

NEW TRIER SCOBOL SOLO 2010

ROUND 1

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1. The last name of one character in this work is jokingly said to be “Temptation”; she sings the waltz “Quando me’n vo soletta per la via” after the appearance of a toy vendor named Parpignol (PAR-pihn-yohl). This opera opens with a painter working on *The Passage of the Red Sea* and a poet deciding to burn the manuscript of one of his plays. The poet soon assists and falls in love with a seamstress. Other important characters are a philosopher named Colline and a musician named Schaunard. The love between Rodolfo and Mimì turns tragic when Mimì gets sick, probably with tuberculosis. Name this Giacomo Puccini opera set in the Latin Quarter of Paris that inspired the Jonathan Larson musical *Rent*.

ANSWER: *La bohème*

2. This compound is absorbed in the chilled ammonia process, and efforts are now starting to store this in porous sandstone that has been drained of its oil. Commonly used in its supercritical fluid state to decaffeinate coffee, its more common gaseous state is a good atmosphere for welding. When it is important not to leave a chemical residue, this compound is used in fire extinguishers. This compound is combined with water to create glucose and oxygen during photosynthesis, and it is used to make the fizz in soft drinks. Name this triatomic molecule whose increased concentration in the atmosphere is believed to be a major cause of global warming.

ANSWER: carbon dioxide [or CO₂]

3. This character presents a final painting that decides a contest in favor of the group wearing red. He marries the daughter of the Minister of the Left. After she dies, he marries the Third Princess, who eventually becomes a nun after giving birth to another man’s child. One chapter in his story is titled “Vanished into the Clouds” and left blank; because this character does not appear later, it is assumed that he dies in that chapter. Name this lover of many women, including Lady Murasaki, written about in eleventh-century Japan.

ANSWER: Genji

4. All three of this state’s delegates to the Constitutional Convention became members of Congress who contributed to the Judiciary Act of 1789. One of this state’s delegates, who chaired the five-member Committee of Style, was William Samuel Johnson. Another one, who eventually became Chief Justice of the Supreme Court when John Rutledge’s nomination was rejected, was Oliver Ellsworth. This delegation proposed a bicameral legislature, with one house giving states an equal number of representatives and the other making representation proportional to population, a plan that became known as the Great Compromise. Name this state whose delegation also included Roger Sherman, who had been the first mayor of New Haven.

ANSWER: Connecticut

5. People who follow this religion claim that they serve Ginen and try to enter into konesans. In its mythology, families are guarded by Boli Shah, and the father figure is a white snake named Damballa. The supreme creator god is Bondye, but adherents pray towards spirits known as Lwas, which can be reached by appealing to Papa Legba. Variations of this religion are associated with Benin and Haiti. Name this religion that, because of related practices in New Orleans, is believed by many Americans to allow people to harm each other by sticking pins in dolls.

ANSWER: vodou [or vodun; or voodoo]

6. The Marcinkiewicz–Zygmund (mar-sihn-KEE-vich ZIG-moond) inequality concerns the sum of the variances of variables with this property. The General Poisson (pwah-SOHN) Approximation Theorem holds for events with the asymptotic type of this property, and events can have this property as well as mutual exclusivity only if at least one of them has probability zero. If the covariance, or equivalently the correlation coefficient, of two events is zero, then they have this property; and the multiplication rule in probability applies to any number of events that all have this property. Formally, events *A* and *B* have this property if the probability of *A* given *B* equals the probability of *A*. Name this property of statistical events that means that the outcome of one is unrelated to the outcome of the other.

ANSWER: event **independence** [or **independent** events, *etc.*]

7. This leader once stated, “I cannot believe that the purpose of all these sacrifices was to have less expensive melons.” After describing a treaty that gave immunity to Americans as capitulation, this leader was exiled to Bursa, and he then moved to Najaf and then Northern France. Once in power, he appointed Prime Minister Bazargan to replace Shapour Bakhtiar, while he took the title of Supreme Leader. Taking control when Mohammad Reza Pahlavi left the country, he fought a devastating war with Iraq, issued a fatwa against Salman Rushdie, and supported students who took American hostages. Name this religious leader in charge of Iran during the 1980s.

ANSWER: Grand Ayatollah Imam Ruhollah Moosavi **Khomeini**

8. This poet’s first major work begins with a dialogue between Meliboeus (me-li-BO-us) and Tityrus (ti-TIE-rus) as its first of ten parts, including a discussion of the division of lands after the Battle of Philippi (fi-LI-pie). This poet’s second major work, which begins by praising joyful harvests, contains four books describing the divinities and methods associated with agriculture. In his third work, which begins by stating, “I sing of arms and a man,” he tells of a hero who enters Hades with a golden bough and falls in love with Dido (DIE-doh). Name this Latin poet who wrote the *Eclogues*, the *Georgics*, and the *Aeneid*.

