

# Scobol Solo 2015

## Packet 5 (Round 5)



1. The Japanese theorem for cyclic quadrilaterals creates one of these figures from the incircles of the triangles formed from a cyclic quadrilateral and its diagonals. This is the least specific type of quadrilateral whose area must equal one-fourth the product of the sum of the lengths of its opposite sides. If this shape can be divided into a square and a shape similar to the original, it is called “golden” since its sides are in the golden ratio. This shape is a parallelogram with congruent diagonals, and it also is a parallelogram with congruent angles. If all four of its sides are congruent, then this shape is a square. Name this quadrilateral with four right angles.

Answer: rectangle [or rectangular]

2. This author wrote about her kids in *Raising Demons* and *Life Among the Savages*. A novel by this author, in which John Montague tries to determine whether Eleanor Vance’s experiences are due to psychiatric problems or supernatural forces, is *The Haunting of Hill House*. This author wrote a story set between the post office and the bank on the morning of June 27th in a village of about 300 people. In that story, a character who arrives late because she was doing dishes is the one who draws the marked slip. Name this author who wrote about the stoning of Tessie Hutchinson in “The Lottery”.

Answer: Shirley (Hardie) Jackson [accept Shirley Hyman]

3. During this war, Admiral Rozh-est-ven-sky was hit in the head and taken captive when the *Knyaz Suvorov* [*KIN-yahz soo-VOH-rawf*] was sunk. This war started when the gunboat *Korietz* [*KOH-reetz*] exchanged fire before the *Var-yag* was badly damaged during the Battle of Che-mul-po Bay. This war ended with Russian losses at Sak-ha-lin and Tsu-shi-ma. A treaty ending this war was worked out in New Hampshire, mediated by a U.S. President. In addition to losing both battles at Port Arthur, the Russians under General Kuropatkin also lost at Mukden. Name this war fought in 1904 and 1905 during which Admiral Togo was successful.

Answer: Russo-Japanese War

4. At least hundreds of people died in this state from an accident during the construction of the Hawks Nest Tunnel near Gauley Bridge, just upstream of the source of the Kanawha [*kuh-NAW*] River. This state contains the Grave Creek Mound built by the Adena [*uh-DEE-nah*] people, for which the town of Mounds-ville is named. Spruce Knob is located in Monongahela [*muh-NAWN-guh-HEE-luh*] National Forest in the eastern part of this state. This state’s panhandle contains the town Wheeling and is between Ohio and Pennsylvania. This state seceded from another state during the Civil War. Name this state with lots of coal mining, whose capital is Charleston.

Answer: West Virginia

5. David Nesvorný theorized in 2015 that one of these objects caused the Kuiper [KY-pur] Belt kernel. An imager named for Gemini discovered one of these objects in 2015 named 51 Eridani *b*. In recent years, many of these objects, including Kepler 452b, have been discovered using the Kepler Space Telescope. These objects are not massive enough to cause thermonuclear fusion but are large enough to be round and to clear their neighborhoods. The ones in our solar system are classified as terrestrial or giant, and there are eight of them. Name these objects that include Mercury and Venus.

Answer: planet [before “terrestrial”, accept gas giants, Jupiter-like planets, extrasolar planets or exoplanets; do not accept “dwarf planet(s)”]

**Check the score.**

6. During Part One of this composition, the chorus sings, “Accende [ah-CHEN-day] lumen sensibus”, which means “Illuminate our senses.” That first part of this composition is based on a ninth-century hymn by Rabanus Maurus called “Veni Creator Spiritus [VAY-nee kray-AH-tor SPEE-ree-tooss]”. The second part of this composition is based on Goethe’s [GUR-tuh’s] *Faust*. This piece was dedicated to the composer’s wife, Alma, and it was completed in eight weeks after the composer was inspired while walking into his studio during the summer of 1906. Emil Gutmann gave this symphony its nickname. Give the name of Mahler’s Eighth Symphony, which is based on the large number of musicians and singers used in it.

Answer: Symphony of a Thousand [accept Mahler’s 8th Symphony or variations thereon that include both underlined portions before “Mahler”]

7. This city is the location where Operation Anthropoid was carried out, killing the Nazi Reinhard Heydrich [HIE-drik]. This city was the seat of power for Holy Roman Emperors Rudolf the Second and Charles the Fourth. This city was the primary location of protests for the Velvet Revolution, which led to Václav Havel’s [VAH-zlahv HAH-vel’s] presidency. An earlier failed revolution in this city tried to implement “Socialism with a human face.” Both of those revolutions supported Alexander Dubček [DOOP-chek], whose attempt to gain power in the Spring of 1968 was ended by the Soviet Union. Name this city where in 1419 and 1618 people were thrown out of windows during its defenestrations.

