

New Trier Scobol Solo 2014

Round 13



1. One woman in this novel led a happy life, wearing robes “worth more than all the magnificence of Westphalia,” until her fiancé, the Prince of Massa Carara, was given poisoned chocolate by a former mistress. Another woman in this novel was shared by Don Issachar and a church official, who are both killed by the title character shortly after some Portuguese earthquakes. The title character eventually concludes that “we must cultivate our garden” long after being taught that “this is the best of possible worlds” by Pangloss. Name this 18th-century French novel by Voltaire.

Answer: Candide(, ou l'Optimisme) [or Candide(, or, All for the Best), Candide(, or, The Optimist), or Candide(, or, Optimism)]

2. An attempt to move this kingdom towards Protestantism was led by the Lords of the Congregation, who were opposed by Queen Mary of Guise. This kingdom planned to inaugurate a seven-year-old as queen in 1290, but Margaret, Maid of Norway died while traveling to it. During its Second Interregnum, two of the guardians of this kingdom were William de Lamberton and John Comyn. This kingdom was the original home of the House of Stewart, and in 1707 it united with England under Queen Anne. Robert the Bruce became its king after a revolt led by William Wallace. Name this northernmost part of the United Kingdom.

Answer: Scotland

3. Glenn Gould composed a piece whose title asks if you want to write this type of musical composition. A composition of this type by Mozart and nicknamed “Amen” was found in the 20th century and believed to be a part of his *Requiem*. A double type of this composition written by Beethoven is named Grosse. A set of 24 pieces combining preludes and these works was written by Dmitri Shostakovich based on similar works in *The Well-Tempered Clavier*. These pieces have a short melody that is introduced and then further developed using counterpoint. Name these pieces often combined with toccatas by Bach, who composed a work entitled *The Art of* these pieces.

Answer: fugues

4. Protesters in this country in 2013 became associated with the vinegar they carried to lessen the impact of tear gas; those protesters called for free public transportation. Poor slums in this country, which only recently are starting to show up on internet maps, are known as *favelas*. Eduardo Campos died in a plane crash while he was campaigning in this country's 2014 presidential election, and he was then replaced on the ballot by Evangelical environmentalist Marina Silva. The former governor of its state of Minas Gerais, Aécio Neves, ended up losing a runoff against incumbent Dilma [JEEL-mah] Rousseff. Name this large South American country that hosted the 2014 Soccer World Cup.

Answer: (Federative Republic of) Brazil [or República Federativa do Brasil]

5. This character says that he cannot see his own face, “for the eye sees not itself”, and he justifies his actions by referring to another character as “a serpent’s egg”. This person receives a forged letter telling him to “Speak, strike, redress.” Before dying, this character says farewell to his servant Strato. Earlier, he gives a major speech stating “as he was ambitious, I slew him”, addressing that speech to “Romans, countrymen, and lovers.” This character was described as “the noblest Roman of them all” by Marc Antony after this man jumped on his own sword. Name this Shakespearean conspirator who dealt the fatal blow to Julius Caesar.

Answer: (Marcus) Brutus [or Brute; prompt on “Marcus”]

6. One painting by this artist shows a Roman god wearing vine leaves while staring intently at the viewer and holding a bunch of grapes near his face. This artist of *Young Sick Bacchus* painted a man wearing a brown vest with a scallop shell on it, extending his arms towards and away from the viewer as he shares a meal with a biblical character. An open window on the top right is the single source of light in another painting by this artist, in which several men point towards a tax collector resting his head on a table. Name this artist of the *Supper at Emmaus* and *The Calling of Saint Matthew*.

Answer: (Michelangelo Merisi da) Caravaggio

7. The speaker of this poem sees a man “dim, through the misty panes of a thick green light”. Several men in this poem “cursed through sludge” while being “drunk with fatigue; deaf even to the hoots”. This poem was written while its poet was residing at the Craiglockhart hospital while being treated for neurasthenia [NUR-“ass”-THEE-nee-uh]. The speaker of this poem witnesses a man with “white eyes writhing in his face”. This poem begins by describing several men “bent double, like old beggars under sacks, knock-kneed, coughing like hags.” This poem’s title is part of a line from Horace meaning “It is sweet and fitting to die for one’s country.” Name this poem written during World War I by Wilfred Owen.

