top of the cliff, killing the animal and its rider. That story is the first one in this author's *Tales of Soldiers and Civilians*. In the second story in that collection by this author, a soldier is tricked into trying to burn down a bridge, then goes on a long journey to return to his plantation, though the journey turns out to be a dream he has before being hanged. Name this author of "A Horseman in the Sky" and "An Occurrence at Owl Creek Bridge".

Answer: Ambrose (Gwinnett) Bierce

4. In the fourth part of this work, the author proclaims that “commonwealth is the mother of leisure” and “leisure is the mother of philosophy.” This work denies the “greatest good” or “summum bonum” but affirms the opposite, “summum malum.” Earlier, this work outlines 12 rights of the sovereign. This work posits that misinterpretation of the Bible led to the creation of a “Kingdom of Darkness”, which is described after its political philosophy is reconciled with faith in a description of a Christian commonwealth. Name this book in which the state of nature is the “war of all against all” and is “nasty, brutish and short”, a work of political theory by Thomas Hobbes.

Answer: *Leviathan* [leh-VY-uth-ahn] (or *The Matter, Forme and Power of a Common-Wealth Ecclesiasticall and Civil*)

5. Dialysis was originally invented to separate this type of mixture. This type of mixture becomes unstable in flocculation [“flock-you-LAY-shun”]. Both crystalloids and these mixtures are used as volume expanders, which are given in place of blood transfusions. The electro-kinetic potential of dispersions of these mixtures is their zeta potential. Smoke and milk are examples of this type of substance, hydrophobic examples of which are called emulsions. These mixtures scatter light beams in the Tyndall effect. Name this type of homogeneous mixture that contains particles smaller than those in a suspension but larger than those in a solution, and may be a gel, foam, or aerosol.

Answer: colloids or colloidal dispersions

### **Check the score.**

6. Hone Heke [HOH-nay HEK-ay] led these people in the Flagstaff War after cutting down a gift to James Rusby. The location where these people first encountered a European became known as “Murderers Bay”. In 1840, William Hobson used English and Te Reo to write a document outlining the status of these people in relation to the British Crown. That document is the Treaty of Waitangi, which was signed near the end of the Musket Wars. The first European explorer to contact these people was Abel Tasman. Name these indigenous people of New Zealand.

Answer: Maori people or Maoris [prompt on descriptions like “aboriginal New Zealanders”]

7. In a Sterling Brown poem, Slim Greer is supposed to visit this place but goes to Dixie instead. A poem that mentions this location in its title proclaims “I’ve been through too much” and begins “A while back, if I remember right, my life was one long party.” Another work calls one section of this place Malebolge [mal-BOHLJ], which is reached by riding Geryon [GAIR-ee-un]. After that section, the poem has Antaeus [an-TEE-uss] take people to Cocytus [koh-“SIGHT-us”], the lowest part of this location. A tour of this location takes up the first of three sections of that epic work. Name this place where Arthur Rimbaud [ar-toor ram-boh] supposedly spent a season and where Virgil first guided Dante in the *Divine Comedy*.

Answer: hell [accept inferno after “Malebolge” is mentioned; accept Hades after “Geryon” is mentioned; prompt on underworld or afterlife]

8. An ox-hide bag that contained gods of this domain was gifted to Odysseus [oh-DISS-ee-uss]. A god of this domain fought with Apollo over the nymph Hyacinth ["HI"-uh-sinth], who was ultimately decapitated by a discus. Two sons of a god of this domain chased the harpies away from Phineas [FIN-ee-uss] during the Argonautika [ar-goh-NAWT-ih-kuh]. Aeolus [ee-OH-luss] was the father of the gods of this domain. Boreas [BOR-ee-uss] and Zephyrus [ZEF-uh-russ] were minor gods of this domain; there are four gods of this domain, one for each cardinal direction. Name this weather phenomenon, one of which blew Odysseus's crew back to Ithaca.

Answer: the (four) winds

9. A string quartet by this composer has first, fourth, and fifth movements marked "Largo". This composer wrote two cello concertos for Mstislav Rostropovich [mis-TEES-lahv roh-stroh-POH-vich]. This composer's fifth symphony opens with strings playing ascending and descending minor sixths. This composer, who used a "D, E-flat, C, B" motif in many of his pieces, wrote a symphony that was called "a Soviet artist's creative response to justified criticism" in one article after the disastrous premiere of this composer's opera *Lady Macbeth of the Mtsensk [mit-SENSK] District*. Name this Soviet composer whose seventh symphony is titled *Leningrad*.

