

Scobol Solo 2017

Replacement Packet



1. A national museum in this region is named for its former Habsburg governor Samuel von Brukenthal. The Treaty of Speyer [SHPAY-ur] of 1570 allowed John ZápolyaZAH-pohl-yah to remain prince of this region though Maximilian II took away the larger kingship. Matthias Corvinus faced a rebellion in this region, and during his rule this region's Saxons opposed their southern neighbors in Wallachia [wah-LAY-kee-uh]. This region contains a significant minority of Hungarians, but it is now a large part of Romania. Name this region that, though it was not ruled by Vlad the Impaler, became the site of legends connecting him to vampires.

Answer: Transylvania

2. One of the steps in calculating Allred-Rochow electronegativity is to divide by the square of a radius named for this phenomenon. Hydrogen was used as the reference point for Pauling electronegativity because it is capable of this specific phenomenon. Greek letters are used to classify this phenomenon based on symmetry, with phi being the most unusual. Another unusual type of this phenomenon is classified as “three-center, two-electron”. In a Lewis diagram, a line represents this interaction. Name this type of bond in which electrons are shared.

Answer: co-valent bonding [or covalent bonds; prompt on bonding or bonds]

3. This person wrote that he sought to deliver the dignity of learning “from the discredits and disgraces from which it hath received” in his book *The Advancement of Learning*. Another book by this writer states “There are and can be only two ways of searching into and discovering truth”, and encouraged progress through observations that lead to general axioms. Another book by this writer describes Salomon's House, a fictional scientific institution on the utopian island of Bensalem. This Englishman's books encouraged the scientific method during the early 17th century. Name this author of *New Atlantis* and *Novum Organum*.

Answer: Francis Bacon

4. This instrument and a piano perform Robert Schumann's *Märchenbilder* [MAR-ken-BEEL-dur]. Like the oboe and clarinet, there is a *d'amore* [dah-mor-ay] version of this instrument from the baroque period. The performer Tabea Zimmermann inspired György Ligeti [zhyorz LEE-geh-tee] to write a solo sonata for this instrument, and Lionel Tertis inspired William Walton to write a concerto [“con-CHAIR-toe”] for it. Toru Takemitsu's *A String Around Autumn* is another concerto for this instrument. The work *Der Schwanendreher* [“dare” SHVAHN-en-dreh-her] is one of several pieces for this instrument by Paul Hindemith. It is tuned one octave above a cello, so its open strings play the notes C, G, D, and A. Name this string instrument slightly larger than a violin.

Answer: viola

5. This person wrote that “Pursuits become habits” in a fictional letter from Sappho [SAF-oh] to Phaon [FAY-ahn], which was part of a book consisting entirely of fictional letters written by aggrieved heroines. This person wrote “Nothing is stronger than habit” in a book instructing men how to keep women with them, which was his second in a three-book series on *The Art of Love*. Another work by this writer begins “I intend to speak of forms changed into new entities” and describes a history of the world up until Julius Caesar, who died a few decades before it was written. Name this ancient Roman writer of *Heroides* [her-OY-diss] and *Metamorphoses*.

Answer: Ovid [or Publius Ovidius Naso]

6. Six of the nine entries in the tensor representing this quantity equal the opposite of the integral of the product of two coordinates times a mass differential. The radius of gyration of an object equals the square root of this quantity divided by the square root of mass. A theorem sometimes named for Christiaan Huygens and Jakob Steiner gives a value for this quantity when the axis does not go through the center of mass, and is more commonly called the parallel-axis theorem. If this quantity is constant, then this quantity times angular acceleration equals the net torque on an object, a fact analogous to Newton’s second law. This quantity is calculated by adding up mass times radius squared for every particle in an object. Name this rotational analog of mass.

Answer: (first mass) moment of inertia [accept rotational inertia; prompt on angular mass; do not prompt on “inertia” or “mass”]

7. Being turned into either a weasel or this animal was the punishment for ridiculing Lucina and tricking Hera so that Heracles could be born. That punishment was given to Galanthis. In Norse mythology, two of these animals pulled Freyja’s [FRAY-uh’z] chariot, leading to Scandinavian superstitions that women can improve their marriage prospects by being with these animals. In some stories, the sun god Ra took the form of this animal when killing Apep. Name this type of animal protected in Egyptian mythology by Bastet, whose head was changed to one of these animals’ heads after she initially looked like a lioness.

