

# Scobol Solo 2018

## Packet 7 (Round 7)



1. One species of this animal that has been introduced to California, *Xenopus* [ZEN-uh-puss], threatens the unarmored three-spine stickle-back with extinction. It is not a sheep, but this animal was the first vertebrate organism to be cloned. A gray crescent forms when this animal's eggs are fertilized. A chytrid ["KITE-rid"] fungus epidemic is decimating populations of this animal around the world. The African clawed species of this animal is used as a model organism in embryology. Most males of this animal produce mating calls using an extendable vocal sac. Natives of South America have long used the toxins secreted by the colorful poison-dart species of this animal. Name this group of long-legged, tailless amphibians that develop from juvenile tadpoles.

Answer: frogs or Anura [prompt on amphibians; do not accept "toad(s)"]

2. In one story by this writer, a woman's last wish is to have Khoma read psalms over her after she dies. In that story, the woman is a witch who had ridden on Khoma's back. This author of "Viy" [vyee] wrote a story in which a character referred to as "a Certain Important Personage" refuses to help the protagonist, who soon dies from exposure to cold, and his ghost mugs the Certain Important Personage. In another story by this author, Ivan Yakovlevich [YAH-kohv-LEV-ich] finds a body part in bread that belongs to Major Kovalyov. Name this Russian author who wrote about Akaky Akakiyevich [ah-kah-kee ah-KAH-kee-EV-ich] in "The Overcoat" and also wrote "The Nose".

Answer: Nikolai (Vasilievich) Gogol [GOH-gul]

3. This country's president has been blamed for supporting genocide in its Matabeleland [mah-tah-BEE-lee-"land"] region during the 1980s. Jeff Flake, the senator from Arizona, spent much of the summer of 2018 monitoring this country's election, in which the Movement for Democratic Change Alliance under Nelson Chamisa [chuh-MEE-suh] was defeated. Under the threat of impeachment, this country's president quit after 30 years in office in 2017. He was replaced by Emmerson Mnangagwa [moo-nahn-GAH-gwuh], who then won the 2018 election. Name this country, formerly known as Southern Rhodesia and Rhodesia, which was ruled by Robert Mugabe [moo-GAH-bay].

Answer: (Republic of) Zimbabwe

4. A person who is most famous for his 1904 work documenting this non-Irish region had his homosexuality exposed by the British government in the *Black Diaries* [pause] and was executed after trying to prevent the Easter Rising. Actions in this region are discussed in a book by Adam Hochschild titled for a certain monarch's *Ghost*. Atrocities perpetrated in this region by the *Force Publique* [poo-bleek] were exposed by the Casement report and included cutting off hands of workers who didn't meet rubber quotas. Name this region in which a so-called "free state" was run by King Leopold II of Belgium.

Answer: Congo Free State [do not accept or prompt on "Belgian Congo"]

5. Massless quasi-particles that are this kind of particle are found in semi-metals and are named after Hermann Weyl ["vile"]. Two such quasiparticles can be combined to form the common examples of these particles, which are named for Paul Dirac. Hadrons [HAY-drahnz] are in this group of particles, but mesons [MAY-zahnz] are not. Quarks and leptons are the elementary particles of this type. Two of these particles cannot have the same quantum state in the same system, a fact called the Pauli exclusion principle. Name these particles whose spin is a half-integer, which makes them not bosons [BOH-zahnz].

Answer: fermions [FUR-mee-ahnz]

**Check the score.**

6. In the left panel of a painting from what is now this country, prostitutes pass by a crippled war veteran with crutches, while in the center panel, saxophonists play to elaborately dressed dancers. Both Lucas Cranach [KRAN-uk] the Elder and another 16th-century artist from what is now this country painted panels showing Adam and Eve; the latter artist used black ink on blue paper to make *Study of the Hands of an Apostle*, which is often called *Praying Hands*. A Romantic painter from what is now this country painted a man with a walking stick standing on rocks with his back to the viewer in *Wanderer above the Sea of Fog*. Name this modern country that contains the origins of Otto Dix, Caspar David Friedrich, and Albrecht Dürer.

Answer: (Federal Republic of) Germany or Bundesrepublik Deutschland

7. In one novel by this author, a character says "Damn the man! Save the Mules!". This author's posthumously published *The Coal War* consists of material that had been taken out of that earlier novel about Hal Warner inspired by the Ludlow Massacre, *King Coal*. Another novel by this author begins with Marija Berczynskas [muh-REE-yuh bur-CHIN-skus] arguing with a coachman so that she can get to the wedding reception of her cousin Ona. That reception takes place in Packingtown, which was a Chicago neighborhood. Name this socialist who depicted a disgusting meat industry in his novel about Jurgis [YOOR-gus] Rudkus, *The Jungle*.

Answer: Upton (Beall) Sinclair (Jr.)

