

NEW TRIER SCOBOL SOLO 2012

ROUND 10

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1. The protagonist of this work is asked how to defend her helpless fame by Thalestris. The antagonist of this work, who is believed to be based on Robert, Lord Petre, is referred to as The Baron. One character—who travels to the dismal dome called the Cave of Spleen—is a dusky, melancholy sprite named Umbriel. The protagonist, who is based on Arabella Fermor and guarded by a sylph named Ariel, is Belinda. Its first of five cantos begins “What dire offence from am’rous causes springs, what mighty contests rise from trivial things.” Name this work about the cutting of someone’s hair, written by Alexander Pope.

ANSWER: “The Rape of the Lock”

2. This organ converts some triglycerides [try-GLIS-uh-“rides”] and cholesterol into very low-density lipoproteins and produces water-soluble proteins found in blood plasma known as albumins. It is where the combination of albumin and bilirubin [bil-ee-ROOB-in] becomes soluble in water, and disease in this organ affects the ratio of those substances, causing swelling and jaundice [JAWN-dis]. This organ covers the gallbladder, and until bone marrow takes over, during most of gestation it produces red blood cells in the embryo. Name this primary location of the urea cycle, an organ that produces bile and that becomes scarred by cirrhosis or inflamed by hepatitis.

ANSWER: liver

3. This first provision of this document stated that everything done between nine and thirteen years before it was agreed to should be obliterated and forgotten. This also forbade religious discrimination by hospitals and universities as well as the baptism or confirmation of children without parental permission. Everybody was still required to tithe, however, and several secret provisions allowed forts to be controlled by Protestants. This document was revoked in 1685 by Louis XIV, and its creation was supposed to end the French Wars of Religion. Name this document that granted certain rights to French Calvinists—also known as Huguenots—signed by Henry IV.

ANSWER: Edict of Nantes [“nonce”]

4. The Olivera–Tanzi effect explains why this effect can lead to large national debts. Milton Friedman wrote that this “is always and everywhere a monetary phenomenon”, and he stated that a major cause of it was governments trying to avoid a natural rate of unemployment. It may be classified as built-in, cost-push, or demand-pull depending on its cause, and some economists believe it is lessened by a gold standard rather than fiat currency. This phenomenon generally helps borrowers, but hurts lenders and people on fixed incomes. Name this decrease in the value of money caused by increasing prices.

ANSWER: inflation

5. This composer wrote several choral pieces with words from Walt Whitman and wrote a *Walt Whitman Overture*. He used the folk song “Dargason” in both his *Second Suite in F for Military Band*, which influenced his friend Ralph [RAYF] Vaughan Williams to also write for military bands, and *St. Paul’s Suite*, which is named after the school he worked at from 1905 to 1934. Another one of his works, which was adapted for the song “I Vow to Thee, My Country”, has two scherzos [SKAIRTSS-ohz] in its third and fourth movements, the latter of which is the Bringer of Jollity. Name this composer who was influenced by astrology to write *The Planets*.

ANSWER: Gustav(us Theodore von) Holst

6. One protagonist created by this writer, who normally builds churches but is working on a large tower for his own house, has a fear of heights and is named Solness. Another of his protagonists is a doctor who discovers that the baths in his town are polluted, eventually leading him to conclude that “a majority is always wrong”. Another of his protagonists forged her father’s signature after his death in order to take out a loan without her husband’s knowledge; that character helps Christine Linde, who used to have a relationship with Nils Krogstad, and is married to the banker Torvald Helmer. Name this author of *The Master Builder*, *An Enemy of the People*, and *A Doll’s House*, a Norwegian playwright.

ANSWER: Henrik Ibsen

7. This relation is held by two matrices A and B if there exists a matrix P such that A equals P times B times P inverse, meaning that the matrices represent the same transformation. The “self” variety of this is held by non-trivially repeating patterns such as the Sierpinski triangle, which contains many figures that have this relation to each other. A transformation that preserves this quality is one that scales the sides of a figure, also called a dilation. For triangles, this property can be proved by the AAA theorem. Name this property held by a pair of figures whose corresponding sides have the same ratios, meaning that the figures have the same shape but possibly different sizes.

ANSWER: similarity [accept variations that include similar]

8. This person designed the M1913, the last cavalry saber adopted by the U.S. Army, and he replaced Lloyd Fredendall after the Battle of the Kasserine Pass as the leader of the U.S. Army’s II Corps. Earlier, while serving under Black Jack Pershing in the hunt for Pancho Villa, he utilized Dodge Model 30 touring cars to engage the enemy, impressing Pershing so much that this man was then put in charge of the first American tank school. He always wore an ivory-handled Colt .45 Peacemaker revolver, and he was criticized for slapping a soldier in a hospital. He originally outranked Omar Bradley and Dwight Eisenhower but was surpassed by them during World War II. Name this American general nicknamed “Blood and Guts.”

