

NEW TRIER SCOBOL SOLO 2011

ROUND 1

Questions written and edited by David Reinstein

with assistance from Matt Bardoe, Tom Egan, Brad Fischer, Mark Grant, Jonah Greenthal, Mike Laudermitth, and Sharon Lorinskas



1. This journalist wrote a play titled *The New Ghetto* and a novel titled *Old New Land*. After an unsuccessful attempt to meet Sultan Abdulhamid (ahb-dool-hah-MEED) the Second, this person started a conference in Basel (BAH-zuhl), Switzerland. He worked with Britain's Joseph Chamberlain to design a Uganda Proposal, and even though it was written thirteen years after he died, his work is considered a great influence on the Balfour Declaration. Name this author of *Der Judenstaat* (YOO-dun-shtaht) considered the father of Zionism.

ANSWER: Theodor Herzl ("hurt"-sul)

2. This painting with a cloudy background is similar to another painting by the same artist except it shows a man wearing a red tie with a black suit instead of a woman wearing a white dress with a white umbrella. The artist said of this painting, "Everything we see hides another thing, we always want to see what is hidden by what we see," and the same could be said for that other painting, *The Great War* and another similar painting *The Man in the Bowler Hat*. The person in this work stands in front of a brick wall in front of the sea. Name this work by René Magritte showing a man whose face is covered by a green apple.

ANSWER: *The Son of Man*

3. The Boussinesq (BOO-sihn-esk) approximation for this process allows differences in density to be ignored except when they affect buoyancy (BOY-uhn-see), and the Churchill-Bernstein equation can estimate the Nusselt numbers that describe this process. This process is associated with high Prandtl (PRAHND-tull) numbers, and Benard cells model this process in the Earth's mantle. This usually is caused by a combination of currents and diffusion, and the forced type can be caused by air conditioning and electric fans. Name this form of heat transfer that does not occur in solids which is often contrasted with radiation and conduction.

ANSWER: convection

4. Buddhism differentiates between the commonsense meaning of this concept, sammuti sacca, and the absolute meaning, paramattha sacca. Peter Frederick Strawson made a performative theory of this concept, while G. E. Moore and Bertrand Russell wrote about the correspondence theory of this. In Boolean algebra, it is common to make a table named after this concept which lists all of the possible inputs and outputs, and Buddhism labels four statements of this type as noble. Give this concept sometimes classified as relative or absolute that is the opposite of falsehood.

ANSWER: truth(ness) [prompt on true; accept truth value]

5. This person wrote the Lambeth prophecies, including one about a demon formed in an abominable void, in his *The Book of Urizen*. An earlier book, which reversed conventional morality, was *The Marriage of Heaven and Hell*. This poet wrote, "Cherish pity, lest you drive an angel from your door," in his poem "Holy Thursday", which is set at St. Paul's Cathedral. One poem asks an animal, "Dost thou know who made thee," and another poem asks a different animal, "What immortal hand or eye, / Could frame thy fearful symmetry?" Name this British poet whose collections "Songs of Innocence" and "Songs of Experience" respectively include "The Lamb" and "The Tyger".

ANSWER: William Blake

6. This person wrote the principal dissent criticizing the expansion of eminent domain in *Kelo v. City of New London*. After working with John Paul Stevens to write the majority decision on *McConnell v. Federal Election Commission*, this justice spoke out from retirement when that decision was largely overturned by *Citizens United v. Federal Election Commission*. This is the most recent Supreme Court Justice to have held elective office, serving as an Arizona State Senator. The first Justice appointed by President Reagan, she was often viewed as a swing vote until retiring in 2006. Name this first female Supreme Court Justice.

ANSWER: Sandra Day O'Connor

7. This man greatly improved the invention of Niccolo Zucchi (ZOOK-kee), and in correspondence with John Flamsteed he dismissed the notion that comets have polarity. The flattening of the Earth at the poles was first suggested by this man, whose *De motu corporum in gyrum* (JIGH-rum) contained a new derivation of Kepler's third law. This man famously settled a celestial mechanics dispute between Robert Hooke and Edmond Halley by offering a proof of the inverse square law. Significantly advancing astronomy with his 1668 reflecting telescope, name this man who successfully explained the elliptical orbits of planets with his theory of universal gravitation in his book *Philosophiae Naturalis Principia* (prin-SI-pee-uh) *Mathematica*.

ANSWER: Sir Isaac Newton

8. One story by this writer is about a performer who limps and whose performances are nothing out of the ordinary, but, "Anyone who has not heard her does not know the power of song." Another story by this writer is about a person who needs to travel ten miles through a storm even though his horse died the night before. Those works are "Josephine the Singer, or The Mouse Folk" and "A Country Doctor". Another story by this writer is about a machine that carves prisoners' sins into their backs, and the protagonist of another work by this writer is a traveling salesman who wants to help his sister Grete attend a conservatory but cannot because he becomes a bug. Identify this author of "In the Penal Colony" and "Metamorphosis" who also wrote the novels *The Castle* and *The Trial*.