Answer: Dmitri (Dmitriyevich) Shostakovich

10. By the Warburg hypothesis, a tenfold increase in this process can differentiate tumor cells from normal cells. The most important regulator of this pathway, phospho-fructo-kinase [FAHSS-foh-FROOK-toh-"KINE-ace"], is the third of ten enzymes used in it. The product of this pathway is usually converted to acetyl-CoA [uh-SEE-tul koh "A"], but under an-aerobic conditions, yeast follow this process with alcohol fermentation. Because they lack mitochondria [my-toh-KAHN-dree-uh], red blood cells must obtain their energy from this pathway. It occurs in the cytoplasm of all cells. Name this metabolic pathway that breaks one molecule of glucose into two molecules of pyruvate ["pie"-ROO-vayt], the first stage of cellular respiration.

Answer: glycolysis [gly-KAH-luh-siss]

### **Check the score.**

11. A major male character in this novel is described as a "selfish heavy dragoon" because of the way he treated his aunt's helpers, leading this novel's author to state "Praise everybody" and "Never be squeamish." This novel ends with "Ah! Vanitas Vanitatum! which of us is happy in this world?" before declaring "Our play is played out." Near the end of this novel, it is suggested that one of the protagonists killed her second husband, Jos. The title of this novel is based on an occurrence arranged by Beelzebub and Apollyon in John Bunyan's *Pilgrim's Progress*. Amelia Sedley and Becky Sharp appear in what novel by William Makepeace Thackeray?

Answer: Vanity Fair

12. This national leader is opposed by the United Progressive Alliance, which will try to weaken his power in 2019 elections. During a July 2018 no-confidence debate, the leader of the UPA hugged this leader. This national leader was criticized by Thomas Isaac for rejecting an offer of 100 million dollars in aid from the United Arab Emirates during a massive 2018 flood in Kerala [“CARE”-uh-luh]. This person gained power after his party did very well in 2014 elections for the Lok Sabha [lohk sub-HAH], which is his country’s lower house of parliament. Name this former leader of Gujarat [GOO-juh-raht] who led the BJP to power and is now the Prime Minister of India.

Answer: Narendra (Damodardas) Modi [nah-ren-drah moh-dee]

13. This person referred to his critics as “an effete corps of impudent snobs” and “hopeless, hysterical hypochondriacs of history”. This person cracked down on protesters at Bowie State University in 1968, and he was accused of talking to Baltimore’s African-American leaders like they were children shortly after the assassination of Martin Luther King. When George Beall learned that Lester Matz had made kickback payments, this person pled no contest to tax evasion. Name this governor of Maryland and running mate of Richard Nixon who became the first vice president to resign the office in disgrace.

Answer: Spiro (Theodore “Ted”) Agnew

14. Hermann von Helmholtz built objects named for this phenomenon that were mostly round but had a hole on one side and a raised hole on the other, and which were used to break down musical sounds. This phenomenon occurs in an electrical circuit when frequency equals 1 over the square root of inductance times capacitance. The orbital form of this phenomenon explains why orbital periods of bodies orbiting the same object are in small-integer ratios. This phenomenon allows small driving forces to create large oscillations. Name this phenomenon in which an object vibrates at its natural frequency, often leading to large standing waves.

Answer: resonance [accept resonating or (Helmholtz) resonator]

15. This artist painted a double eagle on a chandelier above a man painting in front of a map of the Netherlands. This artist’s painting of a woman at a harpsichord, a man with a lute, and a woman singing [pause] was stolen from the Isabella Stewart Gardner Museum. This creator of *The Concert* and *The Art of Painting* showed a foot warmer next to tiles depicting Cupid behind a woman who stands at a table with bread and pours from a jug; that painting is *The Milkmaid*. He also painted a portrait of a woman with a blue headscarf who wears the title piece of jewelry. Name this Dutch painter who created *Girl with a Pearl Earring*.

Answer: (Johannes) “Jan” (Reijniersz) Vermeer

**Check the score.**

16. In a novel by this author, a character states “In the end no one cares a stuff who’s in jail or what war’s on, so long as it’s far away” shortly after stating “Communists are the last optimists.” Those lines are spoken by Conrad, who is studying Spanish and is the lover of one of this author’s title characters. In another novel by this author, the protagonists bring a bird rifle when fleeing a war by going to the village of their servant. The characters in that novel argue about a small truck called a “bakkie”. Two of those main characters are Bam and Maureen Smales [SMAY-ulz], who, like this author, are white people in a majority-black country: South Africa. Name this author of *Burger’s Daughter* and *July’s People*.