ANSWER: George Smith Patton, Jr.

9. Protesters in this country used October 27, 2012 as a day to rally against their prime minister and his austerity policies. Its most recent leader claimed that its judiciary system was dominated by a “dictatorship of magistrates” after he was found guilty of tax fraud and sentenced to four years in prison. Because a 2009 earthquake killed over 300 people without warning, this country sentenced six scientists to jail in 2012. Name this country currently headed by Mario Monti, who in 2011 replaced Silvio Berlusconi.

ANSWER: Italy [accept Italian Republic or Repubblica italiana]

10. Using the X-ray telescopes Suzaku and XMM-Newton, scientists in 2012 detected the quasiperiodic oscillation associated with the increase in mass of one of these objects. Roy Kerr and Ted Newman solved general relativity equations to describe the behavior of these objects when they have angular momentum. A supermassive one at Sagittarius A is believed to be the center of the Milky Way galaxy. David Finkelstein demonstrated mathematically that these are surrounded by a region that, to an outside observer, can never be reached. The distance from the center of these objects to that region is named for Karl Schwarzschild, and that region is called the event horizon. Name these objects which may emit Hawking radiation but otherwise do not allow anything to escape, not even light.

ANSWER: black holes

11. This author wrote about an old mansion that was used as a school for Native American girls that houses Consolata and then becomes a shelter for women. That building is seventeen miles from Ruby, Oklahoma. This author also wrote about Sydney, a butler whose niece Jadine was supported by Valerian Street, and she wrote in another novel about the daughter of Paula and Cholly who wishes she could change her appearance. That character is Pecola Breedlove. In another novel, she wrote about boys who moved away when a mirror shattered and when hand prints appeared in a cake. Those boys, Howard and Buglar, were the brothers of Denver and sons of Sethe. Name this author of *Paradise*, *Tar Baby*, *The Bluest Eye*, and *Beloved*.

ANSWER: Toni Morrison [or Chloe Ardelia Wofford]

12. Louis Pasteur studied the impact of this phenomenon on polarized light using tartrate crystals. Another example of this is observed by bombarding Azobenzene with certain photons. The topological type of this occurs in DNA molecules with different linking numbers. Historically important examples include dextrotartaric acid and levotartaric acid, as well as comparisons between silver cyanate and silver fulminate made by Friedrich Wöhler [VOH-lur]. The type of this that impacts functional groups is *cis/trans*, which is a geometric form of this phenomenon. The chain and position types are structural forms. Name this phenomenon exhibited by different molecules with the same chemical formula.

ANSWER: isomers [accept word forms; accept stereoisomer before “structural”]

13. A riot in this city started the Era of Popular Violence that ended in 1918 with the Rice Riots. Several politicians were killed in the February 26 Incident in this city, but the Prime Minister’s brother-in-law was killed mistakenly instead of the Prime Minister. It was bombed several times during World War II, including Operation Meetinghouse in March 1945, which killed about one hundred thousand people. In 1995, a cult spread sarin nerve gas in its subway system. This city changed its name soon after visits to its bay by Americans James Biddle and Matthew Perry. Name this city established as a capital in 1603 by Tokugawa Ieyasu that had its name changed from Edo during the Meiji Restoration.

ANSWER: Tokyo [prompt on Edo]

14. The 1973 movie *Godspell* opens at one of these structures in Central Park. This structure titles an Academy Award-winning Jean Negulesco film in which it is considered auspicious for uniting Shadwell and Frances. A sedative causes Aubrey Hepburn’s character to fall asleep at one of these locations in the movie *Roman Holiday*, and that location is the site of a dance by Anita Ekberg’s character in Federico Fellini’s *La Dolce Vita*. More recent movies have focused on one of these structures that promises everlasting youth to its visitors. Name these public art works, one of which inspired an Academy Award-winning song about throwing “three coins” in it to return to Rome.

ANSWER: fountains

15. A large clock tower now marks this holiday by emitting sixteen beams of light up to a height of 10 kilometers, and in many countries celebrations of this holiday involve a daily cannon blast. It ends with charitable giving that is used in part to allow everybody to celebrate the next holidays, which involve praying in an open field and celebrating. This holiday has recently led to debates over whether its starting day can be determined by a calendar or must be based on an observance of the new moon. Each day of it generally begins with *suhoor* and ends with *iftar*, the two daily meals, and it involves *sawm*, the practice of fasting during daylight hours. Name this holy month preceding the Eid ul-Fitr whose fast is one of the five pillars of Islam.