Answer: “Dulce et Decorum est” [“DULL”-kay et day-KOR-um est]

8. Thermogenin [THUR-moh-JEN-in] was given the name “uncoupling protein” due to its effects on this process. This pathway contains transfers through coenzyme Q and cytochrome [“SIGH”-toh-“chrome”] c, and it ends with an enzyme containing F_O [“F sub O”] and F_1 [“F sub one”] components. This redox series begins in thylakoid membranes after water is split during the light reactions. This energy transfer process creates a proton gradient to power ATP synthase, and uses $FADH_2$ [“F-A-D-H-two”] and $NADH$ [“N-A-D-H”] from the Krebs cycle to provide its namesake particles. Name this portion of aerobic respiration that harnesses the flow of negative particles to generate ATP.

Answer: electron transport chain [accept oxidative phosphorylation or ETC; prompt on (aerobic) cellular respiration before “thylakoid”]

9. This writer complained about “how volubly has the whole tribe of philosophers shown their stupidity and silliness.” This person also wrote that true and sound wisdom comes from “the knowledge of God and of ourselves”. He referred to his critics as libertines, and he was succeeded by Theodore Beza as head of the Company of Pastors. This person was asked four questions by John Knox, and he did not promise safe travels to his Spanish critic Michael Servetus. This writer of *Institutes of the Christian Religion* moved from France to Geneva. Identify this namesake of a branch of Protestantism who advocated predestination.

Answer: John Calvin

10. Because this substance decreases vitreous volume, it is often combined with lemon juice and given to patients with open-angle glaucoma. When this chemical is heated, it decomposes into water and the simplest unsaturated aldehyde, which is acrolein. This molecule combines with three fatty acids to form a common lipid, and it is a sugar alcohol with three carbon atoms in each molecule. This substance is a common byproduct from the production of biodiesel and soap, and is used as a moisturizer and sweetener. Name this compound that is combined with nitric acid to form a compound that is useful as a vasodilator in treating heart conditions, and as an explosive.

Answer: glycerol [or glycerine; accept nitroglycerin after “nitric”; do not accept “glyceride”]

11. John von Neumann [**NOY-mun**] developed a topology without any of these entities, which usually represent an element of a space. These entities are the only primitive objects in Tarski’s axiomization of geometry, which is in contrast to the use of lines, planes, and these objects as the three primitive objects in Hilbert’s system. Playfair’s axiom assumes the existence of a line and one of these entities. In Euclid’s first postulate, two of these objects are joined to form a segment. A line called a directrix and one of these entities called a focus can be used to define conic sections. Three of these entities that are not on the same line define a plane, and any two of them define a line. Name these things that have no area or volume.

Answer: points

12. This facility is named after the third U.S. Secretary of War. While the the HMS *Tonnant* was nearby, this facility was commanded by Major George Armistead against an attack led by Alexander Cochrane after Cochrane set aside some of his troops for a cancelled raid on Hampstead Hill. The suspension of habeas corpus during the Civil War was forbidden after a case about John Merryman, who was imprisoned at this facility. In 1814, this facility was used to defend Baltimore Harbor from British ships. Name this fort whose flag inspired Francis Scott Key to write the lyrics to “The Star Spangled Banner”.

Answer: Fort McHenry

13. The wavefunctions of these particles exhibit symmetry under interchange. The probability that these particles will have a given energy is one over the quantity of an exponential function minus one. The statistics that governs these particles are named for Einstein and the particles' namesake. Because they do not follow the Pauli exclusion principle, these particles can share the same energy level, forming a "condensate". Examples of these particles include the force carriers, which are the gauge types, and the Higgs particle. Name these particles that have integer number spin numbers, in contrast with fermions.

Answer: bosons

14. A major hydroelectricity source along this river is the Kainji Dam. A now dried up river that used to feed this river is the Azawad, and the region that the Azawad ran through now houses an independence movement. At the city of Lokoja, this river is fed by the Benué [ben-way] River. Ethnic groups who live along this river include the Zarma, who, like many people living along this river, speak a Songhai language. The plateau of Yorubaland bounds this river's delta on the west. This river begins near the border of Guinea and Sierra Leone, and a wide part of this river is at Macina in Mali. Name this river that flows to the Gulf of Guinea via a namesake country whose capital is Niamey.

Answer: Niger River

15. When this group was unsuccessful, their leader told them to "Sing 'America' and go back to your billets." The Baltimore & Ohio railroad refused to transport this group, making it difficult for them to leave East St. Louis after they started in Portland, Oregon. This group wanted cash in exchange for their certificates, but they were told that they would have to wait another 13 years. Attorney General William Mitchell ordered the removal of these people. Walter Waters led this group, which was broken up by George Patton and Douglas MacArthur. Name this group of veterans who protested in Washington, D.C. in 1932 in an effort to get more money.