Answer: Prague, Czech Republic [or Praha or Prague, Czechoslovakia]

8. Jay Barney has based his study of firms and competitive advantage on this concept, building on work by Birger Wernerfelt [BEER-gur VAIR-nur-felt]. The paradox of plenty is also known as Dutch disease, the curse of oil, and the curse of this concept. The amount of this concept that goes unused is referred to as slack. The idea of opportunity cost is based on the assumption that the supply of this concept is limited, which means that this is scarce. The factors of production are each examples of this kind of thing; among them are capital and labor, while natural examples include land and water. Name this type of input needed to accomplish a task.

Answer: resources [accept factors of production before it is mentioned; prompt on input before it is mentioned]

9. A protein discovered in this organism is named “Mothers against deca·penta·plegic [deh-kah-pen-tuh-PLĒE-jik]”. The receptor tyrosine kinase [TEER-oh-seen KY-nayss] in the ommatidia [om-muh-TIH-dee-uh] of these organisms expresses the seven-less gene. *Hox* genes cause this organism’s segmentation, but can result in antenna·pedia. This organism has abnormally large polytene chromosomes in its salivary glands. Some mutants of these organisms have bar eyes. White-eyed mutants of this organism were used to establish the existence of sex-linked traits by Thomas Hunt Morgan. Name this model insect attracted to rotting food.

Answer: Drosophila melanogaster [droh-SAW-fih-luh meh-LAN-oh-GAS-tur] [or fruit fly or Drosophila melanogaster]

10. In one play by this writer, a woman throws a stone at a man with a note attached saying she mistrusts her words but “I should be very glad to be with you.” In another play by this writer, Damis [dah-meess] disrupts a scheme to entrap the title character, leading to the title character being given more time with Elmire [el-meer] and all of the worldly possessions of Elmire’s husband. That title character is eventually seen as a fraud by Orgon. In another play by this writer, the sincerity of a love sonnet written by Oronte [oh-ROHN-tay] is criticized by Alceste [al-SEST], the title character. Name this French playwright of *The School for Wives*, *Tartuffe* [tahr-toof], and *The Misanthrope*.

Answer: Molière [or Jean-Baptiste Poquelin]

### Check the score.

11. This leader appointed Ebussuud [eh-boos-suh-OOD] Efendi as his highest official. Though this man was mostly generous to Jews, he forced several wealthy Jews to move from Salonika [sah-LAH-nih-kuh] to Rhodes. The body of the architect Mimar Sinan lies just outside of the building Sinan designed for this man, and Sinan also designed the mausoleum for this man’s general Hay·red·din Barbarossa. Though this leader often was at war with Europe, he had positive relations with Akbar the Great, and he married a former Christian, Rox·el·ana. Name this 16th century sultan of the Ottoman Empire who was known as “the Lawgiver” and “the Magnificent”.

Answer: Suleiman I [1] [accept Suleiman the Magnificent, Suleiman the Lawgiver, or Suleiman Kanuni]

12. This person’s first two wives were Chrystie Crowover and Linda Thompson. This person told Ellen DeGeneres, “If that word — ‘marriage’ — is really, really that important to you, I can go with it.” This person was sued by Dana Redmond and William Howe based on the death of their stepmother Kim Howe. Her third divorce went into effect in 2015, around the same time she was the subject of a Diane Sawyer interview and a *Vanity Fair* cover shot by Annie Leibovitz. Name this former Olympic decathlon gold medalist who was featured on *Keeping Up with the Kardashians* and who now identifies as a trans·woman.

Answer: Caitlyn Jenner [accept (William) Bruce Jenner]

13. A sulfate with this substance's cation ["CAT-ion"] is used to purify proteins, as it is so soluble that it "salts out" proteins from solution. This compound rapidly flips its configuration in a type of "inversion" that is the basis for a 24-gigahertz maser. A solution of sodium and this compound forms a deep blue color due to solvated electrons. This compound is oxidized in the Ostwald [OHST-vahld] process to form nitric acid. Like alkali metals, salts of this compound's cation are extremely soluble. This compound is produced in the Haber-Bosch process and is used in fertilizers and cleaning products. Name this compound whose formula is  $\text{NH}_3$  ["N, H three"].

Answer: ammonia [accept  $\text{NH}_3$  before the end]

14. This artist painted a white book by Thomas Carlyle and a yellow book by John Milton on the table in his portrait of Jacob Meyer de Haan. One of his pictures, which shows one woman lying on her back on the beach behind another woman who is sitting up, has a title asking *Are You Jealous?*. Another picture by this artist, showing a woman seated behind a bed with a naked woman lying on her stomach, is *Spirit of the Dead Watching*. His depictions of Jesus on the cross and Jesus being taken down from the cross are known as *The Yellow Christ* and *The Green Christ*. Name this French Post-Impressionist who did much of his work in Tahiti.

Answer: Paul Gauguin [goh-gan]

15. In one poem by this author, the narrator complains that old age has been tied to him like a dog's tail. In another poem by this writer, the narrator dreams of being young and holding a girl in his arms when he is near a traveled man and a politician. This writer of "The Tower" and "Politics" wrote about "bald heads forgetful of their sins" in "The Scholars". He ended a poem about a failed uprising in his country with the words, "A terrible beauty is born." This writer of "Easter, 1916" wrote in a different poem "The falcon cannot hear the falconer" and "The center cannot hold." Name this Irish poet of "The Second Coming".