Answer: Nadine Gordimer

17. This modern country is where the sculptor and architect Radovan lived; he is credited with the Cathedral of Saint Lawrence in Trogir. This modern country contains the Stari Grad Plain, a system of walls set up by ancient Greeks to parcel out land on the island of Hvar [kh’VAR]. The much more recent Battle of Vukovar [VOH-koh-var] took place in this country’s eastern region, Slavonia. The south part of this country, which is separated from the rest of the country so that Bosnia and Herzegovina has a coast, contains the city of Dubrovnik. That coast is on the Adriatic Sea and includes the city of Split. Name this former part of Yugoslavia whose capital is Zagreb.

Answer: (Republic of) Croatia or (Republika) Hrvatska

18. In *Design Patterns*, the “Gang of Four” generally advocated the use of composition rather than this technique. In Java, **protected** members are only visible locally and when using this technique, and **final** methods cannot be overridden when using this technique. This technique is used both to avoid duplicated code and to describe the “is a” relationship. This technique is often taught using examples like “a **Car** is a **Vehicle**” and “**Cats and Dogs** are **Animals**.” Name this technique in which a class gets some data or behavior from a parent class.

Answer: (subclass) inheritance [or inheriting; accept subclassing]

19. One section of this ballet opens with the strings playing a repeated short-short-long rhythm on the notes A, low-A, back up to A, then the notes A, C-sharp, A. In this ballet, four women dance in circles around a preacher. The set design for this ballet was created by Isamu Noguchi [ee-sah-moo noh-goo-chee]. The plot of this ballet concerns newlyweds setting up a farmhouse in the wilderness. The ending of this ballet consists of variations on the Shaker song “Simple Gifts”. Name this American ballet created for Martha Graham and written by Aaron Copland [COPE-lund].

Answer: Appalachian Spring

20. When a feudal lord supporting this leader demanded the surrender of Dongnae [DAWNG-nay], the opposing commander famously said “It is easy to fight and die, but difficult to let you pass.” This leader rose to power by leading a commando raid to scale Mount Inaba. Li Rusong commanded a Ming relief force sent against this man’s army. This person ordered the death of his nephew and successor after suspecting him of rebellion. His navy was repeatedly defeated by Admiral Yi’s turtle ships. After he died in 1598, this leader was succeeded by Tokugawa Ieyasu [toh-koo-gah-wah ee-eh-yah-soo]. Name this Japanese daimyo [“DIME”-yoh] who furthered Oda Nobunaga’s work of unifying Japan.
- Answer: Toyotomi Hideyoshi [or Hashiba Hideyoshi; accept any underlined name; accept either underlined portion of Kinoshita Tokichiro; accept names from any pair in either order]

***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.***

- <sup>TB</sup>21. Ibn Battuta met this leader’s brother, Sulayman. The architect Al Sahili worked for this leader, who controlled the mines of Wangara. This man said he was bowing to Allah, not Sultan al-Nasir. This leader’s general Sagmandia captured the neighboring city of Gao. This ruler constructed the Sankoré Madrasah [san-kor-eh mah-DRAH-sah] and the Djinguereber [JIN-gur-eb-ur] Mosque in Timbuktu. This grandson of Sundiata [soon-dee-AH-tah] depressed the value of Egyptian gold when passing through Cairo on the Hajj to Mecca in 1324. Name this extremely wealthy ruler of the Mali Empire, whose name means “King Moses”.
- Answer: Mansa Musa

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

- <sup>TB</sup>22. This author wrote about conflicting wills—one of which gives an estate to Richard Carstone and Ada Clare—sparking the case *Jarndyce and Jarndyce* in a novel narrated in part by Esther Summerson. In another novel by this author, the title character is sent to Salem House after biting his stepfather, Edward Murdstone. That title character is helped by his aunt, Betsey Trotwood, and falls in love with Agnes Wickfield. Another novel by this author takes place years after the death of Jacob Marley and is about his business partner Ebenezer Scrooge. Name this author of *Bleak House*, *David Copperfield*, and *A Christmas Carol*.
- Answer: Charles (John Huffam) Dickens

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

- <sup>TB</sup>23. A major river system on this continent contains the Uele [WEL-uh] and Ubangi [oo-BAHNG-ee] Rivers. Lake Turkana is on this continent, as are the cities of Luanda [loo-AHN-dah], Lagos, and Cairo. Name this continent that contains the Gambia, Namibia, and Kenya.
- Answer: Africa

***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.***