ANSWER: Publius **Vergilius** Maro

9. In this novel, when Aymo dies the protagonist thinks, “He looked very dead. It was raining.” This novel’s protagonist’s lover fears rain, and the beginning of this book states that rain brings cholera (KOH-luh-ra). After being operated on by Dr. Valentini, the protagonist of this novel is forced to recuperate in Milan, but he is glad to learn that a nurse he met in Gorizia has been transferred there. Name this novel about Catherine Barkley and Frederic Henry during World War I, written by Ernest Hemingway.

ANSWER: A **Farewell to Arms**

10. This archipelago (ar-kih-PEH-lah-goh) was the home of the Selknam people, who became extinct after being moved to Dawson Island. This archipelago also was the home of the Yaghan people, one of whom became known as Jemmy Button. Its largest city is Ushuaia, and, before the Galápagos Islands, it was visited by the first two missions of the HMS *Beagle*. The region south of this archipelago is the Drake Passage, and its northern boundary is the Strait of Magellan. Name this group of islands, the southernmost portion of Patagonia, shared by Argentina and Chile at the tip of South America whose name means “Land of Fire”.

ANSWER: **Tierra del Fuego** [accept **Land of Fire** before the end]

11. In C4 plants, the enzyme PEP carboxylase (kar-BAHK-sih-lays) is found in this type of cell, which lies adjacent to the bundle sheath. In most plants, this type of ground tissue is bounded by the upper and lower surfaces of the lamina and is divided into regular and loosely arranged cell layers called the palisade and spongy layers, respectively. Obtaining carbon dioxide through the stomata, name this middle layer of leaf tissue where most photosynthesis in a plant occurs.

ANSWER: mesophyll

12. Parts of this person's diaries were stored in a secret Russian archive until 1992, when they were transcribed by David Irving. In February 1945, this man wrote an article titled *The Year 2000* predicting that the Bolsheviks would take over Europe and that a better alternative would be an alliance between Britain and Germany. A few months later, he ordered that his six children be killed with morphine and cyanide and then committed suicide together with his wife. Nicknamed at one point the Marat of Red Berlin, he was eventually appointed General Plenipotentiary for Total War and, for his final few hours, was the Reich Chancellor of Germany. Name this man who spoke during book burnings and who was the Reich Minister of Propaganda.

ANSWER: Paul Joseph Goebbels (GUR-bulz)

13. In 1946, Bernard Lovell used one of the first radio telescopes to determine the size of one of these events, whose most atypical example is linked to the break up of 3200 Phaethon. One of these events named for St. Cyril was unique because it had no radiant, while the two best known ones were caused by objects called Tempel-Tuttle and Swift-Tuttle. The magnitude of these events can be assessed in terms of zenithal hourly rate, and many of these events produce clouds of ionized silicon and magnesium in the upper atmosphere. Caused by the Earth passing through the debris stream of a comet, and including the Leonid in November and Perseid in August, identify these events in which many rocks enter the atmosphere at the same time, creating numerous bright streaks across the night sky.

ANSWER: meteor shower

14. This painter lived for a few years at the Shelton Hotel and while there painted several New York City skyscrapers such as the Radiator Building. After leaving New York, this artist portrayed nature scenes such as a painting showing the Chama River titled *Blue River* and some works showing Cerro Pedernal. Views from airplanes led to the series of paintings *Sky Above Clouds*. This painter also made several paintings of a jack-in-the-pulpit and another series showing individual red cannas and red poppies. Beginning in 1929, this artist spent a lot of time in New Mexico, often painting animal bones, including skulls. Name this wife of photographer Alfred Stieglitz.

ANSWER: Georgia O'Keeffe

15. This character's appearance is highly anticipated because he hints that there will be a little box of interest inside his luggage when it arrives from Millcote. He is then described as half reclining on a couch, paying attention to the dog Pilot and the student Adèle Varens. This character is insinuated to have had a former affair with Adèle's mother Celine, and he is the master of Thornfield. Identify this husband of Bertha Mason who falls in love with the title character in Charlotte Brontë's *Jane Eyre*.

