

NEW TRIER SCOBOL SOLO 2011

ROUND 14

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1. Itzhak Perlman and the Modern Jazz Quartet performed this song together, and this is the third song on John Coltrane's *My Favorite Things* album. It is based on a poem by DuBose Heyward and is in an opera based on one of his novels. In that opera, this song is sung three times to Clara's baby. The lyrics of this song claim, "nothing can harm you with your daddy and mammy standing by." Name this song from Gershwin's *Porgy and Bess* which states, "Your daddy's rich, and your mamma's good looking."

ANSWER: "Summertime"

2. This country's judicial system was put in place by Ali-Akbar Davar, who helped bring down its Qajar Dynasty. During Operation Ajax, which is known in this country as the 28 Mordad coup, the CIA put Fazlollah Zahedi in charge of this country after imprisoning Mohammad Mosaddegh. During the middle of the 20th century, this country was headed by the Pahlavi Dynasty, which produced Reza Khan and his son Mohammad Reza, who reigned as shahs. Their rule was ended by a 1979 Islamic Revolution which saw the rise of Ayatollah Ruhollah Khomeini and the taking of American hostages. Name this country whose current President is Mahmoud Ahmadinejad.

ANSWER: Islamic Republic of Iran [accept Persia]

3. One character in this novel, who tells some jokes that were rotten and some that were petrified, liked to talk about the time that he tied metal mugs to a dog's tail. This story is told by a stranger who claims that he awoke under an oak tree after he was hit in the head with a crowbar by a boy named Hercules. He explains how he used a lightning rod and gunpowder to start a fire and had a son named Hello-Central. This novel includes a fight which is won at first with a lasso and then finally with a revolver, and the stranger describes his correct prediction of an eclipse. Name this novel about Hank Morgan and Merlin written by Mark Twain.

ANSWER: A Connecticut Yankee in King Arthur's Court

4. T. A. Weston's differential type of this device relies on two unequal radii, and little g can be measured by the motion of two masses about one of these in an Atwood machine. The movable type of this device has twice the mechanical advantage of the fixed type, and a system of multiple ones is known as a block and tackle. Precise calculations need to account for the moment of inertia and friction of their sheaves. Often used to transmit rotational motion between shafts, name this simple machine that makes lifting easier by accommodating a belt, chain, or rope through its outer groove.

ANSWER: pulleys

5. Muslims believe that two of these creatures named Munkar and Nakir test humans after death. Islam dictates that these creatures have no desires or needs, and belief in them is one of the six Articles of Faith. In several Semitic languages they are called Malakh, and according to the Church of Latter Day Saints, the golden plates were guarded by one of these creatures named Moroni. Two of them eat at Lot's house in the Book of Genesis, and one causes an earthquake in the last chapter of the Book of Matthew. Name these divine messengers including Michael, Raphael, and Gabriel whose religious representations—unlike their popular representations—generally do not include wings, harps, or halos.

ANSWER: angels [do not accept archangel]

6. The beta type of this device must operate above three hundred degrees Celsius to keep the sodium and sulfur molten, while the aluminum-air type has not had much commercial success because it generates hydrogen when not in use. The traditional dry type relies on a zinc-manganese dioxide system, though it is quickly being replaced by the reusable nickel-cadmium variety, and the most common storage type still uses sulfuric acid as the electrolyte. Containing at least one cathode and anode, name this device for supplying electricity invented by Alessandro Volta.
ANSWER: battery [accept galvanic cell; accept voltaic cell before "Alessandro"; prompt on cell]

7. This agency is not environmental, but the laws that created it essentially federalized state laws that had been nicknamed "blue sky laws". One of this organization's first members was Ferdinand Pecora, who had earlier led Senate hearings that influenced its creation, and its first Chairman was Joseph Kennedy. This organization won its 1953 court case against Ralston Purina, allowing it to classify offers to employees as public offerings, and the laws creating this organization were passed in 1933 and 1934 in reaction to the stock market crash. This agency was recently given the authority to regulate proxy balloting, and it has been criticized in recent years for not exposing Bernie Madoff. Name this agency responsible for enforcing regulations of stock and options exchanges.
ANSWER: Securities and Exchange Commission

8. In one novel by this author, Bill Hingest is murdered after he resigns from the National Institute for Co-ordinated Experiments. That novel is the third one featuring philology professor Elwin Ransom, who first appears in *Out of the Silent Planet*. Another work by this author describes a patient who dies during World War Two after being tempted by an apprentice demon. That work consists of thirty-one letters written to Wormwood. This author also wrote several books that conclude soon after Rishda Tarkaan is defeated by King Tirian. Those books include the adventures of the Pevensie children, who are guided by the lion Aslan. Name this author of *The Screwtape Letters* and *The Chronicles of Narnia*.
ANSWER: C(live) S(taples) Lewis