8. On his way to Australia, this person got in a dispute with Captain Joseph Short and sent Short back to England. This person was arrested by Major George Johnston—a military officer serving under him—and detained for a year, leading to military control of New South Wales. This person tried to portray that 1808 dispute as being over rum. A few years earlier, in 1789, this person led his supporters 4,000 miles to Timor in an open boat after they were set adrift by Fletcher Christian. Name this unpopular officer of the British Royal Navy who was the target of the mutiny on the *Bounty*.

Answer: William Bligh [bly]

9. An area surrounding this river is the home of the Feurt Mounds and Village Site, which is part of the Fort Ancient Tradition. The earliest engineering project to aid navigation on this river is the McAlpine Locks and Dam. This river went past a fort named for Friedrich Wilhelm von Steuben [FREED-rik VIL-helm vawn SHTOY-ben], and it is next to the place where Nathan Forrest fought the Battle of Paducah. This river was the south boundary of the Northwest Territory and is now the northwest boundary of West Virginia. It is formed by the Allegheny and Monongahela [muh-NON-guh-hee-luh] Rivers in Pittsburgh. Name this river that joins the Mississippi River near Cairo [“CARE-oh”], Illinois, and which forms the north boundary of Kentucky.

Answer: Ohio River

10. This quantity is not Gibbs free energy, but it is symbolized  $\Delta G^\ddagger$  [“delta G double dagger”] in organic chemistry transition states. To find the viscosity of amorphous materials, this quantity is in the numerator of the exponent. Deuterium-tritium [doo-TEER-ee-um TRIT-ee-um] is the most economical kind of fusion reactor because it minimizes this quantity. This quantity is divided by the ideal gas constant times absolute temperature in the exponent of the Arrhenius [uh-RAY-nee-us] equation. On an energy-vs.-time diagram, this quantity is the difference between reactant energy and the top of the curve. Name this quantity that is lowered by catalysts and is the minimum energy required for a reaction to occur.

Answer: activation energy [accept  $E_a$  [“E sub a”]]

### **Check the score.**

11. At the beginning of a novel by this author, the title character looks at a woman gambling and asks himself “Was she beautiful or not beautiful?”. That character then helps that woman get her necklace back when she pawns it. This author also had that title character discuss Zionism with Mordecai after saving Mordecai’s sister, Mirah Lapidoth. This author also wrote about Mr. Featherstone dying with two wills, which keeps Fred Vincy from getting an inheritance. In the same novel, this author wrote about the marriage between Reverend Edward Casaubon and Dorothea Brooke. Name this author of *Daniel Deronda* and *Middlemarch*.

Answer: George Eliot [or Mary Ann Evans or Marian Evans or Mary Ann Cross; accept Marian Evans Lewes; prompt on Marian Evans Lewes]

12. In a work by this photographer, a man in a hat faces away from a crowd with his arms on a railing and his hands clasped next to a cup. This artist worked with Paul Taylor on a book titled *An American Exodus*. “White Angel Breadline” is a photograph taken by this artist, who is best known for working alongside photographers such as Walker Evans for the Farm Security Administration. At a pea pickers’ camp in California, this artist took a photo of two children embracing Florence Owens Thompson. Name this Depression-era photographer who created *Migrant Mother*.

Answer: Dorothea Lange [or Dorothea Margareta Nutzhorn]

13. A passage by a philosopher from this religion ends with the declaration “The transition is called the transformation of material things.” This religion reveres a group of legendary figures that includes a man called Iron Crutch Li. That group venerated by this religion also includes a person of ambiguous gender who sings and carries a basket of fruit; that group is the Eight Immortals. A sage from this religion dreamed about a butterfly and wondered whether the butterfly was dreaming of him. A text from this religion declares that “The name that cannot be named is not the eternal name.” This religion emphasizes non-action, or *wu-wei* [woo way]. Name this Chinese religion symbolized by a yin-yang symbol.

Answer: Taoism or Taoist religion or Daoism or Daoist religion

14. Zachariah [zak-uh-RY-uh] Hood fled Annapolis rather than enforce this law. A statement by Frederick County’s 12 justices against the enforcement of this law is called the Repudiation Act. The Loyal Nine became the Sons of Liberty to oppose this law, and their violent actions caused many agents to resign. The Declaration of Rights and Grievances was passed by the First Congress of the American Colonies, which was called in reaction to this law. This law, which followed shortly after the Sugar Act, was a tax on newspapers and other printed materials. Name this 1765 act of Parliament named for an object that had to be attached to paper.

Answer: Stamp Act (of 1765) [or Duties in American Colonies Act of 1765]

15. The Uhuru satellite detected this phenomenon, finding an object in Cygnus [SIG-nus] believed to be the first discovered black hole. This phenomenon was used to find a binary system including a neutron star in Scorpius. The multi-mirror Newton, Suzaku, NuSTAR, and Chandra observatories specialize in observing this type of radiation. This part of the spectrum comprises wavelengths between  $\frac{1}{100}$  and 10 nanometers, which is between ultraviolet radiation and gamma rays. Name this part of the spectrum originally discovered by Wilhelm Röntgen [VIL-helm RENT-gun].

