

Scobol Solo 2017

Packet 9 (Round 9)



1. The arrangement of the garment on this artist's depiction of Jeremiah has caused speculation that he collaborated with Michelozzo [mee-keL-OHZ-zoh] on it. He definitely worked with Michelozzo on the external pulpit at the Prato [PRAH-toh] Cathedral and the Tomb of Anti-pope John XXIII [23]. Going against Western tradition, this artist portrayed Mary Magdalene as wasting away in his wooden sculpture *Penitent Magdalene*. Another Biblical work by this artist has the subject wearing only a helmet and boots, holding a large sword, and stepping on a large head. Name this early Renaissance sculptor who made a bronze *David*.

Answer: Donatello [or Donato di Niccolò di Betto Bardi; accept any underlined part]

2. Franz Boas said that the main purpose of ethnological collections is to show that this concept is "not something absolute". The married couple Will and Ariel Durant wrote a set of books about the story of this concept. When Gandhi was asked about the Western form of this concept, he said he thought it would be a good idea. Sigmund Freud wrote that what we call this concept is largely responsible for our misery and that we would be happier if we returned to primitive conditions; Freud made that argument in his book titled for [this concept] *and Its Discontents*. Name this concept whose characteristics tend to include urban centers and controlled agriculture.

Answer: civilization [accept being civilized]

3. In forward-backward induction, the forward part amounts to proving a statement when n is this kind of number; Augustin-Louis Cauchy [oh-goo-stan loo-ee koh-shee] used that technique to prove the arithmetic mean-geometric mean inequality. An integer can be written as a sum of consecutive integers if and only if it is *not* one of these numbers. The number of vertices [VER-tuh-seez] of a hyper-cube is always one of these numbers. These positive integers have no odd factors other than one. Given a finite set, the cardinality of the power set is one of these numbers. In binary, these numbers are written as a 1 followed by all 0s. Identify these numbers that can be formed by repeated doubling starting from 1, and which thus start with 1, 2, 4, 8, and 16.

Answer: (natural-number) powers of 2 [accept any reasonable answer containing power and 2; accept 2^n ["2 to the nth power"]]

4. According to the *Scala cronica*, this person's career started when he led an attack that killed Sheriff William Heselrig. Blind Harry wrote an epic poem about this person, claiming that Heselrig had ordered the death of this person's wife. This person's career ended when Dumbarton Sheriff John de Menteith ["men-TEETH"] captured him and sent him to be brutally killed in England. This person shared power with Andrew Moray until Moray died, and this man resigned his position after losing the Battle of Falkirk to make way for Robert the Bruce. Name this hero of the Battle of Stirling Bridge, who fought to prevent Edward I of England from controlling Scotland.

Answer: William Wallace

5. In one piece by this composer, the brass choir to the north has four cornets, while the choirs in the other directions each have four trumpets. After conductor François Antoine Habeneck [fran-swah an-twahn hah-ben-ek] put down his baton during the premiere of that requiem, this conductor saved the performance. Richard Strauss [reek-hart shtraoss] updated this composer's book *Treatise on Instrumentation*. One work by this composer ends with what he called a "vulgar dance tune" set at his funeral with monsters present. That ending, "Dream of the Night of the Sabbath", follows the "March to the Scaffold". Name this French composer of *Grande Messe des morts* [grahnd mess deh mort] and *Symphonie fantastique* [fahn-tas-teeek].

Answer: Hector Berlioz

Check the score.

6. In one play by this writer, a young woman is killed when she climbs onto a roof and beats a drum to warn a town about an impending attack; her brother had been killed after throwing a cash box in a river. This author and Elisabeth Hauptmann wrote the book and lyrics for a work in which the main character relies on his old war buddy Tiger Brown, who is London's Chief of Police, to stay out of trouble until Polly Peachum marries him, angering her father. Name this playwright who described the fates of Eilif, Kattrin and Swiss Cheese during the Thirty Years' War in *Mother Courage and Her Children*, and who wrote the lyrics for "Mack the Knife" for *The Threepenny Opera*.

Answer: (Eugen) Berthold (Friedrich) Brecht [BAIRT-ohlt BREKT]

7. This tissue is at the center of a haplo-stele [HAP-"low-steel"]. During apo-plastic [AY-poh-"plastic"] transport, water is kept in this tissue by the Casparian strip. This tissue is plugged in the disease bacterial leaf scorch. The types of development of this tissue are cent-rarch [SENT-rark], ex-arch, end-arch, and mes-arch. Uni-facial cambium [KAM-bee-um] differentiates into this tissue. Elongated cells in this tissue have pits but no perforation plates in their cell walls, contain a lot of lignin [LIG-nin], and are called tracheids [TRAY-kee-idz]. Root pressure causes water to flow upward in this tissue. Name this vascular tissue in plants that isn't phloem ["FLOW-um"].