Answer: Bonus Army [or Bonus Expeditionary Force or BEF]

16. One novel by this author is told by Dieter, a demon who takes on the identity of an SS officer. Near the beginning of one of this author's novels, there is a game of seven-card stud, involving a Southerner named Wilson and a Boston Irishman named Gallagher, that is played for Australian pounds. In that book, Major Dalleson takes over a battle on the island of Anopopei. This author of *The Castle in the Forest* also wrote about the 1967 March on the Pentagon and the return of the death penalty to America in 1977. Name this author of *Armies of the Night*, *The Executioner's Song*, and *The Naked and the Dead*.

Answer: Norman (Kingsley) Mailer

17. This ruler defeated Rim-Sin I to gain control of Larsa. That victory was later credited to the god Enlil, though this leader decreased the importance of Enlil by moving the religious center of his empire away from Nippur. This son of Sin-Muballit was part of the Amorite Dynasty. The city of Sippar is believed to be the original home of the seven-foot-tall stele depicting this king with the sun god Shamash and containing Akkadian text. That stele includes the words “If a man destroy the eye of another man, they shall destroy his eye.” Name this leader of the Babylonian Empire famous for his early code of laws.

Answer: Hammurabi

18. One Tanabe [tah-nah-bay]-Sugano diagram exists for each arrangement of these entities, although three of the cases are trivial. These entities always contain two planar nodes. These entities split into different energy levels when they interact with ligands [LY-gaandz] in coordination complexes. These entities are required to form a quadruple bond as two of them overlap to form a delta bond. These five entities do not exist when the principle quantum number is below three. They are labeled xy , yz , xz , $x^2 - y^2$ [x squared minus y squared], and z^2 . They have an angular momentum quantum number between those of p and f orbitals. Name these orbitals that are typically partially unfilled in transition metal elements.

Answer: d orbitals [prompt on orbitals before “ p and f ”]

19. This person wrote that master morality consists of saying “yes” to oneself, while slave morality consists of saying “no” to everything that is non-self. After referring to his readers as “hyperboreans”, this writer said “Christianity has taken the side of everything weak” in his book *The Antichrist*. A dialogue between The Wanderer and The Shadow ends this person’s *Human, All Too Human*, a book which foreshadowed his *On the Genealogy of Morals*. This person represented the goal of humanity as the Übermensch, which tied into his saying that “God is dead.” Name this philosopher who wrote *Thus Spoke Zarathustra*.

Answer: Friedrich (Wilhelm) Nietzsche [NEET-shuh]

20. A design museum that opened in 2007 in this city has two triangular, hand-sanded steel roofs and is called the 21 21 Design Sight. Eight hyperbolic paraboloids in the shape of a cross form the exterior of this city’s St. Mary’s Cathedral. A suspension bridge that lights up at night in this city is called the Rainbow Bridge, and an exhibition center here that looks like inverted pyramids is called Big Sight. A very tall tower in this city is called the Skytree, and this city contains an orange structure very similar to the Eiffel Tower. Frank Lloyd Wright worked on its Imperial Hotel. Name this city, formerly known as Edo, that is the capital of Japan.

Answer: Tokyo, Japan

TB21. A manifesto written during this event claimed that its words belong to “Workers, Farmers, Officials, Scientists, Artists, and Everybody.” Soon after the end of this event, Jan Palach self-immolated, and this event ended soon after the issuance of the Bratislava Declaration. The aforementioned manifesto was “The Two Thousand Words” by Ludwig Vaculik. The aftermath of this event led to the replacement of Alexander Novotny and the rise of Gustáv Husák. This event started after the passage of the Action Programme, in which former Prime Minister Alexander Dubcek hoped for a “socialism with a human face”. Name this 1968 uprising put down by the Soviets in Czechoslovakia.

Answer: Prague Spring [or Praské jaro or Praská jar]

TB22. Along with water and urea [yoo-REE-uh], this compound is a product of pyrimidine [peer-IH-mih-deen] catabolism [kuh-TAA-buh-lizm]. This compound is stored as malate [MAAL-ayt] in bundle sheath cells, and in the Krebs cycle each molecule of acetyl-CoA [uh-SEE-tul koh-“A”] will result in the production of two equivalents of this molecule. This molecule’s reaction with water is the primary cause of ocean acidification; the same reaction also forms a buffer in the blood. This compound is the primary substrate of the most common enzyme on Earth, RuBisCO [roo-BISS-koh], and the net reaction of photosynthesis combines water with six molecules of this gas to form glucose. Name this byproduct of respiration, which is released when animals exhale.

Answer: carbon dioxide [or CO₂]

TB23. Identify the body part that was sacrificed at Mimir’s well by Odin, describes the calm center of a hurricane, and is the human organ of vision containing a retina, lens, and pupil.

Answer: eye