9. Hadamard and de la Vallée Poussin independently proved this theorem in 1896, and a proof of this involving only real numbers led to a dispute between Selberg and Erdős (AIR-dawsh). The Hadamard and de la Vallée Poussin proofs used the zeta function and were followed by a J.E. Littlewood proof that this theorem is not an inequality that used the Riemann hypothesis. A concise way to state this theorem is that $\pi(n)$ equals the logarithmic integral of n , where the logarithmic integral is $\int_2^n \frac{dx}{\ln x}$ over the natural log of x from two to n , which is approximately n over the natural log of n . Name this theorem which approximates how many numbers less than a given number have only one proper divisor.
ANSWER: prime number theorem

10. A movement from these works was used to make the hymn *Thaxted* and the patriotic song *I Vow to Thee, My Country*. The original performance of these works used conductor Adrian Boult just before its composer was sent to World War One. Its original score called for two three-part women's choruses to sit in adjacent rooms during the performance and to have the doors to those rooms closed slowly at the end of the piece. Originally titled *Seven Pieces for Large Orchestra*, this suite has sections nicknamed "The Mystic", "The Bringer of Peace", and "The Bringer of Jollity". Name this suite based on astrology, composed by Gustav Holst.
ANSWER: *The Planets* [accept Jupiter, the Bringer of Jollity before "choruses"]

11. One book set during a riot in this country is *A Ride on the Whirlwind*. A recent play to come out of this country is about Roelf, whose train hit a woman carrying a baby, and an earlier play by the same writer from this country, about the half-brothers Morris and Zachariah, is *Blood Knot*. A novelist from this country wrote about a hare lipped gardener who travels a long way with his mother's ashes, and another novelist wrote about Maureen and Bamford Smales fleeing to the hometown of their servant. In another work from this country, Arthur Jarvis is murdered by the son of Stephen Kumalo. This country is the setting of *Life & Times of Michael K*; *July's People*; and *Cry, the Beloved Country*; and it is the home of Athol Fugard, J. M. Coetzee, Nadine Gordimer, and Alan Paton. Name this setting of Kaffir Boy, a book about growing up under Apartheid.

ANSWER: Republic of South Africa

12. Joseph Hovey's warning against this campaign was widely circulated but ignored, and the intelligence officer who ignored it, who later wrote a respected history of the war it took place in, was Philip Davidson. Its biggest military success came when a group known as the Black Panther Company lost the Tay Loc airfield and eventually the city of Huê, though that gain was overturned in about a month. In its aftermath, Creighton Abrams replaced William Westmoreland as military commander, and Robert McNamara resigned as Secretary of Defense. Name this series of attacks which took place during the Lunar New Year Holiday in 1968 in Vietnam.

ANSWER: Tet Offensive

13. The effects of this concept are represented by the a and b parameters of the Price equation, and Amotz Zahavi used the handicap principle to explain this action in Arabian Babbler birds. Hamilton's rule can determine when this action is favorable and the mutual grooming of primates is an example of the rare reciprocal type. Most instances of this behavior are based on a high degree of relatedness leading to kin selection, and well-documented examples include the sounding of alarm calls by ground squirrels and the sharing of meat in wolf packs. Explaining why worker bees sting intruders even though they die as a result, name this form of animal behavior in which an individual risks its own survival to benefit another member of its species.

ANSWER: altruism

14. This person and Carol Loomis wrote an editorial for *Fortune* magazine calling for the use of Import Certificates to eliminate America's trade imbalance. He placed David Sokol in charge of Johns Manville and NetJets, but Sokol recently resigned. He worked with Bill Gates to start The Giving Pledge to encourage people to give most of their wealth to charity, and he recently wrote the editorial "Stop Coddling the Super-Rich". After several public challenges, he released his tax returns, showing that he paid about seven million dollars last year. This man is now the namesake of a tax proposal that would provide a minimum tax rate for millionaires. Believed to be the third wealthiest person in the world, name this chairman and CEO of Berkshire Hathaway.

ANSWER: Warren Buffett

15. This person wrote, "Convictions are more dangerous enemies of truth than lies." In another book, he contrasted master morality with slave morality and wrote, "Man would rather will nothingness than not will." Those books are *Human, All Too Human* and *On The Genealogy of Morals*. This writer also contemplated eternal recurrence in *The Gay Science*, and he wrote about the transvaluation of all values and the Übermensch in *Thus Spoke Zarathustra*, where he repeated the phrase "God is dead." Name this nineteenth-century German philosopher who also wrote *Ecce Homo* and *Beyond Good and Evil*.

