

NEW TRIER SCOBOL SOLO 2012

ROUND 2

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1. In one work by this songwriter, two characters compare each other to “an O’Neill drama” and “Whistler’s mama”, telling each other “if, baby, I’m the bottom, you’re the top!”. Artie Shaw popularized one song by this composer that was inspired by music from the Caribbean called “Begin the Beguine”. This lyricist created the song “I Get a Kick Out of You” for a musical in which Evelyn [EE-vuh-lin] Oakleigh’s marriage to Hope Harcourt is called off due to the work of Billy Crocker. In another musical created by this man, Lilli Vanessi and Fred Graham reconcile their marital troubles during a performance of *The Taming of the Shrew*. Name this American songwriter who created the musicals *Anything Goes* and *Kiss Me, Kate*.

ANSWER: Cole (Albert) **Porter**

2. This justice formalized the “one man, one vote” principle by writing the decision requiring states to have roughly equal populations per representative, *Reynolds v. Sims*. While he was Chief Justice, the entire court signed a decision requiring states to obey its decisions, *Cooper v. Aaron*. Before his Supreme Court tenure, he served ten years as governor of California and ran for vice president on Thomas Dewey’s ticket. As Justice, he also wrote *Miranda v. Arizona* and controversially used psychological criteria in a decision backed unanimously by the other justices, *Brown v. Board of Education*. Name this justice who headed the commission that investigated the assassination of President Kennedy.

ANSWER: Earl **Warren**

3. In quantum mechanics, this phenomenon corresponds to evenly spaced discrete energy levels and a ground state energy of $\hbar\omega$ over two. An extension of this movement to two dimensions traces out a Bowditch curve, which is also known as a Lissajous [lis-ah-zhoo] figure. This occurs when objects have an acceleration that varies inversely with the opposite of position. One commonly given example of it is only an estimation based on a small-angle approximation, which assumes that the sine of theta is approximately theta. Generally, this happens when freely moving objects are subject to Hooke’s Law, as for spring oscillations. Name this periodic sinusoidal motion that occurs when objects move back and forth.

ANSWER: **simple harmonic** motion [or **SHM**; accept **simple harmonic** oscillation or **SHO**; prompt on partial answers; prompt on **sinusoidal** motion]

4. The writer of this poem claimed that it was about his friend Edward Thomas. Its fourth and final stanza begins “I shall be telling this with a sigh somewhere ages and ages hence.” The last stanza contradicts three statements in the second and third stanzas, the first of which is the phrase “as just as fair.” The other two contradicted phrases are “passing there had worn them really about the same” and “both that morning equally lay in leaves no step had trodden black.” Name this Robert Frost poem set in a yellow road where the narrator took a path less traveled by.

ANSWER: “The **Road Not Taken**”

5. One work by this artist, which shows dark blue factories under a bright blue sun with red reflections in the water, is *East River Number One*. Several works by this artist show rivers, though it is not clear whether *From the River*—with its yellow and pink shadows—shows a river or a tree branch. A series of works by this artist, inspired by the view from airplanes, show a blue background with a large number of white clouds. This artist’s *Petunia Number Two* was followed by many large close-ups of flower blossoms, including several black irises. Name this painter of animal skulls who set many of her works in the American Southwest and was married to Alfred Stieglitz.

ANSWER: Georgia (Totto) **O’Keeffe**

6. The “Tucker” one of these objects is inscribed within a reference triangle. A regular one can be constructed by starting with two congruent circles with the center of one on the circumference of the other, then repeatedly drawing circles centered at the intersection points. Regular polygons of this type are the most perimeter-efficient way to tile the plane, and the circumradius of one of them equals the side length. The area of a regular one with side length x is 3 halves radical $3 \times$ squared. Name this shape with internal angles summing to 720 degrees and—in the regular case—external angles that are each 60 degrees, defined by having 6 sides.

ANSWER: hexagons [accept 6-gon until “6”]

7. This writer wrote that Adam lost bliss and immortality when he committed original sin in his work *The Reasonableness of Christianity*. He earlier wrote that religious toleration should be helpful to government stability, but that atheists cannot be tolerated because they would not follow oaths, in his *A Letter Concerning Toleration*. Another work is very critical of Robert Filmer’s *Patriarcha* and describes legitimate civil government as supporting life, liberty, and estate. Another work by him argues against the existence of innate ideas and supports the conception of human learning starting with a blank slate, or *tabula rasa*. Name this writer of *Two Treatises of Government* and *An Essay Concerning Human Understanding*.

ANSWER: John Locke

8. A recently discovered example of this type of substance is water-splitting cobalt oxide, which is not well understood but seems to use phosphate anions [AAN-“eye”-ahnz]. Another replaced the use of Schrock carbenes [KAHR-beenz] and is named after Robert Grubbs. In the homogeneous or acid type of this, protons usually perform this kind of substance’s main function, while the heterogeneous type often involves transition metals such as palladium or platinum. Commonly, one of these is used as an intermediate in a reaction, increasing the number of steps but lowering the activation energy. Name these materials unchanged by a chemical reaction that change the reaction rate.

