

Scobol Solo 2018

Packet 12 (Round 12)



1. The “brassino” [“BRASS-in-oh”] class of these molecules is needed to form pollen tubes in plants. The presence of this hormone class in waste-water causes over-expression of the egg yolk gene in fish. Addison’s disease results from the lack of one hormone from this class, cortisol, produced by the adrenal glands. Vitamin D is synthesized by breaking one of the four rings of this group’s precursor, cholesterol. This class of molecules includes the sex hormones estrogen and testosterone. Violent behavior and muscle growth are effects of abusing the anabolic [an-uh-BAH-lik] type of these molecules. Name these molecules that may be taken by athletes as a performance enhancer.

Answer: steroids

2. One character in this novel shows up to a political speech and tries to show off her red ribbons, but she is told the ribbons are a “badge of slavery” when she asks stupid questions. Another character in this novel urinates on plans to build a windmill, but that windmill is eventually built thanks to hard work by Boxer. A set of seven commandments in this novel prohibit drinking alcohol, sleeping in a bed, and wearing clothes. In this novel, two of the main characters—who have obvious parallels to Stalin and Trotsky—are named Napoleon and Snowball, and are pigs. Name this allegorical novella by George Orwell.

Answer: Animal Farm

3. You can give a description; you don’t have to give a name. This place is where one god transforms from Atum [AH-toom] into Khepri [KEP-ree], the beetle of the dawning sun. One god undergoes a journey each night in this place on a solar barge called Atet [AH-tet] and battles the embodiment of chaos, Apep [AP-ep]. A counterpart to this location called Aaru, or the “Field of Reeds”, is where souls are sent if they do not go to this location. One’s soul goes to this place after being swallowed by Ammit if their heart is heavier than the feather of Ma’at. Name this mythological realm of the dead where Ra and Anubis reside.

Answer: the Egyptian Underworld or Duat [prompt on realm of the dead or similar answers before “dead”]

4. This artist painted Christine Spartali wearing a pink flower-patterned robe over a grey kimono in *The Princess from the Land of Porcelain*. This artist painted a series of portraits of Joanna Hiffernan in which she sits on a couch with another woman, holds a Japanese fan in front of a mirror, and stands on a bearskin rug. A profile view by this artist, showing a seated woman in black with her feet on a small platform and another painting in the background, is called *Arrangement in Grey and Black No. 1*. Name this American artist of *Symphony in White* and a famous portrait of his mother.

Answer: James (Abbott McNeill) Whistler

5. During the Archaic [ar-KAY-ik] period in what is now this country, there was an attempted coup called the Cylonian ["sigh"-LOH-nee-un] Affair, and many local tyrants rose. Historians debate whether this country experienced the Dorian invasion. Another city in what is now this country experienced the Conspiracy of Cinadon [SIN-uh-dahn], an attempted coup in which the ephorate [EF-uh-"rate"] defeated poor people who supported the slave helots [HEL-uts]. The Mycenaean ["my"-sub-NEE-un] civilization lived in what is now this country. Name this country that contains the locations of ancient Sparta and Athens.

Answer: Greece [or Hellenic Republic or Ellinikí Dimokratía]

Check the score.

6. The van 't Hoff equation models how this state varies with temperature. This state occurs when Gibbs free energy is minimized. The boundary lines of phase diagrams represent this condition. This phenomenon allows buffer solutions to exist, since acid-base reactions are reversible. The law of mass action can be used to calculate the constant of this state. Le Chatelier's [shat-lee-ay'z] principle describes how this condition can change. Name this dynamic property of chemical systems in which the forward and reverse reaction rates are the same, so reactant and product concentrations do not change.

Answer: chemical equilibrium

7. In one work by this poet, the narrator complains "How dull it is to pause, to make an end" after stating "I am a part of all that I have met." That poem is a dramatic monologue told by a legendary leader. This author wrote "I hope to see my Pilot face to face" in a poem considered a metaphor for dying, "Crossing the Bar". This writer of "Ulysses" wrote another poem which begins "Half a league, half a league, half a league onward." That poem tells about 600 British soldiers who died at the Battle of Balaclava during the Crimean ["cry"-MEE-un] War. Name this author of "The Charge of the Light Brigade".

Answer: Alfred, Lord Tennyson

8. Frank Ramsey proposed a so-called "optimal" policy of this type that would minimize the loss of utility by accounting for the inverse elasticity of demand. James Tobin proposed one of these policies intended to stabilize currency exchange markets, and Arthur Cecil Pigou [PEE-goo] proposed one that would lessen the impact of negative externalities. The Laffer curve plots the extent of this type of policy against revenue. These policies can be flat, regressive, or progressive depending on how their rate depends on income. Name this type of policy in which payment must be made to a government.

