

NEW TRIER SCOBOL SOLO 2011

CHAMPIONSHIP: PHASE 1

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1. In this novel, Miss Wade schemes to get a maid to work for her. Part of this novel takes place in Bleeding Heart Yard, where a plasterer named Thomas Plornish lives with his wife and children. His wife helps out Cavalletto when he is injured after leaving prison. One relationship in this novel is between the heir to the Merdle fortune, Edmund Sparkler, and the sister of the title character, a dancer named Fanny. This novel also includes the Clennam and Meagles families. Name this novel whose title character lives with her father William in Marshalsea Prison, a work by Charles Dickens.

ANSWER: Little Dorrit

2. The curvature of one of these three-dimensional shapes can be given as four divided by the quantity one plus four u quantity squared. A symmetric section of one of these figures divides the volume of its circumscribed cylinder into equal halves. Though the second-order mixed derivatives of this shape are zero, its other second-order derivatives are positive. This shape has an elliptic type and a type that is generated by the equation z equals x times y . That type, which contains a saddle point, is the hyperbolic type. This three-dimensional shape is taken by spinning pools of liquid, which is why spinning mercury can be used as a telescope. Name this shape that consists of all points the same distance from a plane and a point focus.

ANSWER: paraboloids

3. The radius of these objects is given by the Pippard coherence length, which is a surprisingly large hundreds of nanometers. As first theorized by Herbert Fröhlich, the bonds that create these objects consist of lattice vibrations classified as phonons. The formation of these particles in mercury was used to demonstrate the impact of lattice structure mass known as the isotope effect, and their tunneling is the Josephson effect. This combination of fermions allows them to behave as bosons. Identify this combination of two electrons used to explain superconductivity.

ANSWER: Cooper pairs [prompt on electron pair]

4. Rulers from this city such as Mentuhotep the Second clashed with the rulers from Herakleopolis Magna, and by winning control of Abydos, Intef the Second helped this city become the capital of all Egypt during the eleventh dynasty. Several centuries later, eighteenth dynasty pharaohs such as Akhenaten ruled from this city. This ancient city on the east bank of the Nile contained the Karnak Temple Complex, and it was across the river from the burial place of Ramses the Second and others in the Valley of the Kings. Name this ancient Egyptian city located in what is now Luxor.

ANSWER: Thebes [accept Amon; prompt on Luxor; prompt on Diospolis]

5. This goddess was contrasted with Isfet and was in charge of guiding her father across the sky. Associated with the primeval mound and in charge of creating justice and order, her name was associated with service to the Pharaoh and was also attached to the negative confessions on the Papyrus of Ani. Often pictured with her consort Thoth, her name was sometimes used for the Hall of Two Truths, and she was symbolized by an object used by Anubis. Name this goddess whose feather of truth was used to weigh souls.

ANSWER: Maat

6. This country is currently mourning the death of its citizen who teamed up with Wilhelm Elsrud of the Norwegian Forestry Society to start the Green Belt Movement, Wangari Maathai. It is the location of Dadaab refugee camp, where two Spanish doctors were recently kidnapped; this country responded by sending troops into a neighboring country and blaming the group al-Shabab. A few years ago, this country was headed by the National Alliance of Rainbow Coalition, replacing Daniel arap Moi. In next year's election, Prime Minister Raila Odinga will try to replace Mwai Kibaki as President. Name this country between Tanzania and Somalia, whose capital is Nairobi.

ANSWER: Republic of Kenya [or Jamhuri ya Kenya]

7. One character in this novel has a left eye that is green and mad and a right eye that is black and empty. He claims that a character he meets will not lead a meeting because Annushka has bought the sunflower oil, and that character, Berlioz, is soon beheaded by a streetcar. The setting of this novel alternates between the trial of Jesus in Jerusalem and a visit by Professor Woland to Moscow. Identify this novel about the title writer and his lover, a novel by Mikhail Bulgakov.

ANSWER: *The Master and Margarita* [or *Master i Margarita*]

8. This writer was very critical of Henry Mansel and said that he would not worship a being that could not be described in terms of human morality in *An Examination of Sir William Hamilton's Philosophy*. One of his books states, "We can never be sure that the opinion we are endeavoring to stifle is a false opinion," and also stated that the only purpose for power should be to prevent harm to others. Inspired by August Comte (KAHMT), this writer tried to establish a Religion of Humanity through the posthumously published essays "Nature", the "Utility of Religion", and "Theism". This writer also supported gender equality in *The Subjection of Women*, and another work by this writer refined Jeremy Bentham's greatest-happiness principle. Name this nineteenth-century writer of *On Liberty* and *Utilitarianism*.