ANSWER: Ramadan

16. One of this author's title characters has a pet raven named Grip, and another one has his Uncle Ralph help him get a job at Dotheboys Hall. Another one of this author's protagonists is sent to Salem House after biting his stepfather Edward Murdstone. In another novel, Jarvis Lorry returns a prisoner to England, where that prisoner stops making shoes to resume his career as a doctor. That doctor's daughter, Lucie Manette, is loved by Sydney Carton. That novel is set during the French Revolution, which this author wrote was "the best of times [and] the worst of times". Name this author of *Barnaby Rudge*, *Nicholas Nickleby*, *David Copperfield*, and *A Tale of Two Cities*.

ANSWER: Charles Dickens

17. The person on the left side of this painting, wearing an apron and sailor trousers, is next to a kneeling man with green trousers, a black suit, and black top hat. That man's knee is on the same cobblestones as the hands of the person with a blue shirt and red bandana who is looking up. The right side of this work shows a student with a cartridge pouch carried in a sling over his shoulder and with a gun in each hand. There are also wounded bodies lying on the ground, and the central figure has a loose yellow dress and is holding up a flag. Name this work set during the July Revolution showing the tricolor flag of France, painted by Eugène Delacroix [deh-lah-kwah].

ANSWER: Liberty Leading the People [or *La Liberté guidant le peuple*]

18. A lemma stating that if a function is integrable, the magnitude of its Fourier [for-ee-ay] transform tends to zero at infinity is named for Lebesgue [l'-behg] and this man. He also names a class of objects whose tangent bundles' inner products vary smoothly, his namesake manifolds. A limit of a sum of terms like $f(x_k^*) \Delta x_k$ ["f of x sub k-star, times delta x sub k"] over subintervals defines his namesake "sums". Identify this mathematician whose namesake hypothesis on the zeta function remains unproven, and who names a rectangular approximation method for integrals.

ANSWER: (Georg Friedrich) Bernhard Riemann [REE-mahn] [accept Riemann and Lebesgue or Riemann-Lebesgue lemma]

19. This person presided over the impeachment trial of Samuel Chase. One incident that got him in trouble was spurred by a letter from Dr. Charles Cooper to Philip Schuyler stating that a despicable opinion of him was given at a dinner party. Another incident centered on a letter supposedly written by this person that was actually in the handwriting of James Wilkinson; that incident supposedly involved a plan in which Mexico would overthrow Spanish power, giving territory to this person. That incident led him to be accused of treason by President Jefferson, whom he had earlier served as Vice President. Name this politician who on July 11, 1804 killed former Treasury Secretary Alexander Hamilton in a duel.

ANSWER: Aaron Burr

20. This person's eponymous relation states that the diffusion constant varies directly with mobility and absolute temperature, and in his model of solids, all atoms oscillate with the same frequency. Light going around a black hole or galaxy creates the ring named after this person, a process known as gravitational lensing. The stress-energy tensor, Ricci curvature tensor, and cosmological constant are related by his field equations. A new state of matter was predicted by a paper sent to this person by Satyendra Nath Bose. Name this scientist who explained Brownian motion, the photoelectric effect, and relativity.

ANSWER: Albert Einstein

TB1. In a sequel by this author, Mordaunt murders an executioner, and Duc de Beaufort escapes from prison. In addition to that sequel, *Twenty Years After*, this author wrote another sequel to the same work titled *The Vicomte of Bragelonne*, which has a last part involving a king and a prisoner changing places. In another work by this author, the title character befriends Abbé Faria in prison after being the victim of a plot by Fernand and Danglars. In his best known work, Milady de Winter antagonizes a group that includes her husband Athos. Athos is united with Aramis and Porthos, who join forces with d'Artagnan [dar-tahn-yahn]. Name this novelist who wrote *The Count of Monte Cristo* and *The Three Musketeers*.

ANSWER: Alexandre Dumas

TB2. One of these which holds for random variables that attain only positive values is named for Markov, while a more general one is named for Bienaymé. Another one of these can be proven by taking the sum of the quantity $p \text{ sub } j \text{ times } q \text{ sub } k \text{ minus } p \text{ sub } k \text{ times } q \text{ sub } j$, quantity squared, and then taking advantage of the fact that the sum must not be negative. That example is named for Bunyakovsky in Russia but in most places is known as the Cauchy-Schwarz [koh-shee shvarts] one. The Minkowski one of these statements generalizes the “triangle” one, which relates the length of one side to the sum of the lengths of the other two. The solutions to these in a single variable can be expressed by shading a number line, and multiplication by a negative number causes one of these to be “reversed.” Name these mathematical relations which can be expressed using the operators less than or greater than.

ANSWER: inequality/ies

TB3. This is the birth month of Alice Walker, Kurt Cobain, and Michael Jordan. Name this month featuring President's Day, Groundhog Day, and Valentine's Day that follows January.

ANSWER: February