

NEW TRIER SCOBOL SOLO 2010

CHAMPIONSHIP MATCH — PHASE III

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41. One type of these objects consists of all finite words built from a set; that is the free variety. They are partitioned by their orbits under an action, and these mathematical structures can be represented by Cayley graphs or Cayley tables. The types of these objects that represent the symmetries of a regular polygon are known as dihedral ones, and those that can be generated by products of a single element are called cyclic. If they are commutative, they are known as abelian. Name these mathematical structures that consist of a set closed under a binary operation that is associative and possesses inverses and an identity.

ANSWER: **groups**

42. According to a character in this play, Susie McPheeters had tobacco juice spit in her face and Papa Flynn manipulated the stock market. In this work, Dixie, Trixie, Buster, Sonny, and Polly are the children of Mae and Gooper, and Mae is pregnant with their sixth child, which is in contrast to the childless marriage of Gooper's brother. Gooper and his brother Brick are not telling their father, Big Daddy, about his cancer, and Brick's wife Maggie wants very badly to have children. Identify this play about the Pollitt family by Tennessee Williams.

ANSWER: ***Cat on a Hot Tin Roof***

43. Lesions in this structure can cause hemiballism, resulting in the most violent type of involuntary limb movement. In humans, this structure is the largest in the diencephalon and its two halves sit on each side of the third ventricle. The somesthetic nuclei connect this structure to the midbrain, and by linking the cerebellum to the frontal lobe, it permits voluntary motor control. Blocking stimulus signals during sleep, name this "sensory switchboard" of the brain that relays information on sight, sound, touch, and pain from the sense organs to the cerebral cortex.

ANSWER: **thalamus** [do not accept "hypothalamus"]

44. Intelligence for this battle was provided by Oscar Williams, and one of its causes was that Secretary of the Navy John Long left work early one day, leaving his assistant in charge. The victorious flagship was the USS *Olympia*. American victory was easy because the enemy cruiser *Castilla* was taking on water before fighting began, Subic Bay was not prepared, and Admiral Montojo positioned the battle so that American ships could not be hit by bullet fire from land. US ships, which had been commanded to prepare for battle by Teddy Roosevelt, sailed from Hong Kong and entered battle through Boca Grande south of Corregidor. Name this first major battle of the Spanish-American War, a major victory for Admiral Dewey.

ANSWER: Battle of **Manila Bay** [do not accept "Manila"]

45. In the Book of Acts, a person with this name speaks after Barnabas and Paul at the Council of Jerusalem, saying that they should not make it difficult for Gentiles who are turning to God. The epistle bearing this name warns rich oppressors and tells Christians not to favor a guest with fine clothes over one with shabby clothes. Santiago de Compostela in Spain is believed to house the remains of a saint by this name, the brother of John and son of Zebedee. Catholics believe that the son of Alphaeus and the ones called the Less and the Just are all the same person. Because of a passage in Galatians, a person with this name is sometimes considered to be the brother of Jesus. Give this name belonging to two apostles.

ANSWER: **James**

46. The current Prime Minister of this country was almost killed when thirteen grenades were thrown as she finished a speech in 2004. That politician was voted out of office in 2001 when this country's Four Party Alliance won a landslide victory over the Awami League, but she was voted back in after receiving the support of a former President she used to be very critical of, Jatiya Party leader Hussain Muhammad Ershad. International attention has been given to an organization in this country which makes its customers recite Sixteen Decisions. That organization's name, which means Bank of the Villages, is Grameen Bank, and it was founded by Muhammad Yunus. Name this country headed by Prime Minister Sheikh Hasina Wazed whose largest cities are Chittagong and Dhaka.

ANSWER: The People's Republic of Bangladesh [or Gônoprojātontri Bānglādeśh]

47. The Littrow variety of these objects is prone to the development of ghost images, which is reduced in the Clark type and eliminated in the oil-spaced doublet. One of the two parts of these lens types traditionally contained a lot of lead oxide, but it now usually contains titanium dioxide or zirconium dioxide in an effort to lower the Abbe number. In addition to that diverging flint glass, there is often fluorite or lanthanum in the converging crown glass to lower dispersion. Name this type of lens designed to reduce fringing and false color by bringing two wavelengths, usually red and blue, to the same focus point.

ANSWER: achromatic lenses [prompt on lenses before mentioned]

48. This novel refers to prison reformer Benjamin Appert, claiming that he is only interested in blaming others and attracting media attention. He visits a ninety-year-old priest who teaches Latin to the protagonist of this work. That protagonist is then hired as a tutor, but he only accepts the position after the mayor promises to treat him better than a servant. Some of the tensions between characters in this novel foreshadow the July Revolution. The protagonist falls in love with Mathilde de la Mole and Madame de Rênal. Name this work about Julien Sorel written by Stendhal.