ANSWER: catalysts [accept word forms; do not accept “enzyme”]

9. In one novel by this author, Kory-Kory serves Toby and Tommo after they flee ship on the island of Nukuheva. In another one of his stories, Amasa Delano is surprised to see the skeleton of Alexandro Aranda and believes that Babo is a slave. That novella, which appears in *The Piazza Tales*, is *Benito Cereno*. This author also wrote about a man who when asked to proofread a document stated “I would prefer not to”. In his best known novel, Peleg and Bildad own the *Pequod*, a ship commanded by Captain Ahab. Name this author of *Typee*, “Bartleby the Scrivener”, and *Moby-Dick*.

ANSWER: Herman Melville

10. The “donation” named for this leader returned possession of Ravenna to the pope. According to legend, this leader was crowned at Soissons [swah-sawn] by Saint Boniface. This man defeated Aistulf in 756 and was succeeded by Carloman I. His father strengthened their dynasty with a victory at Tours [toor], and this king was the first civil leader ever crowned by a pope. His more famous son was the first Holy Roman Emperor. Identify this first Frankish king of the Carolingian Dynasty, the son of Charles Martel and father of Charlemagne.

ANSWER: Pepin the Short [or Pepin the Younger or Pepin III; prompt on Pepin]

11. This city's history is the subject of its Heritage Square Museum in its Montecito Heights neighborhood. Its George C. Page Museum in Hancock Park on Wiltshire Avenue contains many fossils found at a site in the city. In 2012, the USS *Iowa* was put on permanent display at its port on San Pedro Bay. Its municipal art gallery is named for Aline Barnsdall, who lived in the Frank Lloyd Wright-designed Hollyhock House, and van Gogh's *Irises* is on display at its Brentwood neighborhood's Getty Center. This city is also the home of Grauman's Chinese Theatre near the Hollywood Walk of Fame. Name this populous city in southern California.

ANSWER: Los Angeles, California [do not accept "Hollywood"]

12. An unusual type of these entities is holandric, which probably is responsible for some infertility. A genetically dominant example, which leads to severe kidney disease and poor hearing, is Alport syndrome. Another example, existing when a person does not create the protein dystrophin [DIS-truh-fin], is known as Duchenne [doo-shen] muscular dystrophy. One type of experiment on these was the reciprocal cross, which was used to study the occurrence of white eyes in fruit flies and can be explained using Punnett squares. A very common example is red-green color blindness. Name these characteristics which are passed on differently by fathers and mothers, usually because they are located on the X chromosome.

ANSWER: sex-linked trait or disorder [accept similar answers including sex and a form of the word link; prompt on genetic or chromosomal or similar answers]

13. In one work by this writer, the title character takes advantage of Cosroe's jealousy of Mycetes [my-SEE-teez] and later conquers Antarctica. The second part of that historical work includes the burning of a Koran. In another work, which has a prologue narrated by Machevill, the title character uses his daughter to have Don Mathias and Don Lodowick kill each other, and then plays a role in poisoning his daughter Abigail after she joins a nunnery. That work involves Ithamore, a Turkish slave to Barabas. Name this British playwright of *Tamburlaine* and *The Jew of Malta* who around 1590 wrote his version of *Doctor Faustus*.

ANSWER: Christopher Marlowe

14. This leader was kidnapped for three days by a Gang of Eight associated with the State Committee of the State of Emergency, which did not allow him to leave the Crimea. He ended the internal exile of nuclear physicist and political dissident Andrei Sakharov, and he signed an Intermediate-Range Nuclear Forces Treaty with the United States. He ended Russian intervention in Afghanistan, and propounded policies whose names translate to "restructuring" and "openness", which in Russian are "perestroika" and "glasnost". He was the only person ever to serve as President of the Soviet Union, and he allowed Eastern European nations to choose their own governments. Name this last leader of the Soviet Union, who ruled from 1985 to 1991.

ANSWER: Mikhail Gorbachev

15. One of the sections of the D major part of this piece is its Alla Hornpipe, while one of the sections of the G major part is a type of French dance known as a rigaudon. It often features three rising half notes followed by a higher quarter note followed by a lower half note. Friedrich Chrysander and Samuel Arnold ordered the sections of this piece differently, and there is still disagreement over how to order the pieces of this within its long F major suite and two shorter suites. Its first performance was in 1717 featuring fifty musicians on a boat on the River Thames. Name this work written for King George I and often paired with *Music for the Royal Fireworks*, written by George Frideric Handel.