ANSWER: Edward Fairfax Rochester [prompt on Edward]

16. This mathematical system can be modeled in the conformal disk model, or for the two-dimensional case by the half-plane model, both of which are named for Poincaré (poin-kar-AY). This system incorporates the ultraparallel theorem and possesses negative curvature, allowing Saccheri (suh-CAIR-ee) quadrilaterals in it to have acute summit angles. That is a consequence of allowing multiple lines through a particular point to be parallel to a given line, which also means that triangles in this type of system have degree sum less than one hundred eighty degrees. Developed by János (YAH-noash) Bolyai and Nikolai Lobachevsky, name this type of geometric system that violates Euclid's (YOO-klid's) fifth postulate, contrasted with Euclidean and elliptical geometries.

ANSWER: hyperbolic geometry [prompt on non-Euclidean geometry/ies; accept Bolyai-Lobachevskian geometry before "Lobachevsky"]

17. This general destroyed one city by lifting archers on cranes and then replacing the archers with huge battering rams. A few years after destroying Naissus, he destroyed Marcianople (mar-kee-uh-NO-pull) while fighting against Arnegisclus during the Battle of the Utus. In a later battle, this leader joined forces with Valamir in the battle that killed Theodoric, but he was defeated by an alliance of Franks, Visigoths, and Romans under Aëtius (AY-tee-us); that was the Battle of Châlons. For eleven years following the death of Rugila, until a supposed hunting accident, this man ruled with his brother Bleda, and this leader died following his marriage to Ildico. Name this fifth-century leader known as the Scourge of God, the leader of the Huns.

ANSWER: Attila the Hun

18. This writer said that teaching music would be in the last place of his teaching priorities, and he titled his first chapter "Hardening the body" in his book *Some Thoughts Concerning Education*. In another work, he attempted to differentiate between "a ruler of a commonwealth, a father of a family, and a captain of a galley." He did that after showing that the story of Adam and Eve did not support absolute monarchy. In another work, this writer put in the parenthetical remark, "For white paper receives any characters." Name this seventeenth century philosopher who wrote *An Essay Concerning Human Understanding* and *Two Treatises of Government*.

ANSWER: John Locke

19. This quantity can be expressed as a tensor with the off-diagonal elements proportional to the products of two distances which generally need to be integrated to cover a body. If a body lies in a plane, the sum of these values with respect to the axes in that plane equals this value with respect to the third axis. This value can be calculated about a different axis in the parallel axis theorem, and for a solid sphere about a diameter, it has a coefficient of two-fifths. In general, this value is calculated by summing mass times radius squared for a body. Name this rotational analogue of mass, commonly represented by a capital *I*.

ANSWER: first mass moment of inertia [accept rotational inertia or angular mass or rotational mass before "rotational analogue"; prompt on capital I before the end; do not accept or prompt on "mass" or "inertia"]

20. Ernst von Dohnányi wrote a collection of four of these types of songs in addition to an American one. Claude Debussy dedicated his first song of this type to Prosper Mimart and never completed his second one. A famous set of nineteen of these pieces has its fast sections labeled as friskas and its slow sections labeled as lassans. This term generally applies to single movement pieces that are free in style such as the work Sergei Rachmaninoff wrote based on the 24th caprice of Italian violinist Niccolò Paganini. Name this type of work which includes Franz Liszt's Hungarian pieces and George Gershwin's one "in Blue".

ANSWER: Rhapsody/-ies

Read the tiebreaker questions only if there is a tie after the above 20 questions. The first correct answer wins the match.

TB 1. Notable features of this region include nickel mountain and tin ridge, while areas falling outside it include superheavy island. The boundaries of this region can be defined in terms of symmetry energy, and while it naturally includes the magic numbers like 8 and 20, it unexpectedly does not contain any isotopes of technetium. Atoms above this region are prone to spontaneous beta decay, while those below produce positrons, and as atomic number increases, this region diverges from the line Z equals A minus Z . Ending at atomic number 84, identify this zone on the protons-versus-neutrons scatterplot that includes all known non-radioactive nuclei.

ANSWER: **zone of stability** [or **stability zone**]

TB 2. This author wrote about a poet trying to complete a work titled *London Pleasures* named Gordon Comstock and about a feud involving Dr. Veraswami. This author also wrote about a protagonist who has not seen his wife Katharine for about ten years and who compares her to a jointed wooden image. That character finds an article referring to Aaronson, Jones, and Rutherford and falls in love with a Fiction Department employee named Julia. In another novel by this author, the death of Old Major leaves a power vacuum which Napoleon and Snowball attempt to fill. Identify this author of *Keep the Aspidistra Flying*, *Burmese Days*, *Nineteen Eighty-Four*, and *Animal Farm*.

ANSWER: George **Orwell** [or Eric **Blair**]

TB 3. Name the mode of transportation that...carried the Freedom Riders on their trips to integrate the South; Rosa Parks was on when she refused to give up her seat to a white passenger; and transports millions of children to and from school each day.

ANSWER: **bus**