ANSWER: *The Red and the Black* [or *Le Rouge et le Noir*]

49. Ironically, a few years after this group broke up, its goals were achieved at the Peace of Passau thanks in large part to the Treaty of Chambord between Henry the Second and Maurice of Saxony. Influenced by Philip Melancthon, this group's downfall started with an attack against it by Maurice, who became known as the Traitor from Meissen, and ended soon after the Battle of Mühlberg. Name this group headed by John Frederick the First of Saxony and Philip the First of Hesse during the sixteenth century which consisted of Lutheran princes within the Holy Roman Empire.

ANSWER: Schmalkaldic League

50. This is the title of a Francesco Hayez painting set at the bottom of a set of stairs considered a symbol of the Risorgimento. It also is the title of the opera including the folk song "A little white dove flew" about two stubborn people who wish to marry, Lukáš and Vendulka. In addition to that opera composed by Bedřich Smetana, this is also the title of a nearly rectangular stone sculpture by Constantin Brâncuși. This title additionally applies to a sculpture in which Paolo holds a book in one hand while the other is near Francesca's hip. This is also the name of a painting showing a woman with flowers in her hair and her head turned sideways and a man with leaves in his hair. That painting has a bronze background and uses gold foil. Name this title used for works by Auguste Rodin and Gustav Klimt.

ANSWER: *The Kiss*

51. In one work, a visit to a school when this writer is sixty leads him to ask, “How can we know the dancer from the dance?” In another work, this writer claims to leave a place where people are caught in “sensual music” to travel to a “holy city” to be gathered “into the artifice of eternity.” In another work by this poet, he imagines a place where “midnight’s all a glimmer, and noon a purple glow” while he stands on a roadway. In that work, he says he will build a cabin and start “nine bean rows” and a beehive, beginning with the claim, “I will arise and go now.” Another work by this poet provided the title for Chinua Achebe’s *Things Fall Apart*. Name this Irish poet who wrote “Among School Children”, “The Lake Isle of Innisfree”, “The Second Coming”, and “Sailing to Byzantium”.

ANSWER: William Butler Yeats

52. This person wrote that anthropologists often lack historical records and assume their subjects serve for psychological generalization in *Time Perspective in Aboriginal American Culture*. One of this writer’s collaborations was with a Carlisle Indian School student who spoke Southern Paiute, Tony Tillohash, and this writer organized an influential one-page summary of Native American languages. The only book this person completed, which impacted research on drift, was *Language: An Introduction to the Study of Speech*. This person is well-known for a theory he developed with one of his students stating that language influences thought. Name this teacher of Benjamin Lee Whorf.

ANSWER: Edward Sapir

53. Herodotus claimed that this leader created a branch in a major river so that his new capital would be surrounded by water. This leader is also credited with starting a city dedicated to the worship of Sobek; that city was Crocodilopolis. The father of Djer, some historians believe that this king and Narmer may have been the same person, while others argue that he was Narmer’s son. In addition to building the first Temple to Ptah and founding the city of Memphis, this King is credited with unifying Upper and Lower Egypt. Name this leader listed by the Abydos King List as the first Pharaoh of the First Dynasty.

ANSWER: Menes [or Meni; or Min; or Hor-Aha; or Scorpion; prompt on Narmer]

54. This mathematician proposed a problem which became the first of Hilbert’s problems and is known as the continuum hypothesis. This mathematician developed the concept of numbers that are larger than all finite numbers but not necessarily infinite, which he called transfinite numbers; and his eponymous fractal is created by taking the closed interval zero, one and repeatedly deleting open middle thirds. This mathematician attempted to write every number in its binary representation but derived a contradiction to show that the set of reals is uncountable—his namesake diagonal argument. Name this German founder of set theory.

ANSWER: Georg Ferdinand Ludwig Philipp Cantor

55. Neutron irradiation decreases this property in crystals, where it is more pronounced in face-centered cubic structures than in body-centered ones. In alloys, this property is inversely related to carbon content, while the process of nitriding hardens steel without diminishing this property. In general, heating enhances this property, which is measured in terms of strain or reduction in area. This property is low in lead despite that metal being very malleable, and tests for this property in metals often cause necking, which refers to the shape produced when stretching the material to its breaking or tensile point. Sometimes described as the opposite of brittleness, name this physical property which allows a substance like aluminum or copper to be drawn out into a thin wire.

ANSWER: ductility [accept word forms, e.g. ductile]

56. This event involved a red flag with six stripes that said, "No Asylum for Traitors and Cowards". It began when David Lennox and John Neville heard shots coming from a group supporting William Miller, and within a few days both Miller and John McFarlane had been shot dead. It involved a man who would become Treasury Secretary, Albert Gallatin, and one of its events became known as the Battle of Bower Hill. This incident is the only time in American history that a sitting President led troops in the field; he handed them off to Henry Lee and Alexander Hamilton after bringing them across Pennsylvania. Name this 1794 event, an armed protest against a particular excise tax.

