

NEW TRIER VARSITY 2009

ROUND 8



1. Types of this phenomenon include skeletal and positional. For 10 points each:

[10] Name this phenomenon in which molecules have the same molecular formula but different atomic arrangements. Pentane and 2-methylbutane are examples, as are 2-hexanol and 3-hexanol.

ANSWER: **structural** isomerism [or **constitutional** isomerism; prompt on **isomerism**]

[10] Dimethyl ether and ethanol are examples of this special type of structural isomerism, where the atoms are arranged so as to create entirely different component groups. It is exemplified by cyclohexane and any form of hexene.

ANSWER: **functional** group isomerism

[10] In this type of isomerism, molecules have the same molecular formula and the same arrangement of atoms, but a different three-dimensional orientation. Due to this three-dimensional orientation, the isomers have identical boiling and freezing points but cause opposite rotation of plane-polarized light.

ANSWER: **stereo**isomerism

2. This composer's *Capriccio espagnol* was interrupted during rehearsal by applause from the orchestra. For 10 points each:

[10] Name this composer of *Sadko*, *The Easter Festival Overture*, and *Scheherazade*.

ANSWER: Nikolai Andreyevich **Rimsky-Korsakov**

[10] This work, Rimsky-Korsakov's final composition, sees Tsar Dodon's attack against the land of Shemahka go awry. The title bird pecks out the Tsar's neck at the end.

ANSWER: *The **Golden Cockerel*** [or *L'**Coq d'Or***; or ***Zolotoy Petushok***]

[10] Rimsky-Korsakov revised and completed many works by this fellow member of the Russian Five, including *Night on Bald Mountain*.

ANSWER: Modest Petrovich **Mussorgsky**

3. The only characters featured in the opening scene of this work are Piscator, Venator and Auceps. For 10 points each:

[10] Identify this work, which sees each of those three characters argue about whose sport is better; fishing, hunting or falconry. The first few editions featured a pretty one-sided argument in favor of fishing.

ANSWER: *The **Compleat Angler***

[10] This author of *The Compleat Angler* was unsurprisingly a consummate fisherman himself, and dedicated the last forty years of his life to the sport, producing the work as a recreation.

ANSWER: Izaak **Walton**

[10] Izaak Walton also produced a number of scholarly biographies (in a leisurely fashion, of course), including one of this man, who wrote *Devotions upon Emergent Occasions* and a bunch of *Holy Sonnets*, the tenth of which began "Death be not proud".

ANSWER: John **Donne**

4. The mathematicians depicted in this painting include Euclid, Pythagoras, Hypatia, and Archimedes. For 10 points each:

[10] Name this sixteenth-century fresco that also depicts Plato and Aristotle.

ANSWER: The School of Athens [or La Scuola di Atene]

[10] The painter of *The School of Athens*, Raphael, also painted a work in which an infant John the Baptist hands this type of bird to an infant Jesus while Mary watches.

ANSWER: goldfinch [or cardellino; prompt on finch]

[10] Many of Raphael's works, including the *Madonna of the Goldfinch*, are exhibited at this gallery in Florence also home to *The Birth of Venus*.

ANSWER: Uffizi Gallery [or Galleria degli Uffizi]

5. Individuals holding this position had vast amounts of power, including the power to appoint a dictator for a limited time. For 10 points each:

[10] Name this highest administrative and military position of the Roman Republic.

ANSWER: Consul

[10] As presidents of the Plebeian Council, the 10 individuals with this title could speak on behalf of the Plebeians, as well as present legislation to it. They also had some Senatorial powers.

ANSWER: Tribune

[10] Plebeians could also directly elect two of these individuals, and later, Patricians elected two of their own. They were responsible for maintaining public buildings, organizing festivals, and enforcing order.

ANSWER: Aediles

6. This basketball player's nickname originated from his abnormal shooting motion, which started at his side. For 10 points each:

[10] Identify this man, nicknamed Pistol Pete.

ANSWER: Peter Press Maravich

[10] Maravich played for this university, a member of the Southeastern Conference, where he won three NCAA scoring titles.

ANSWER: Louisiana State University [accept Louisiana State; do not accept or prompt on "Louisiana"]

[10] Lighting up the scoreboard on the turf rather than the hardwood, this former LSU running back, a New England Patriot since 1999, holds the school record for most all purpose yards.