Answer: taxes or taxation

9. H. F. Verwoerd [FUR-vurt] was called the architect of this policy, though he expanded it after it already existed. Donald Woods, who campaigned against this policy, was the first private citizen to address the U.N. Security Council. One of Woods' friends, who was beaten to death by security officers in 1977, was Steve Biko [BEE-koh]. This system limited people's mobility via the Pass Laws. The Sharpeville Massacre and Soweto Uprisings were demonstrations against this system. F. W. de Klerk worked with longtime political prisoner Nelson Mandela to end this practice. Name this system of racial segregation in South Africa.

Answer: apartheid ["apart-hide"]

10. Alfred North Whitehead developed two geometries that were collectively named for *lacking* these things. The first statement in Euclid's [YOOK-lid'z] *Elements* is a definition of this concept. The Feuerbach [FOY-ur-bahk] circle or Euler's [OY-lur'z] circle is also sometimes named for its relation to nine of these things. Two lines are called concurrent if they have one of these things in common. A system of equations that is both consistent and independent has one of these things as its solution. Name this geometric concept, two of which define a line or line segment.

Answer: points

Check the score.

11. This composer stacked C-major and F-sharp-major triads on top of each other in the music for a ballet set at the Shrovetide Fair. In that ballet, this composer wrote about a Charlatan who gives life to a Ballerina, a Moor, and the title character, whom the Ballerina rejects. That title character is a stock character in folk puppetry, typically depicted as a jester with a red dress and a long nose. Another ballet by this composer opens with a "Dance of the Adolescent Girls" and ends with a "Sacrificial Dance". Name this composer of *Petrushka* [peh-TROOSH-kah] and *The Rite of Spring*.

Answer: Igor (Fyodorovich) Stravinsky

12. In one novel by this author, the title character believes that the boy Mit-sah is a god, and he stops a fight when several boys attack Mit-sah. This author portrayed that title character working for Grey Beaver, Beauty Smith, and Weedon Scott. The protagonist of another novel by this author starts out at Judge Miller's place in the Santa Clara Valley. This author wrote about that protagonist attacking a man in a sweater while being shipped to Dawson in Canada, and that protagonist was named Buck. Name this American author who used the Klondike Gold Rush as the setting for his novels *White Fang* and *The Call of the Wild*.

Answer: (John Griffith) "Jack" London [or John Griffith Chaney]

13. San Felipe [sahn feh-LEE-pay] Castle has an alternative name because this person lived in it; he later lost control of the castle, decided that Francisco de Miranda was treasonous, and organized the Admirable Campaign. This person defeated Miguel de la Torre [meeg-EL day lah TOR-ay] of Spain at the Battle of Carabobo [kar-ah-BOH-boh]. This person also worked closely with the hero of the Battle of Pichincha [pee-CHIN-chah], Antonio José de Sucre [ahn-TOH-nee-oh hoh-ZAY day SOOK-ray]. In 1825, Sucre succeeded this person as the president of a nation named for him. Identify this South American leader who was nicknamed “The Liberator”.

Answer: Simón (José Antonio de la Santísima Trinidad) Bolívar (y Palacios Ponte y Blanco) [see-MOHN boh]

14. The use of this service to provide the second factor in two-factor authentication is being phased out because it is too easy to hijack the use of this service. This service is not Twitter, but internally it breaks transmissions into chunks of 140 bytes. An extension of this service that allows media like images is called MMS. On Apple devices, a green background indicates the use of this service, while blue indicates the use of iMessage as a substitute for it. Name this mobile service used for exchanging written messages.

Answer: text messages or text messaging or texting or SMS [or short message(s) service; prompt on messages or messaging]

15. John Boehner [BAY-nur] called this person “Lucifer in the flesh”, and Lindsey Graham said that if you killed this person “on the floor of the Senate, and the trial was in the Senate, nobody would convict you”. In 2013, this person led a 21-hour talkathon in the Senate to protest the Affordable Care Act, during which he read *Green Eggs and Ham*. At the 2016 Republican National Convention, this person said “Stand and speak and vote your conscience.” This person was challenged for re-election in 2018 by Beto [BEH-toh] O’Rourke. Name this senator from Texas.

Answer: (Rafael Edward) “Ted” Cruz

Check the score.