ANSWER: Water Music, HWV 348–350

16. A dream dialogue between the narrator and his former lover's dead husband in one work by this author has caused some people to label him a misogynist. In addition to that work, sometimes called *The Crow*, he wrote a story that inspired Shakespeare's *All's Well That Ends Well*. In one of his stories, a Parisian Jew converts after traveling to Rome because he believes that any religion that remains popular despite corrupt leadership must be true. In another story, Ciappelletto [chah-pehl-LEH-toh] is revered as a saint because he dies in a town that is unaware of his life. Those stories are told by Neifile [NAY-fih-lay] and Panfilo, who are in a group that has left Florence during a plague. Name this author who collected one hundred stories into his *Decameron*.

ANSWER: Giovanni **Boccaccio** [bohK-KAHCH-choh] [accept *Il Corbaccio* [kor-BAHCH-choh] or *The Crow* before "this author"]

17. Operators that follow this property are known as hull operators and must be extensive, non-decreasing, and idempotent. Sets with this property must contain all of their limit points, or boundary points. The operation subtraction follows this property for real numbers but not for positive real numbers. The square root function does not have this property for rational numbers because some of its outputs are irrational or imaginary. Name this property requiring an operation to give a result taken from the same set as its inputs.

ANSWER: (topological or algebraic) **closure** [accept **closed**]

18. This event occurred shortly after Blue Books shown to the House of Commons described how officers were allowed to torture and often took property when exorbitant taxes were not paid in full. An opportunity to stop it was missed due to the poor health of Major General Hewitt, and one of the first actions in this event was an attempt to shoot Henry Baugh that killed Baugh's horse. The shooter, who was hanged after a failed suicide attempt, was Mangal Pandey. It included the freeing of prisoners in Meerut, and soon afterward Emperor Bahadur Shah gave his support. It spread to Cawnpore, Lucknow, and Delhi in 1857. Name this rebellion that started in part because of tallow-greased cartridges that had to be bitten, which offended Hindus and Muslims.

Answer: **Sepoy** Mutiny [accept similar answers including **Sepoy**; accept logical equivalents of India's **First War of Independence** or **Indian Rebellion** of 1857; prompt on **Great Rebellion**; prompt on **Indian Mutiny**; prompt on answers like **Revolt of 1857**]

19. One of these beings who gave roasted meat to Heracles during his hunt for the Erymanthian boar was named Pholus. A group of them caused a disturbance at the wedding of Hippodameia and Peirithous, causing a battle between the Lapiths and these creatures. They were the offspring of a child of the cloud Nephele [NEF-eh-lee] and Ixion. One of these said that his blood was a love potion after that one, Nessus, attempted to rape Deianara, Heracles' wife. The most civilized of them trained heroes like Jason and Theseus, and was named Chiron [KY-rahN]. Name this race of beings known for their drunken violence who were half man and half horse.

ANSWER: **Centaurs** [accept **Kentauros** or **Kentauroi**]

20. Some early supporters of the work of this scientist were Émile Argand, who studied the Alps, and Alexander Du Toit, but his many detractors included paleontologist George Gaylord Simpson. His theories became more popular long after his death thanks to increased data on the Wadati-Benioff [wah-DAH-tee BEH-nee-awf] zone and other parts of the ocean floor. Though much of his efforts while alive were in exploring Greenland and the jet stream, his most famous theory arose from studying books of fossil similarities in different locations and maps showing shapes of landforms. His book *The Origin of Continents and Oceans* contained the theory that there had once been a single giant continent. Name this early-20th-century German scientist who developed the theory of continental drift.

ANSWER: Alfred **Wegener** [VAY-gun-ur]

TB1. Functions of this type can be represented as the convolution of a Shah function or Dirac Comb with a function. The Laplace transform of this type of function requires a factor of 1 over the quantity 1 minus an exponential. The complex exponential is this type of function in the direction of the imaginary axis, and other examples include sawtooth and square wave functions. They can be decomposed into Fourier series, and any function of this type obeys f of x equals f of the quantity x plus k , end quantity, for some nonzero k . Identify this class of functions exemplified by the sine and cosine, which repeat their values at regular intervals.

ANSWER: periodic functions [accept word forms of period]

TB2. A collider named for relativistic collisions of these particles achieved a temperature of four trillion kelvins in 2010 at Brookhaven National Lab. The thrusting of these, sometimes done to control movement in space, is done using the Lorentz force or the Coulomb force. Channels of these exist in cell membranes, and a high concentration of them in a gas-like state is a plasma. A type of batteries are named for the fact that they use this type of lithium particle. Name these molecules or components of molecules whose names typically end with the suffix -ate or -ite, and that have either a positive or negative net charge.

ANSWER: ions

TB3. This is the birth month of Neil Armstrong, Usain Bolt, Mother Teresa, and Barack Obama. Name this month featuring the Perseid Meteor Shower and no U.S. federal holidays that follows July.

Answer: August