ANSWER: John Stuart Mill

9. During this person's retrial, his lawyer W. Fred Turner got important testimony from Henry Cook and a cab driver. The driver said that this person was not carrying any drinks when he got a ride to Panama City, casting doubt that this person had robbed Bay Harbor Pool Room. After this person's first trial, the Supreme Court reviewed his case, deciding to strengthen *Powell v. Alabama* and overrule *Betts v. Brady*, determining that Florida had not followed the Sixth and Fourteenth Amendments by not giving this person a fair trial. The Court's 1963 decision requires states to provide attorneys for defendants who cannot afford them. Name this person whose case, originally against H.G. Cochran, ended up being against Louie L. Wainwright.

ANSWER: Clarence Earl Gideon

10. Some compounds that go through this process are known as siderophores (SID-uh-roh-for), and the strongest agent of this—found in *E. coli*—is enterobactin. Wilson's disease can be treated by this process using dimercaprol (dai-mur-KAAP-rawl), once called British anti-Lewisite when it used this same process to prevent the effects of chemical warfare. One agent of this process, used to remove calcium carbonate from water, is EDTA, and porphyrins (por-"FEAR"-inz) such as heme (HEEM) use this process to transport iron. Though there is controversy about the use of this chemical process to remove impurities from healthy people, this technique is commonly used to remove poisons. Name this formation of bonds between two or more separate binding sites within the same ligand and a single central atom.

ANSWER: chelation (kee-LAY-shun) [accept word forms of chelate (KEE-layt)]

11. *The Greek Anthology* contains many verses praising the realistic representation of an animal by this man which was in the Acropolis. He used wood to sculpt Hecate (HEH-kah-tee), but all of his other known works are in bronze. He also made works portraying Lycinus and another showing Ladas the Runner, who died as he finished a famous race. His best-known animal sculpture was a cow, though he also created a dog. His currently best-known work cannot be found, though two full-scale marble copies of it have been found, one of which has the head in the wrong position. Name this sculptor who portrayed an athlete about to go into his motion in *Discobolus*.

ANSWER: Myron of Eleutherae

12. This mathematician is the namesake of both a directed acyclic graphical model that can be used in medical diagnosis and a method of inference used to determine how well a variety of hypotheses align with experimental results leading to a posterior probability distribution. His namesake theorem shows why a small number of false positives can cast a strong doubt on all positive results and can be derived using either a Venn diagram showing the four possible regions created by two dependent events or by a tree diagram with four terminal nodes. Name this mathematician who in a posthumously published paper designed a theorem expressing the probability of A given B in terms of the probabilities of A, B, and B given A.

ANSWER: Thomas Bayes

13. This person wrote the lines, "Farewell, too little, and too lately known, / Whom I began to think and call my own" upon the death of fellow poet John Oldham. In 1678, this poet completed a play in blank verse about the deaths of Antony and Cleopatra, and soon after that he wrote poems that used the Second Book of Samuel to satirize Charles the Second. This poet also wrote a long work of heroic couplets which represented various religions as different animals to justify his conversion to Catholicism. After England went through several major events in 1665 and 1666, this poet commemorated them with *Annus Mirabilis*. Name this Restoration writer of *All for Love*, *Absalom and Achitophel*, and *The Hind and the Panther*.

ANSWER: John Dryden

14. Oligomycin and vancomycin interfere with this protein in bacteria, and Paul Boyer explained its function by the binding change mechanism. The knob of this protein is thought to be a modified DNA helicase and its stator serves to anchor the F0 subunit in the cristae. This is the only eukaryotic protein known to form a rotary motor and it relies on the electron transport chain to establish a proton gradient. Powered by chemiosmosis in the mitochondria, name this enzyme that produces most of the energy of cell respiration by attaching a phosphate group to an ADP.

ANSWER: ATP synthase [do not prompt on "ATP"]

15. The southern region inhabited by this civilization was known as Veientanus, which at times extended to the town of Fidenae. A leader of this civilization, who was almost killed by Gaius Mucius Scaevola, was Lars Porsena. According to legend Mezentius was another one of their kings, and Tarchon founded their Dodecapoli, or league of twelve cities. The decline of this civilization may have begun with the naval loss to Syracuse at the Battle of Cumae, and it eventually broke apart and was defeated by attacks from the north by the Celts and attacks from the south by the Romans. Name this civilization that controlled much of Northern Italy until the third century BCE.

ANSWER: Etruscan [or Tusci; or Etrusci; accept word forms]

16. The right background of this painting shows triangular living quarters, and in front of them but still in the background is a man on a dark horse. There are three people in the foreground, one each with a head covering of blue, red, and yellow. The first one is pointing at the ground and holding a hand behind her back, the second one is picking something up, and the third one is less crouched down than the other two. The left background of this painting shows people piling up huge stacks of wheat. Name this 1857 realist painting depicting the hard work of poor rural women painted by Jean-François Millet (zhahn frahn-swah mil-ay).