ANSWER: Kevin Faulk [prompt on partial answer]

7. It took place on the Wabash River, near Prophetstown. For 10 points each:

[10] Name this 1811 battle in which Tecumseh's brother, Tenskwatawa, and some members of Tecumseh's confederacy were preemptively attacked by American forces.

ANSWER: Battle of Tippecanoe

[10] The Battle of Tippecanoe was won by this man who became president in 1841 but died thirty-two days later.

ANSWER: William Henry Harrison

[10] From 1800 to 1812, William Henry Harrison served as the governor of this territory, in which the Battle of Tippecanoe was fought.

ANSWER: Indiana Territory

8. It names six "Preliminary Articles", including the abolition of standing armies, and three "Definite Articles" that would lead to the titular goal. For 10 points each:

[10] Name this 1795 essay that advocates the adoption of constitutional republicanism.

ANSWER: On Perpetual Peace

[10] This author of *On Perpetual Peace* is also known for three major critiques, including the *Critique of Pure Reason*.

ANSWER: Immanuel **Kant**

[10] In *Groundwork for the Metaphysics of Morals*, Kant defined this concept that states that one should act in a manner that would be acceptable as a universal law.

ANSWER: categorical imperative

9. This work includes the section "Let the Woodcutter Awaken", which praises both Abe Lincoln and Joe Stalin, and "The Earth's Name Is Juan". For 10 points each:

[10] Name this very long poetic history of South America whose second part is "The Heights of Macchu Picchu".

ANSWER: Canto General [accept General Song]

[10] *Canto General* is by this Chilean poet of *Elemental Odes*.

ANSWER: Pablo **Neruda** [or Neftalí Ricardo **Reyes** Basoalto]

[10] Neruda also wrote this collection whose poems mention that "I want to do with you what spring does with cherry trees", but its final one says that "The memory of you emerges from the night around me...It is the hour of departure, oh deserted one!"

ANSWER: Twenty Love Poems and a Song of Despair [or Veinte Poemas de Amor y una Canción Desesperada]

10. Identify some linguists, for 10 points each:

[10] This German collector of fairy tales put forth a namesake law that explains how stops from Indo-European evolved into Germanic languages.

ANSWER: Jacob **Grimm** [or Rask's-**Grimm's** Law/Rule/Principle/etc.]

[10] This linguist wrote a book called *Language* and, with Benjamin Whorf, he names a hypothesis that states that the language one speaks determines his or her perception.

ANSWER: Edward **Sapir** [or **Sapir-Whorf** Hypothesis/Rule/Principle/etc.]

[10] This Swiss linguist wrote *Course in General Linguistics*.

ANSWER: Ferdinand de **Saussure**

11. The type of this system used in the blood is composed of the hydrogen carbonate anion and carbonic acid. For 10 points each:

[10] Name these solutions made up of a weak acid and its conjugate base, or of a weak base and its conjugate acid, that keep a nearly constant pH on the addition of small amounts of other acids and bases.

ANSWER: buffer solutions

[10] This law of buffer chemistry states that the pH of the buffer solution equals the pKa plus the log of the concentration of the conjugate base over the concentration of the acid.

ANSWER: Henderson-Hasselbalch equation [accept "law" or other obvious equivalents for "equation"]

[10] This effect occurs when sodium chloride is added to a saturated solution of silver chloride. Because of the increased concentration of chloride ion, more silver chloride precipitates.

ANSWER: common ion effect

12. In this novel, Professor Woland hosts a ball on Walpurgis Night. For 10 points each:

[10] Name this Soviet satire in which one of the title characters writes a novel about Pontius Pilate, and Satan comes to visit some atheists in Moscow.

ANSWER: *The Master and Margarita*

[10] *The Master and Margarita* draws heavily from this work of Goethe which features the selling of a soul to Mephistopheles in addition to Gretchen drowning her illegitimate child.

ANSWER: *Faust: The First Part of the Tragedy* [accept *Faust. Der Tragödie erster Teil*]

[10] *The Master and Margarita* is a work by this Russian author who also satirized the Soviet Union in his sci-fi novella, *The Fatal Eggs*.

ANSWER: Mikhail Afanasyevich Bulgakov

13. He asserted that “extremism in defense of liberty is no vice”. For 10 points each:

[10] Name this man who served as Senator from Arizona until 1987 who wrote *Conscience of a Conservative*.