ANSWER: Franz Kafka

9. The second version of this theorem states that the integral of a product of two functions is equal to an output value of one of the functions multiplied by the integral of the other function. The version of this theorem named after Cauchy (koh-SHEE) can be used to prove L'Hôpital's (lo-pee-TAHL's) rule. A special case of this theorem, proven by the continuity property and extreme value theorem, is named Rolle's (ROHL's) theorem. If you travel a distance of sixty miles in one hour, this theorem guarantees that at some point in time you traveled sixty miles per hour. Name this theorem that, for a function continuous on a closed interval and differentiable on that interval's interior, guarantees the existence of a point whose tangent line has the same slope as the average slope of the interval.

ANSWER: mean value theorem [accept MVT]

10. This instrument is the focus of the second symphony by Ellen Taaffe Zwilich, and, in addition to a violin concerto (kun-"CHAIR"-toh), Edward Elgar (EL-gar) wrote a concerto for this instrument. It is also the focus of the last symphony by Benjamin Britten, which he wrote for Mstislav Rostropovich (ros-truh-POH-vich). This instrument also is used to represent the title character in Richard (ri-KARD) Strauss's *Don Quixote*, which was premiered by Friedrich Grützmacher and was famously played by Pablo Casals. This instrument is also the focus of Tchaikovsky's *Variations on a Rococo Theme*, which has been recorded by Yo-Yo Ma. Name this instrument which combines with a viola and two violins to form a string quartet.

ANSWER: (violon)cello

11. One of these creatures, who died when he dropped a poison arrow on his foot, was Pholus. Another one of these creatures, who tried to marry the daughter of King Dexamenus, was Eurytion (yoo-RIH-shun). Eurytion led these creatures into war against King Peirithous of the Lapiths, who banished them from Mount Pelion in Thessaly. One of these creatures was Jason's teacher Chiron (KAI-ron), though most of them are crude beasts. Some stories claim that these were conceived when a cloud in the shape of Hera was used to trick Ixion. Name these followers of Dionysus (die-uh-NAI-sus) that had the head and torso of a man but the body of a horse.

ANSWER: hippocentaur [accept Ixionidae until Ixion is mentioned; prompt Ixionidae after Ixion is mentioned]

12. The narrator of this story has a family coat-of-arms that shows a huge foot crushing a serpent whose fangs are imbedded in its heel. The other main character doubts that the narrator is a mason, but the narrator later applies eleven layers of masonry. That other main character in this story is considered a quack when it comes to painting and gemmary (JEH-muh-ree), and he repeatedly insists that his cough is nothing and that Luchesi (loo-CHEH-see) cannot distinguish Sherry from the contents of the titular object as the two characters walk through the catacombs of the Montresors. Name this story by Edgar Allan Poe in which the narrator takes revenge against Fortunato.

ANSWER: "The Cask of Amontillado"

13. In 2001, George Schermund patented a new cell used to reach this condition at less than 10% of the previous cost, and an analogous condition for aluminosilicate (uh-LOOM-i-noh-SI-li-cut) minerals can be found using Schreinemaker's method. This condition is located at the intersection of co-existence curves, and by Gibbs' phase rule any system with p phases has p choose 3 of these points. Sublimation (sub-li-MAY-shun) only occurs at temperatures and pressures below this point, whose value for water is used as a reference in defining the kelvin. Found at 0.01 degrees Celsius and 611.73 pascals for water, name this point on a phase diagram at which solid, liquid, and gas states exist in equilibrium.

ANSWER: triple point

14. This leader defeated Gerard de Ridefort and Roger de Moulins at the Battle of Cresson before they could negotiate with Raymond III of Tripoli. This leader had first gained power when his uncle Shirkuh died two months after ending the Fatimid Caliphate in Egypt. He won a major victory a year after the death of Baldwin the Fifth over forces that included Knights Templar. That victory over King Guy [gee] at the Battle of Hattin allowed this leader to then take over Jerusalem. Name this founder of the Ayyubid dynasty who kept control of Jerusalem during the Third Crusade.

ANSWER: Saladin [accept Salakh ad-Din Yusuf ibn Ayyub]

15. The smallest cone on this mountain is Shira, and its bottom slope contains the town of Moshi. This also contains features named Furtwängler and Rebmann. Two of this mountain's three volcanic cones are extinct, while the Reusch Crater on Kibo (KEE-bo) is dormant. The highest point on this mountain, which used to be called Kaiser Wilhelm peak, is now called Uhuru (oo-HOO-roo) Peak. Located about 120 miles east of Olduvai Gorge, identify this Tanzanian (tan-zuh-NEE-un) mountain which is the highest on the continent of Africa.