Answer: X-ray astronomy [prompt on electromagnetic radiation or EM radiation; accept black hole before “black”]

**Check the score.**

16. A piece by this composer begins with the viola playing the ascending notes F, A, C in a short-long-short rhythm, followed by a dotted D, up to F, and back down to D; that piece's "Molto vivace" [MOHL-toh vee-VAH-chay] third movement scherzo [SKAIRT-soh] was intended to imitate the song of the scarlet tanager [TAN-uh-jur]. This composer wrote a piano cycle titled *Humoresques* and the opera *Rusalka*. A symphony by this composer includes a second movement "Largo" with a famous slow English horn solo. This composer wrote his *American Quartet* during his visit to Spillville, Iowa. Name this Czech composer of the *From the New World* symphony.

Answer: Antonín (Leopold) Dvořák [d'VOR-zhak]

17. Daisy recites this poem twice to Baxter in Ian McEwan's novel *Saturday*, which uses this poem as an epilogue. A reading of this poem makes Clara Phelps cry, and Mildred says this poem goes "umpty-tumpty-ump", in Ray Bradbury's *Fahrenheit 451*. This poem states that the world "Hath really neither joy, nor love, nor light, nor certitude, nor peace, nor help for pain". This poem begins with the line, "The sea is calm tonight" and ends "Where ignorant armies clash by night". Name this mid-19th-century poem set on the English Channel and written by Matthew Arnold.

Answer: "Dover Beach"

18. One thinker from what is now this country argued that both the Pope and the Holy Roman Emperor were merely men and had derived their authority from God. The author of *De Monarchia* [deh moh-NAR-kee-ah] lived in what is now this country, as did a writer who criticized Descartes [day-kart] for implying that all non-mathematical truths were illusions in *The New Science*. Another thinker from this country wrote a book analyzing the first ten books of *Ab Urbe Condita* [ab UR-bay kohn-DEE-tah] and, in his most famous book, praised the leadership of Cesare Borgia [cheh-ZAR-eh BOR-jah]. Those books are *Discourses on Livy* [LI-vee] and *The Prince*. Name this country where Giambattista Vico [jam-bah-TEEST-tah VEE-koh], Niccolò Machiavelli [neek-koh-LOH "mock"-yah-VEL-lee], and Dante Alighieri [dahn-tay ah-lig-YAIR-ee] lived.

Answer: Italy [or Italia; accept Italian Republic or Repubblica Italiana]

19. This leader made people from the eastern zone of his country wear blue and white scarves to make it easier to discriminate against them, and he ended all religious practices in his country. This leader classified people as base, candidates, and deposites; the deposites were treated worse than the others. Called "Brother Number One", this leader obtained power by toppling Lon Nol. The journalist Dith Pran used the phrase "killing fields" to describe areas under this leader where many people were buried alive or beaten to death. Name this 1970s communist dictator who led the Khmer Rouge in Kampuchea, which is now called Cambodia.

Answer: Pol Pot [or Saloth Sar; prompt on Pot or Sar]

20. If you know only the significance level, whether a hypothesis is one-tailed or two-tailed, and this value, then you can calculate the  $p$  value. This value is typically used as the input for a table of standard normal probabilities. This value is equal to the actual value of a variable for a standard normal distribution. A  $t$ -score is similar to this value but based on an adjusted mean and standard deviation. This value is calculated as a particular data point minus the mean, all divided by the standard deviation. Name this value that tells how many standard deviations a given value is above or below the mean.

Answer: z-score [accept z-value or normal score; prompt on standard(ized) score or standardized variable]

***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. This poet wrote “Your shadow covers this page” in a poem that begins “Listen to me as one listens to the rain.” Another poem by this writer asks “How many Dantes have written to you, Beatrice?”. That poem, addressed to a “Beautiful face” and “Enchanting smile”, is “No More Clichés”. Another poem by this writer begins and ends with the same six lines, the last of which is “arriving forever” and ends with a colon. That poem has some punctuation but not a single period, and this writer based that 1957 poem on the Aztec calendar. Name this Mexican poet who wrote “Sunstone”.

Answer: Octavio Paz (Lozano)

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

- <sup>TB</sup>22. Michael Hennessey showed that these animals display lower levels of anxiety around humans than among members of their own species. In another experiment, these animals were placed in shuttle boxes and administered electric shocks to demonstrate learned helplessness in an experiment by Martin Seligman. Another psychologist studied what he called the “psychic secretions” of these animals and used their salivation to demonstrate classical conditioning. Name these animals for which Ivan Pavlov is known for experimenting on.

Answer: dogs [accept Canis lupus familiaris or canines; do not accept of prompt on “wolves”]

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

- <sup>TB</sup>23. Lake Peipus [“PIE”-puss] is on this continent. A major river system on this continent contains the Vltava and Elbe Rivers. Sofia, Prague, and Paris are cities on this continent. Name this continent that contains Andorra, Serbia, and Italy.

Answer: Europe

***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.***