Answer: xylem

8. A constitutional amendment prohibiting this activity passed the House in 2006 but failed in the Senate by one vote. A federal law prohibiting this activity was struck down by *United States v. Eichman* in 1990. The Supreme Court struck down a Texas law prohibiting this activity after Joey Johnson did this action at the 1984 Republican National Convention. Though Justice Scalia stated “If it were up to me, I would put in jail every sandal-wearing, scruffy-bearded weirdo who” does this action, he voted to protect it based on the First Amendment. In protecting this action, courts have said that freedom of speech extends beyond the spoken word. Name this action that often involves trampling or fire.

Answer: desecrating the U.S. flag [accept any reasonable answer mentioning the (U.S. or American) flag and the idea of desecration or desecrating or destroying or destruction or burning]

9. This hero was aided by Evander of Pallene in his successful fight to marry his wife, in which he was opposed by his future wife’s mother Amata. After winning that struggle against Turnus, the king of the Rutulians [roo-TOO-lee-uns], this person was able to marry Lavinia. When Aphrodite made Zeus fall in love with mortals, Zeus returned the favor, leading to Aphrodite being the mother of this person. This person was told to leave Carthage by Mercury after this person had a love affair with Queen Dido [“DIE”-doh]. According to legend, this person was related to Julius Caesar, Romulus, and Remus. Name this early Roman hero who was the subject of a major epic poem by Virgil.

Answer: Aeneas [ih-NEE-uss]

10. One character in this novel is asked “Can’t a man dance with his own wife?” and replies “Not if he my man he can’t.” In this novel, that character, nicknamed Squeak, then gets her teeth knocked out by Sofia, who was Harpo’s wife. The husband of this novel’s narrator has affairs with the blues singer Shug Avery. In this novel, that husband’s name is often written as “Mr.” followed by blank spaces. This novel is made up of letters written by the protagonist to God, and it was banned by many schools because the protagonist describes being raped by her father. Name this novel about Celie [SEE-lee] that was written by Alice Walker.

Answer: *The Color Purple*

Check the score.

11. This process makes it easy to distinguish magnet-ite from hema·tite, or to distinguish gold from pyrite [“PIE-rite”] without concern for impurities that can change density. Under this test, pyrite is dark green rather than golden. This process works because it is not affected by trace impurities as much as other color observations are affected. White or black un·glazed porcelain plates are sometimes named for this process because they are used in it for minerals softer than porcelain. Name this process used to identify minerals based on the color of the powder left behind when they scratch a surface.

Answer: streaking [prompt on powder color]

12. To honor this leader, Senenmut designed the Djoser-Djeseru [JAH-sir JAH-sir-oo] at Deir el-Bahari. This person's body was identified long after death when Zahi Hawass [ha-WAHS] had a dentist compare a molar in a jar to a known gap in this person's jaw. Records of this person were destroyed at about the time leadership passed from Thutmose [thoot-MOHSS] III to Amenhotep II. Thutmose III was this person's nephew and stepson, and for 22 years they were co-regents. This person's only offspring was Neferure [nef-ur-UR-ay]. Name this leader who married her half-brother Thutmose II and became pharaoh after his death.

Answer: Hatshepsut

13. This province's most populous city is at the confluence of the Bow and Elbow Rivers. The Slave River flows north out of this province after the Peace River joins it in the largest national park in Canada, Wood Buffalo National Park. The city of Fort McMurray is the center of this province's fossil-fuel industry, which is fed by the Athabaskan Oil Sands. Lake Louise, Jasper, and Banff are major tourist attractions in this province's portion of the Rocky Mountains. One million tourists visit the annual Stampede rodeo in its city of Calgary. Name this Canadian province between Saskatchewan and British Columbia.

Answer: Alberta

14. The first two sections of a poem by this writer begin "In my beginning is my end." This writer placed that poem after a poem that begins "Time present and time past / Are both perhaps present in time future." Another poem by this writer refers to "a hundred indecisions" and "a hundred visions and revisions", saying "There will be time, there will be time." That poem also states "In the room the women come and go / Talking of Michelangelo." Name this writer of *Four Quartets* and "The Love Song of J. Alfred Prufrock" who used the line "April is the cruellest month" to begin his poem "The Waste Land".

Answer: T(homas) S(tearns) Eliot

15. Several of this painter's portraits showed fashion designer Emilie Flöge [eh-MEEL-yuh FLOH-guh], whom he helped design clothes and who was believed to be his romantic partner. Though he is not primarily known for landscapes, in 2017 Sotheby's got 60 million dollars for his flower picture *Bauerngarten* [BAO-urn-gar-ten], and he painted fruit trees in works such as *Obstbäume* [obst-BOY-muh]. This painter's portrait *The Woman in Gold* was the subject of a lawsuit by the Bloch-Bauer ["block" BAO-ur] family several years after it was taken by the Nazis. Name this Austrian painter who used gold leaf in several of his paintings, including his work depicting an embracing couple, *The Kiss*.