ANSWER: Friedrich (Wilhelm) Nietzsche

16. One work by this painter shows a working man wearing blue sitting in a chair next to a fireplace; that work, *At Eternity's Gate*, is based on the more descriptively titled lithograph *Old Man with his Head in his Hands*. One work by this artist shows a man standing next to a pool table in a restaurant with several hanging lights and a big clock, and the exact time and date of one of his paintings have been determined based on the location of Venus in the sky. Legend has it that *The Red Vineyard* is the only piece he ever sold, though works such as *White House at Night* and *The Night Café* are now quite valuable. Name this artist who painted *Portrait of Dr. Gachet*, *The Potato Eaters*, and *Self-portrait with Bandaged Ear*.

ANSWER: Vincent van Gogh [prompt on a partial last name]

17. One variety of this quantity is used to find the volume of a pyramidal frustum and named the Heronian type. Another variety of this quantity can be used to find the overall speed of an object which discretely changes speed during its motion and is found by dividing a product by a sum. In addition to the harmonic variety, another type of this quantity is calculated by taking the n^{th} root of the product of n numbers and is known as the geometric type. Name this quantity whose arithmetic (air-ith-MAA-tik) type is calculated by adding a set of numbers and dividing by how many numbers there are.

ANSWER: means [prompt on average; prompt on measure of central tendency]

18. This person wrote, "Oh, cease to write, for very shame, Ere all men spit upon our name!" in "To Certain Poets", and another poem by this writer criticizes a young poet who killed himself. He contrasted the *Titanic* with the then-recently-sunk *Lusitania* in "The White Ships and the Red". He then joined the army, writing "Rouge Bouquet" when twenty-one soldiers from his battalion died, and he died at the Second Battle of the Marne. His best-known poem is about objects that intimately live with rain and look at God all day. Name this poet who used the couplet "Poems are made by fools like me, but only God can make a tree" to finish his poem "Trees".

ANSWER: Joyce Kilmer

19. The fixing of the Josephson constant may soon lead to the revision of one component of this system, while a proposal to base another part of this system on Planck's constant rather than the IPK is already being considered. The magnetic force between two parallel wires defines one component of this system, and in 1960 another standard used an orange-red spectral line of krypton-86. Another component of this system was defined by a clock based on caesium-133 atoms. Incorporating the older metric system and still not official in the United States, name this collection of standard science units that includes the kilogram, meter, kelvin, and ampere.

ANSWER: International System of Units [or SI; or Système International d'Unites; accept MKS(A); prompt on metric system before it is mentioned]

20. The savior of this city is sometimes considered to be Carl Szokoll, who took part in Operation Radetzky in an effort to avoid heavy fighting in this city near the end of World War Two. This city's mayor at the beginning of the 20th century was Karl Lueger, whose antisemitism inspired Adolf Hitler. In 1492, this city became the seat of the Holy Roman Empire, and it is where John the Third Sobieski stopped Kara Mustafa Pasha of the Ottoman Empire. This is the city where Karl August von Hardenberg, Karl Robert Nesselrode, Lord Castlereagh, Talleyrand and others met under the leadership of Prince Metternich to discuss the fate of Europe in 1814 and 1815. Name this capital of Austria.

ANSWER: Vienna

TB1. The method for accomplishing this task using elliptic curves is named after Hendrik Lenstra, while the best method for accomplishing this task for large numbers is the number field sieve. Another method for doing this involves looking for results of modular arithmetic that are perfect squares, which is known as a quadratic sieve. Euclid's Lemma can be used to prove the fundamental theorem of arithmetic, which states that results of this process are unique. Name this task that writes a number as a product of whole numbers that are not composite.
ANSWER: prime factorization [or integer factorization; or prime decomposition; accept word forms]

TB2. This leader took control of the towns of Brill and Flushing by signing the Treaty of Nonsuch with the Netherlands. This monarch also worked with Archbishop of Canterbury Matthew Parker to establish the 39 Articles of Religion, which helped define the Anglican Church. The Ridolfi Plot and the Rising of the North were two attempts to replace this monarch with Mary, Queen of Scots. Before being crowned, this supporter of Francis Drake and daughter of Anne Boleyn spent a year in prison during the reign of Mary the First, her half-sister. Name this Queen who ruled England for forty-four years until her death in 1603.
ANSWER: ("Virgin" Queen) Elizabeth I (Tudor) [prompt on partial answers; prompt on answers mentioning Bess or Gloriana]

TB3. Which animal...appears in Norse mythology as Hugin and Munin, who fly over Midgard and bring information to Odin; speaks only the word "nevermore" in a poem by Edgar Allan Poe; and is a larger cousin of the crow that names the Baltimore NFL team?
ANSWER: raven