Answer: cats [accept felines]

8. This person won at the Battle of the Aous, defeating Antigonus II Gonatas [an-TIG-uh-nuss “the second” goh-NA] to regain the title of King of Macedonia. Demetrius I of Macedon married this man’s sister Deidamia [day-DAH-mee-ah] and this man’s former wife Lanassa. This leader assisted the city of Tarentum by attacking Rome, defeating Publius Valerius Laevinus [POOB-lee-uss vah-LAIR-ee-uss lee-VIN-ee-uss] at the Battle of Hera-clea. This leader then won the Battle of Asculum [“ASK-you”-lum], though afterwards he stated “If we are victorious in one more battle with the Romans, we shall be utterly ruined.” Name this leader of Epirus whose name is now used to describe a costly victory.

Answer: Pyrrhus [“PEER-us”] of Epirus

9. In one novel by this author, Emil falls in love with Marie Shabata, provoking jealousy in Marie's husband, Frank. In that novel, this writer focused on Emil's sister, Alexandra Bergson. Another novel by this author is critical of the real-life frontiersman Kit Carson, and focuses on an attempt to establish a diocese in New Mexico. In another novel by this author, Jim Burden teaches English to a couple of Bohemian girls who have moved to Black Hawk, Nebraska. Those girls are in the Shimerda family. Name this author of the *Prairie* Trilogy, whose novels include *O Pioneers!*, *Death Comes for the Archbishop*, and *My Ántonia* [AN-toh-nee-uh].

Answer: Willa Cather

10. This person used quadratics in his root-approximation method rather than lines, as Newton used. A hill on Saint Helena is named after this person because, about 100 years before Charles Messier [sharl mess-yay] lived, this person used the hill to make a catalog of stars visible from the Southern Hemisphere. This person predicted, and is thus the namesake of, a solar eclipse in 1715. This person did not live to see one of his other predictions come true because he died well before 1758. Name this astronomer who determined a period of about 76 years for his namesake comet.

Answer: Edmond Halley

11. Daniel Ragsdale led this agency until he was demoted by President Trump and replaced with Thomas Homan, who has been a vocal supporter of Kate's Law. The Section 287(g) ["two eight seven G"] program allows state and local officials to work with this agency to enforce laws. In September 2017, Motel 6 announced that it will stop allowing its employees to share guest lists with this agency. One of the definitions of a sanctuary city is a city that declines to cooperate with this agency. Due to weather, this agency cancelled several raids planned for September. Name this part of the Department of Homeland Security whose Enforcement and Removal Operations division is directed at people living in the U.S. illegally.

Answer: (U.S.) Immigration and Customs Enforcement

12. A museum dedicated to this artist shows his painting of several famous people, including Winfield Scott, one of whom is holding hands with a skeleton dressed in white. That painting is *Dream of a Sunday Afternoon in the Alameda Central* [ah-lah-MAY-dah sen-TRAHL]. A theater named for this artist at the City College of San Francisco displays the panels he made titled *Pan American Unity*. This artist painted *Man, Controller of the Universe* after another of his works was destroyed for depicting a May Day Parade and Vladimir Lenin. Name this muralist who created *Man at the Crossroads*, a Mexican artist married to Frida Kahlo.

Answer: Diego Rivera [ree-VAIR-ah] [or Diego (María de la Concepción Juan Nepomuceno Estanislao de la) Rivera y Barrientos Acosta y Rodríguez]

13. In one play by this writer, one character states “Health is the primary duty of life” and “I do not approve of anything that tampers with natural ignorance.” In another play by this writer, a woman suspects her husband of having an affair with a woman who turns out to be her mother. This writer of *Lady Windermere’s Fan* also wrote a novel in which the main character decides to have a responsible relationship with Hetty Merton after his antics cause Sibyl Vane to commit suicide, and the title character wishes that a portrait would age instead of him. Name this writer of *The Importance of Being Earnest* and *The Picture of Dorian Gray*.