ANSWER: **Whiskey** Rebellion [accept logical equivalents for "Rebellion"]

57. This painting was done on Good Friday according to one of the two sundials appearing in it, and the floor makes this work appear to be set in Westminster Abbey. This painting also shows two globes, a celestial one on the top shelf and a terrestrial one on the bottom shelf. The bottom shelf also shows a Lutheran hymnbook next to a lute with a broken string. The bottom of this painting shows an anamorphic skull that is best viewed by standing almost to the right of this work. The people depicted in this painting are believed to be Jean de Dinteville and a bishop named Georges de Selve. Name this work completed in 1533 by Hans Holbein the Younger showing two Frenchmen in England.

ANSWER: *The French Ambassadors*

58. One novel by this author begins with the narrator describing his memories of an old man who had been an artist, farmer, and carpenter in addition to building one organ for the church and one for his house. That narrator is Edward Overton, a friend of the old man's son George and fellow resident of Paleham. This author also wrote about a protagonist who becomes worshiped as the sunchild and falls in love with one of Nosibor's daughters after being abandoned by Chowbok. That protagonist discovers a world where machines are banned, criminals are treated well, and sick people are put in prison. Identify this author who wrote about Ernest Pontifex in *The Way of All Flesh* and Higgs in *Erewhon*.

ANSWER: Samuel **Butler**

59. One work by this composer, which features a duet by xylophone and accordion and consists of eight pieces which can be played in any order, was formerly known as *Suite for Jazz Orchestra Number Two* but is now known as *Suite for Variety Orchestra*. This composer's fifth symphony, which has repeated A notes, received a half hour ovation at its premier in 1937. Due in part to his ballet *The Limpid Stream*, this writer was harshly criticized in a newspaper article titled "Muddle Instead of Music". Name this composer whose 13th symphony, based on the poetry of Yevgeny Yevtushenko, is nicknamed "Babi Yar", and who also composed the opera *Lady Macbeth of the Mtsensk District*.

ANSWER: Dmitri Dmitriyevich **Shostakovich**

60. This class of compounds includes poison dart frog batrachotoxin, and the presence of molecules in this class can be detected by the Hinsberg reaction. Using potassium phthalimide, alkyl halides can be transformed into this class by the Gabriel synthesis, and famous biochemical examples include vitamin B-1 and the molecule that triggers the inflammatory response. The industrial production of urea relies on a primary member of this class reacting with phosgene, while an aromatic example of this class, the indigo dye precursor aniline, has the class' characteristic fishy odor. Commonly formed by the reaction of ammonia with alcohols, name this class of compounds that contains a nitrogen atom bonded to one or more organic groups.

ANSWER: **amines**

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

TB C-1. Founded by a director of the National Association of Manufacturers, this group has often criticized the Council on Foreign Relations and the Trilateral Commission. Named after a missionary and soldier who assisted Jimmy Doolittle and was killed just after World War Two by Chinese Communists, this organization's official publication is called *American Opinion*, and its goal is to bring about less government and more responsibility. Name this organization founded by Robert Welch, Jr in 1958 which claimed that Franklin Roosevelt, Harry Truman, Dwight Eisenhower, and John Kennedy were part of a communist conspiracy.

ANSWER: John **Birch** Society [or **Birchers**]

TB C-2. This theorem is reversed in Minkowski space, and in Euclidean geometry it is sometimes confused with a statement involving inner products which can be used to prove it. When applied to vectors, this theorem is equivalent to the statement that the sum of the lengths of two vectors is greater than the length of the sum of two vectors. Simplistically, it guarantees that there are no shortcuts between two points in space, that instead the shortest path between two points is a straight line. This theorem can be used to show that the number of non-congruent three-sided figures with integer side lengths and perimeter less than five is one. Name this statement, sometimes confused with the Cauchy-Schwarz (koh-SHEE SHWARZ) inequality, that the sum of the lengths of any two sides of a three-sided figure must be larger than the third side.

ANSWER: **triangle inequality** [accept answers augmented by anything similar to "theorem" or "rule"]

TB C-3. This formation was preceded by Rodinia and Pannotia, and was created as a result of the Alleghenian orogeny. The Lystrosaurus is the most widespread vertebrate fossil from this formation, which was altered by the shifting of Cimmeria across the Tethys Sea. Surrounded by a body of water named Panthalassa, it was originally known as the "Ur-kontinent". During its initial breakup, it formed the landmasses of Laurasia and Gondwanaland and what is now called the Atlantic Ocean. Lasting from the Carboniferous to the Triassic period, name this ancient "supercontinent".

ANSWER: **Pangaea** (paan-JEE-uh) [accept **Ur-kontinent** before it is mentioned]

TB C-4. According to its own Prologue, this story must be retrieved from a locked drawer and was written by a woman who died twenty years before its telling. That woman describes a girl as the most beautiful child she has ever seen and describes hearing the cry of a child and footsteps as she tries to sleep at night. The girl's brother returns to Bly when he is kicked out of school. The narrator of this story is put in charge of the siblings, Flora and Miles, but she soon becomes fascinated with her predecessor Miss Jessel and Jessel's lover Peter Quint, both of whom are dead. Identify this ghost story written by Henry James.

ANSWER: *The **Turn of the Screw***