Answer: Gustav Klimt

Check the score.

16. OZEPY is a method for this process that uses oxygen, ozone, sodium hydroxide, alkaline peroxide, and sodium dithionite, and is commonly used on wood pulp. This process is said to happen to corals when their algae die or are expelled. Dentists often use sodium borate for this purpose. Lime, calcium chloride, and calcium hypochlorite make a “powder” for performing this process on water. The common name of sodium hypochlorite reflects its use in this process. Hydrogen peroxide is often used for this process, especially on hair. Name this process that makes objects look brighter and whiter.

Answer: bleaching or whitening

17. The death of one of the leaders in this battle is described in The Chronicle of Fredegar [FRED-gur], and the Mozarabic [moe-ZAHR-uh-bik] Chronicle describes how the battle was won by defenders maintaining a square formation around their leader. This battle stopped the victors of the Battle of the River Garonne [gar-ohn], and it prevented the sacking of the Church of Saint Hilary and shrine of Saint Martin. Years later, Edward Gibbon wrote that this battle prevented an advance that would have reached Poland and Scotland. Name this 732 battle in which Abd al-Rahman was defeated by Charles Martel in what is now France.

Answer: Battle of Tours(-Poitiers) [accept either underlined part; accept Battle of the Palace of the Martyrs]

18. “Arakan” is one name for a region of this country in which Ata Ullah heads the Harakah al-Yaqin [yah-KEEN], which now calls itself a Salvation Army. In August 2017, that group attacked police posts and an army base in Maungdaw [MUNG-daw] in this country, leading to a government crackdown that has caused hundreds of thousands of people to leave this country’s Rakhine [ruh-“KINE”] State. This country’s Buddhist majority is persecuting its Rohingya [ROH-hihn-juh] minority, many of whom are fleeing to Bangladesh. Name this country whose leader is the Nobel Peace Prize winner Aung San Suu Kyi [awng san soo chee].

Answer: (Union of) Burma or (Republic of the Union of) Myanmar [mee-YAHN-mar] [or Pyidaungzu Myanma Naingngandaw]

19. Mirah Lapidoth tries to commit suicide by this method but is saved by George Eliot’s title character Daniel Deronda. In the same novel, Henleigh Mallinger Grandcourt dies by this method, leading his wife Gwendolen to feel guilty. After trying to rescue Lucy Deane in *The Mill on the Floss*, the siblings Maggie and Tom Tulliver die together this way. Despite a heroic attempt by Ham, James Steerforth dies this way in *David Copperfield*. In a play, one character dies this way after a willow tree breaks and her clothes become heavy; that death is reported by Gertrude to Laertes. Name this way of dying that is suffered in *Hamlet* by Ophelia.

Answer: drowning [accept shipwreck]

20. In quantum mechanics, particles have a version of this property, named for Arthur Compton, that varies inversely with mass. Particles cause Rayleigh scattering when they are much smaller than this property. The peak value of radiance occurs when this property equals Wien's [veen'z] displacement constant divided by temperature. In de Broglie's [duh BROY'z] formula, this property of a particle-wave equals Planck's constant over momentum. This property seems to increase when a source moves away from an observer, an example of the Doppler effect. A wave's speed equals this property times frequency. Give this term for the distance between successive crests of a wave.

Answer: wavelength [prompt on length]

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.

- ^{TB}21. The Druze faith grew under this dynasty because of al-Hakim's support for religious freedom. This dynasty was permanently weakened by the formation of the Nizari sect, which questioned the legitimacy of al-Musta'li. This dynasty ended after the death of al-Adid [ah-DEED] with the establishment of the Ayyubid ["eye-YOU-bid"] dynasty by Saladin [SAL-uh-din]. This dynasty conquered Egypt during the 10th century and moved its capital to Cairo. It often clashed with the Abbasids [uh-BAS-idz], who opposed this dynasty's Ismail-i Shi'a form of Islam. Name this caliphate whose name was based on its claim to have descended from the daughter of Muhammad.

Answer: Fatimid dynasty or caliphate [or Fatimids]

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

- ^{TB}22. Some rechargeable batteries use this non-metal's an-ion combined with nickel and another metal that absorbs this element. This is the only element that, in urea, is *not* bonded to the central carbon, other than the central carbon itself. Ethane and ethene have the same number of carbons but different numbers of atoms of this element. One definition of organic compounds is that they are compounds in which this element is bonded to carbon. This element is combined with nitrogen in the Haber process, producing ammonia. Name this element of which four atoms appear in methane.

Answer: hydrogen [accept H]

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

- ^{TB}23. This company has the right to sell mobile phones under the Nokia brand name, and it now has the rights to the *Minecraft* video game. This company also runs TechNet and a cloud-computing platform called Azure [AZH-ur]. This company was started by Paul Allen and Bill Gates. Name this company whose Office software includes PowerPoint, Excel, and Word.

Answer: Microsoft (Inc.)

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.