ANSWER: Mount Kilimanjaro

16. The cardinality of this set can be shown to be countable by creating an isomorphism ("eye"-soh-MOR-fism) using the functions $2x+1$ and two times the absolute value of x . The elements in this set are all of the possible outputs of the ceiling and floor functions, which have alternative names that include this set. This set, sometimes represented by a double-struck \mathbb{Z} , is a subset of the rational numbers and contains the natural numbers. Name this set which consists of the union of zero, counting numbers, and the additive inverses of counting numbers.

ANSWER: integers [accept \mathbb{Z} before it is mentioned]

17. This leader first gained prominence as the sponsor of Aristophanes' (air-uh-STAHF-uh-nees) *The Persians* at the Dionysus (die-uh-NIGH-sus) Festival. He then served as the deputy of Ephialtes (eh-fee-AHL-tees) and helped decrease the power of the Areopagus (air-ee-oh-PAY-gus) noble council. After Ephialtes was assassinated, this leader gained power and used it to pay jury members and limit citizenship to people with two Athenian parents. This leader then encouraged the development of the Acropolis, especially the Parthenon. Name this leader associated with the Golden Age of Athens who Thucydides (thoo-SIH-duh-dees) called "the first citizen of Athens".

ANSWER: Pericles

18. Leslie Orgel replicated the results of this study at freezing temperatures, while Michael Robertson's version gave evidence for the RNA world hypothesis. A variation conducted by Joan (hoh-AHN) Oró produced adenine (AA-duh-noon) when hydrogen cyanide (SAI-uh-naid) was included as a starting material, and criticism of this experiment points to its disregard of UV radiation and lack of volcanic sulfur compounds in the air. A recent analysis of the results found more than four times the amino acid products than originally reported. Using an electric spark to simulate lightning on a heated mixture of water, hydrogen, ammonia, and methane, name this experiment that showed abiotic (ay-bai-AH-tic) synthesis of organic molecules was possible in Earth's early atmosphere.

ANSWER: Miller-Urey experiment [or Urey-Miller experiment]

19. The next one of these buildings probably will be on Saadiyat Island in Abu Dhabi (ah-BOO DAH-bee), since a building designed by Enrique Norton was cancelled before construction started in Guadalajara (gwah-dah-lah-HAH-ra). The primary one of these buildings, which has been called an inverted ziggurat with a large skylight, had its creation pushed by Hilla Rebay. The Palazzo Venier dei Leoni in Venice and the ground floor of the Deutsche (doych) Bank are also examples of these buildings. The one that opened in 1997 contains *The Matter of Time* by Richard Serra in its Arcelor Gallery, which used to be known as its Fish Gallery. Identify this group of museums which include one in Bilbao (bil-BAO) designed by Frank Gehry and one in New York City designed by Frank Lloyd Wright.

ANSWER: Solomon R. Guggenheim Museums [accept Guggenheims]

20. This author wrote a short story about a native named Vithobay and his relationship with a missionary named Paul Pinmay. In addition to that story, "The Life to Come", this author wrote a novel about a young pianist who visits Florence named Lucy Honeychurch. Another novel by this author includes a sexual encounter between insurance clerk Leonard Bast and Helen Schlegel. In that book, Helen's sister Margaret marries Henry Wilcox. Another novel by this author shows the tension between Major Callendar and Aziz (uh-ZEEZ) during the travels of Mrs. Moore and Adela Quested. Name this author of *A Room with a View*, *Howards End*, and *A Passage to India*.

ANSWER: E(dward) M(organ) Forster

TB1. This country's first legislative meeting was in a museum of natural history because its leaders placed its capital in an unprepared small city. One leader of this nation resigned when one of his close assistants, Günter Guillaume, was discovered to be an agent of another country's secret police--that leader was Willy Brandt. A major step towards the sovereignty of this country was the Petersberg Agreement, which was signed by its first Chancellor Konrad Adenauer. This nation was formed by combining zones controlled by the United States, United Kingdom, and France in 1949. Name this nation whose capital was located at Bonn which included the region inside the Berlin Wall.

ANSWER: West Germany [or Federal Republic of Germany; or FRG; do not accept or prompt on "Germany"]

TB2. Among the still unexplained features of this body are Schroter's valley and the magnetic anomaly Reiner Gamma, and rare minerals first found here include armalcolite and KREEP lava. Detailed maps of this body's polar regions were made by the Clementine spacecraft, and it has several mascon basins such as Imbrium and Orientale. The geography of this body, which includes straight valleys called rilles, is divided into highlands and maria, and when aligned with the Sun, this object causes spring tides. First visited by humans at the Sea of Tranquility in July 1969, name this natural satellite that takes about 27 days to orbit the Earth.

ANSWER: Moon [or Luna]

TB3. Which animal...has a heart mentioned in the title of an anti-Soviet novel written by Mikhail Bulgakov; was used in a series of classical conditioning studies by Ivan Pavlov; and is commonly referred to as "man's best friend"?

ANSWER: dog