ANSWER: *The Gleaners* [or *Des glaneuses*]

17. This composer was encouraged by Carl Engel to compose his *Theme and Variations for Band*, which he later transposed for orchestra. This composer's first successful piece was a string sextet based on a poem by Richard Dehmel, while one of his last pieces ends with a recitation of the Sh'ma and honors Holocaust survivors. In addition to *Transfigured Night* and *A Survivor from Warsaw*, this composer wrote three groups of seven poems based on Albert Giraud's "Pierrot lunaire". This Austrian immigrant to America considered his works to be pan-tonal, and he is now considered the inventor of the twelve-tone technique. Name this leader of the Second Viennese School.

ANSWER: Arnold Schoenberg

18. When the main character in this novel asks her husband what other people think of her, he tells her to shop in town at stores owned by his friends and patients. In this novel, one of the teachers leaves town after false accusations are made by Cy Bogart, while another one marries Raymond Wutherspoon. The protagonist joins the Jolly Seventeen but figures out that she does not fit in when she defends her maid Bea Sorenson. That protagonist, who marries Dr. Will Kennicott, has the maiden name Carol Milford. Name this novel set in Gopher Prairie by Sinclair Lewis.

ANSWER: Main Street

19. This thinker developed the process of banburismus, which incorporated a frequency estimation named for him and I. J. Good. Late in life, he hypothesized that stationary waves influenced phyllotaxis in his paper "The Chemical Basis of Morphogenesis". He is the second namesake of the claim that any effectively calculable function can be computed by a certain object named for this computer scientist; he names that "thesis" along with Alonzo Church. This computer scientist worked with Dilly Knox and Gordon Welchman at Bletchley Park during World War II to break the Enigma cipher, and his namesake machines manipulate symbols on an infinite tape. Identify this namesake of the Imitation Game in which interrogators try to figure out whether their questions are being answered by another person or an intelligent machine.

ANSWER: Alan (Mathison) Turing

20. This person was promoted to his top position just after William Leahy and Ernest King, and he oversaw people with fierce nicknames such as Bull Halsey, Terrible Turner, and Howling Mad Smith. That promotion came the day after MacArthur became General of the Army. He submitted an affidavit that helped prevent Karl Dönitz from being executed for his use of unrestricted submarine warfare, stating that the United States also used it. This leader quickly ordered the *Yorktown* into action at the Battle of Midway, where he successfully led the defense. While MacArthur headed the Southwest Pacific Area, this man headed the Allied Pacific Ocean Areas. Name this Fleet Admiral who signed the instrument of surrender from the Japanese on behalf of the United States, the namesake of a class of nuclear-powered aircraft carriers.

ANSWER: Admiral Chester William Nimitz

TB1. Prior to World War II, this vessel was best known for ferrying President Franklin Roosevelt up and down the Atlantic coast to Campobello, and for taking him on a tour of South America. Early duty during the war saw it help displace the Japanese from the Aleutians, and later it helped in the defense of Tinian. Damaged during the attack on Okinawa, it returned to San Francisco where it was given cargo duty back to Tinian and onward to Guam and then the Philippines under Captain Charles McVay. It was, however, torpedoed by the I-88, leading to the largest single loss of life at sea in U.S. naval history, and the only court martial of a U.S. naval captain in World War II. Identify this ship, the last American ship sunk in World War II, best known for ferrying parts and the uranium core for the Little Boy nuclear bomb to its launch site.

ANSWER: USS Indianapolis

TB2. This quantity appears in the denominator of the competitive Lotka-Volterra equations, and the World3 simulation attempted to determine if this measure had been exceeded for humans. Species adopting the strategy named for this concept typically have long life expectancy, produce fewer offspring, and display a high level of parental care. Populations experiencing exponential growth are not affected by this concept, which marks the plateau of a logistic growth curve. Achieved when the birth and death rates of a population are equal and symbolized K , name this concept, the maximum population size that an ecosystem's limited resources can support.

ANSWER: carrying capacity [accept K early]

TB3. In one work by this author, Hargrave Pollexfen kidnaps the woman he wants to marry, Harriet Byron. Another work by this author begins with Anna Howe discussing conversations with Mr. Diggs and Mr. Wyerley about the title character's brother James. James wants the title character to marry Roger Solmes and challenges Robert Lovelace to a duel. In another work by this author, the title character hides letters under a rose bush and a sunflower, but some of her letters are intercepted by her employer Mr. B, whom she eventually marries. Name this author who wrote *The History of Sir Charles Grandison*, *Clarissa: Or the History of a Young Lady*, and *Pamela: Or, Virtue Rewarded*.

ANSWER: Samuel Richardson

TB4. This civilization often used the mythological symbols of two monkeys writing books and carving human heads. Their fertility god, who had two curling fangs and became one of the four Bacabs, was Chac. Some of their mythic traditions are contained in the Chilam Balam, and some of their temples are at Tikal. The Bacabs were the offspring of Ixchel and Itzamma, the latter of whom was also known as Kukulcan. Kukulcan was in turn the son of Hunab Ku. Identify this civilization which wrote the Popol Vuh and lived at Chichen Itza on the Yucatán Peninsula.

ANSWER: Mayan(s) [or Mayas; or Maya(n) civilization; etc.]