Answer: Oscar (Fingal O’Flahertie Wills) Wilde

14. The first death during this undertaking is believed to be from a ruptured appendix that killed Sergeant Charles Floyd. One of the legends about this undertaking involves a newborn baby being wrapped in a flag and being called an American. Shortly after that, English-speakers saw a grizzly bear for the first time. During this action, Jean Baptiste Charbonneau [zhawn bap-teest shar-baw-noh] was born to Sacagawea [sa-kuh-juh-WE-uh]. This expedition built Fort Clatsop at its westernmost point. Name this expedition from St. Louis to the Pacific Ocean, commissioned by Thomas Jefferson to explore the Louisiana Purchase.

Answer: Lewis and Clark Expedition or Corps of Discovery Expedition [accept similar answers containing either underlined phrase]

15. The objects of this type whose name comes from the Latin word *ligamen* are covered with four-helix proteins and are classified into seven groups, including a first group with double-stranded DNA and a second group with single-stranded DNA. The first studied example of these things, named for the pattern found on leaves of the plants it infected, was the tobacco mosaic type. These things cause hepatitis and influenza. These objects are not considered organisms because they can only reproduce within a host cell. Name this class of infectious agents that are much smaller than bacteria.

Answer: virus(es)

16. This pianist and singer tried to form a quartet, but the drummer never showed up, so it was a trio with Oscar Moore on guitar and Wesley Prince on bass. After John Turner and Geoffrey Parsons added lyrics to a song from Charlie Chaplin’s movie *Modern Times*, this singer had a hit with the song “Smile”. After being in the soundtrack of the movie *Captain Carey, U.S.A.*, this performer had a big hit with “Mona Lisa”. Another song by this performer includes the line “And forever more, that’s just how you’ll stay.” After he died, his daughter turned that song into a duet with him. Name this father of Natalie who recorded “Unforgettable”.

Answer: Nat King Cole [or Nathaniel Adams Coles]

17. In a story by this writer, the porter Nikita lies on hospital rubbish and takes things that the Jew Moiseika returns with from his outings. In one of this writer's plays, one character gives a speech about forest conservation and later has his morphine stolen by the title character., who declares his love for a professor's wife and shoots a pistol at the professor, though the two men eventually get along. Another play by this writer describes the fate of Madame Ranev-skaya's estate. Name this Russian writer of the story "Ward Number Six" and the plays *Uncle Vanya* and *The Cherry Orchard*.
Answer: Anton (Pavlovich) Chekhov
18. The Russians took over what is now this country after establishing a port at what was then called Kras-no-vodsk. After a 2002 attack against the first post-Soviet leader of this country, its foreign affairs minister, Boris Shikh-mur-adov, was jailed. The first post-Soviet leader of this country attempted to close all hospitals outside its capital and changed the name of September to "Ruhnama" to promote one of his spiritual books. This country is now headed by Gurban-guly Berdi-muhamed-ow after suffering through the presidency of Sapar-murat Niyazov. Name this country between Iran and Kazakhstan on the Caspian Sea whose capital is Ash-gabat.
Answer: Turkmenistan
19. The expansion of this desert is being combated by a planting campaign called the Three-North Shelter-belt Program, or a "green wall". Gold and copper deposits are mined in this desert's Turquoise Hill site; to support that mine, one country is considering diverting its Orkhon River into this desert. The Tian Shan mountains separate the Tak-la-ma-kan from this desert, which is in the rain shadow of the Tibetan Plateau. Powerful sandstorms from this desert pollute the air in Beijing. Name this large desert shared by China and Mongolia.
Answer: Gobi Desert
20. This mathematician was the first to integrate a general power function, using a method based on geometric series. The point in a triangle named for this mathematician minimizes the sum of the distances to the vertices. Using the method of infinite descent, this man proved that the sum of the fourth powers of two integers could not be a square. This mathematician proved that, if p is prime, then $a^p - a$ [" a to the p minus a "] is divisible by p . This person also asserted that $x^n + y^n = z^n$ [" x to the n plus y to the n equals z to the n "] has no integer solutions for $n > 2$ [" n greater than 2"], but said that he did not have room to write a proof. Name this mathematician remembered for his "little" and "last" theorems.
Answer: Pierre de Fermat [fair-mah]

This is the end of the packet.