Answer: William Butler Yeats

### ***Check the score.***

16. This doctrine was the fourth and final doctrine of the *Pastor aeternus*, which was passed at the First Vatican Council and otherwise addressed primacy. This doctrine only applies to certain statements of faith and morals, among which are the dogmas of the Assumption of Mary and of the Immaculate Conception. This doctrine is justified by the Third Council of Constantinople's statement "Peter has spoken through Agatho" and by Saint Augustine's statement "Rome's reply has come: the case is closed." This doctrine only applies to statements *ex cathedra*, which means "from the chair". It is an extension of papal primacy. Name this Catholic doctrine stating that in certain situations the Pope cannot be wrong.

Answer: papal infallibility [prompt on infallibility; accept variations containing forms of both underlined words such as infallibility of the pope; prompt on descriptive answers like the Pope cannot be wrong]

17. This Supreme Court justice wrote a dissent against a state law preventing foreign language instruction in *Bartels v. Iowa*. In addition to Harlan, this justice dissented in *Lochner*, stating “A constitution is not intended to embody a particular economic theory.” In his *Schenck* decision, this person wrote that free speech laws “would not protect a man in falsely shouting ‘fire’ in a theatre”, which created the “clear and present danger” standard. Serving on the court from 1902 to 1932, he became known as the Great Dissenter. Name this justice who was the son of the poet who wrote “The Chambered Nautilus”.

Answer: Oliver Wendell Holmes, Jr.

18. Several pieces for this instrument, including *The Wellspring*, were written by Alphonse Hasselmans. Several exercises for this instrument were written by Carlos Salzedo. Elias Parish Alvars composed a piece inspired by travel with this instrument in the Orient. Mozart wrote a concerto for flute, this instrument, and orchestra. This instrument is on the coat of arms of Ireland. The concert type of this instrument covers six and a half octaves and has seven pedals. Its strings are not perpendicular to its soundboard. This instrument is similar to a lyre [“liar”], but its strings are plucked with fingers. Name this instrument that is six feet tall and has 47 strings.

Answer: (concert) harp

19. This character is accused by his wife of taking the form of Corin, a shepherd in both folklore and a different play, and of “playing on pipes of corn and versing love” to Phillida. This character tells his servant that on the same night that they heard a mermaid singing on a dolphin, there was an arrow shot by Cupid that hit a flower which turned purple and is now called “love-in-idleness”. This character then orders his servant to use juice from that flower to make people fall in love, but his servant confuses Lysander [“LIE”-san-dur] and Demetrius [duh-MEE-tree-uss]. Name this boss of Puck who argues with Titania [tih-TAHN-yuh] and is the King of the Fairies in *A Midsummer Night’s Dream*.

Answer: Oberon

20. Earle Kennard and Howard Robertson refined the original formulation of this rule, which inspired several thought experiments, including the gamma ray microscope. This rule results from matrix mechanics operators that do not commute. This rule explains the difficulty in limiting the energy of short-lived particles, because energy and time are conjugate variables. This rule can be stated as “the reduced Planck constant divided by two must be greater than the product of two standard deviations.” Name this rule stating that there is a limit to how well you can simultaneously know the position and momentum of a particle.

Answer: Heisenberg’s uncertainty principle [accept either underlined portion]

***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. One king of this city was the father of Megara, who married Heracles. Athens under Pandion defeated this city in battle, leading to the death of its King Lab·da·cus. The brothers E·te·o·cles and Poly·ni·ces killed each other while trying to gain control over it. This city was built in Boeotia [bee-OH-shuh] at a spot where a cow lied down, and it was built by warriors who came from dragons' teeth. One king of this city was raised in Corinth by King Poly·bus after being abandoned by his father due to a prophecy. That king, who gouged out his own eyes after killing his father and marrying his mother, was Oedipus. Name this city founded by Cadmus that, according to an Aeschylus [ESS-kuh-luss] title, had *Seven Against* it.

Answer: Thebes [rhymes with "peeves"]

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

<sup>TB</sup>22. In one novel by this writer, the protagonist decided that his wife had "the most stupid, vulgar, empty mind that he had ever encountered". That character had not seen his wife Katharine for nine or ten years after spending 15 months with her. This writer supported the idea of a socialist revolution in England in his essay "The Lion and the Unicorn". In another novel by this author, the offspring of Jessie and Bluebell are used as a security force. That novel features a rivalry between Napoleon and Snowball, who are pigs. Name this author of *Animal Farm* who wrote that "Big Brother is watching you" in his novel *Nineteen Eighty-Four*.

Answer: George Orwell [or Eric Arthur Blair]

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

<sup>TB</sup>23. This state's governor is Jay Inslee. This state's senators are Maria Cantwell and Patty Murray. This state is north of Oregon. Name this state whose cities include Spokane [spoh-"CAN"], Olympia, and Seattle.

Answer: Washington (state)

***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.***