16. This piece’s theme consists of the 16th notes F, F ascending to B-flat, C, D, down to C, B-flat, then back up to C, D, then an eighth note and quarter note on B-flat. A tambourine plays behind the folk tune “U vorot, vorot” [oo vah-ROHT vah-ROHT], or “At the Gate”, in this piece. The strings play an arrangement of “O Lord, Save Thy People” to open this piece, while at the end, the song “God Save the Tsar” overtakes “La Marseillaise” [lah mar-seh-yez]. This piece was written to commemorate the Russian defense against Napoleon’s army, and it calls for a set of bells and cannon blasts to be used near its end. Name this work by Tchaikovsky that is often performed on the Fourth of July.

Answer: 1812 Overture [or The Year 1812 Solemn Overture or Overture of 1812]

17. This person was born in Ohio after his parents fled Canada because his father took part in the Mackenzie Rebellion. This person developed an electronic voting recorder that was rejected because it was too fast. Henry Ford and Harvey Firestone funded the Botanical Research Corporation that this person started in Fort Myers, Florida. This person built the Black Maria [muh-“RYE”-uh], which was considered America’s first movie studio. A few years earlier, this person started General Electric. In 1878, this person was invited to the White House to demonstrate his phonograph. Name this “Wizard of Menlo Park” who developed an incandescent light bulb.

Answer: Thomas (Alva) Edison

18. This author wrote “Curiosity is not our only motive; love or grief or despair or hatred is what drives us on” in a novel named for a fictional book written by Laura Chase, who drives a car off a bridge just before that novel begins. This author of *The Blind Assassin* also wrote a novel in which the protagonist states “If it’s a story I’m telling, then I have control over the ending.” That character was trained at the Red Center by Aunt Lydia, and she plays Scrabble with The Commander. Name this Canadian author who wrote about Offred [“of-Fred”] in *The Handmaid’s Tale*.

Answer: Margaret (Eleanor) Atwood

19. This country worked with the Soviet Union to plan Bokaro Steel City. That city, in addition to the earlier planned Jamshedpur, is in this country’s state of Jharkhand [CHAR-kahnd], which separated from its state of Bihar in 2000. Bihar’s major city Patna was the capital of the ancient Magadha [MAH-gahd-hah] Empire. This country fought a 1962 war against China over the location of the McMahon Line, which is the furthest extent of this country’s state of Arunachal Pradesh [ar-ah-NAH-chahl prah-DESH]. Most of this country is southwest of Nepal and Bangladesh, and this country is between the Arabian Sea and the Bay of Bengal. Name this country whose populous cities include Chennai, Kolkata, Mumbai, and New Delhi.

Answer: (Republic of) India [or Bharat(iya) Ganarajya]

20. The amount of heat required for a phase change equals this quantity times the specific latent heat of the substance. The square of the speed of a molecule in a gas equals 3 times the Boltzmann constant times absolute temperature over this property of the molecule. Moment of inertia is found by adding up this quantity times the square of the distance from the axis of rotation [pause] for every particle of an object. Newton’s law of universal gravitation states that the gravitational force is proportional to the product of two values of this property. Momentum equals this quantity times velocity. Name this quantity that, according to Newton’s second law, is multiplied by acceleration to find net force.

Answer: mass

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. An orchestral piece by this composer opens with the descending dotted quarter-eighth note sequence “G, D” repeated twice, followed by the descending eighth notes “G, D” and an ascending “G, B, D”.
▶ A piece by this composer has a coda that joins five different themes into a fugue. This composer’s
▶ 21st piano concerto is nicknamed for being featured in the film *Elmira Madigan*. This composer wrote “Great” and “Little” G minor symphonies as well as a *Jupiter Symphony*, his 41st. Name this composer of *Eine Kleine Nachtmusik* [*“EYE”-nuh KLY-nuh NAHKT-moo-seek*].
- Answer: Wolfgang Amadeus Mozart [or Johannes Chrysostomus Wolfgangus Theophilus Mozart]

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

- ^{TB}22. The tesla—the unit of magnetic field strength—can be broken down as kilograms per amperes per this unit squared. The watt—the unit of power—equals a joule divided by this unit. This unit is referenced in the names of both the MKS and CGS systems. This unit is currently defined using approximately nine billion transitions of a cesium-133 atom. The newton—the unit of force—equals one kilogram times one meter over this unit squared. Light can travel about 3×10^8 [*“3 times 10 to the 8th”*] meters as this unit elapses. Name this unit of time.
- Answer: second

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

- ^{TB}23. The band Chicago sang a song about this day of the week “in the park”. A television show created by Lorne Michaels is aired live at the end of this day of the week. This day is named for the sixth planet from the Sun. Name this first full day of the weekend.
- Answer: Saturday

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.