ANSWER: Barry Morris Goldwater

[10] This man gave strong speeches in support of the 1964 Barry Goldwater Presidential Campaign a few years before becoming Governor of California. He eventually served as U.S. President from 1981 to 1989.

ANSWER: Ronald Wilson Reagan

[10] Near the beginning of his presidency, Reagan fired several thousand people who held this job because they went on strike.

ANSWER: air traffic controllers [accept equivalents]

14. This function is used in the definition of combinations. For 10 points each:

[10] Name this function which is defined only on nonnegative integers and is 1 when applied to 0, equal to the product of all natural numbers up to and including its input.

ANSWER: factorial function

[10] This extension of the factorial function returns the square root of pi for one half. For positive integers n , it is equal to the quantity n minus 1, factorial.

ANSWER: complete gamma function

[10] The modern definition of the gamma function is due to this French mathematician whose other work included developing the basis for Galois theory and a namesake transform, which takes the Lagrangian to the Hamiltonian.

ANSWER: Adrien-Marie Legendre

15. Answer these questions about the ancient German city where Otto the Great was crowned.

[10] This city, also known as Aix-la-Chapelle, was the capital of Charlemagne’s empire and the site of his palace.

ANSWER: Aachen

[10] Aix-la-Chapelle was the namesake of many a war-ending treaty, most notably for this 1740s war, which was principally fought over the territory of Silesia and the right of Maria Theresa to rule.

ANSWER: War of Austrian Succession

[10] The Battle of Aachen, in which German Commander Gerhard Wilck surrendered the city, took place in this war.

ANSWER: World War II

16. Six semesters after Arthur Sommenfeld suggested that this man take some introductory physics courses, he had earned his Ph.D., and less than two years later, he formulated the basis of quantum theory. For 10 points each:
[10] Name this German who wrote that his theory "...would have to be cast in a form in which it could not speak of the exact position and momentum of a particle simultaneously", his namesake uncertainty principle.

ANSWER: Werner Karl **Heisenberg**

[10] Heisenberg developed a statistical interpretation of quantum theory with this physicist, who described the square of a particle's wavefunction at a given point as the probability of finding the particle at that point.

ANSWER: Max **Born**

[10] This Austrian famously rejected Born and Heisenberg's statistical interpretation of quantum theory. His namesake equation states that $i\hbar$ times the partial derivative of the wavefunction with respect to time equals the Hamiltonian of the wavefunction.

ANSWER: Erwin Rudolf Josef Alexander **Schrödinger**

17. In this short story, Ivan is a deaf-mute manservant. For 10 points each:

[10] Name this short story, the title activity of which is hunting humans, of which General Zaroff is a big fan.

ANSWER: "The **Most Dangerous Game**" [or "The **Hounds of Zaroff**"]

[10] This American author wrote "The Most Dangerous Game".

ANSWER: Richard **Connell**

[10] This other American author once said, "There is no hunting like the hunting of man." His hunting of animals inspired him to write *Green Hills of Africa* and "The Snows of Kilimanjaro".

ANSWER: Ernest **Hemingway**

18. For 10 points each, name these South American rivers that aren't the Amazon:

[10] The name of this river comes from the Tupi word for "like the sea". It is formed at the confluence of the Paranaíba and Grande rivers, and it runs through Brazil, Paraguay and Argentina.

ANSWER: **Paraná** River [or Río **Paraná**]

[10] This river's main tributary is the Rio Negro. It forms the border between Argentina and its namesake country.

ANSWER: **Uruguay** River [or Río **Uruguay**]

[10] The Paraná and Uruguay Rivers form this estuary, along whose banks are the cities of Buenos Aires and Montevideo.

ANSWER: Río de la **Plata** [or River of **Silver**; or La **Plata** River; or River **Plate**]

19. It develops from the telencephalon, and consists of smaller occipital, parietal, and temporal lobes, and a large frontal lobe. For 10 points each:

[10] Identify this largest part of the human brain, with an outer cortex which is responsible for memory and personality.

ANSWER: **cerebrum**

[10] This other area of the brain regulates many aspects of the autonomic nerve system, including hunger, thirst, and libido.

ANSWER: **hypothalamus**

[10] This part of the hypothalamus regulates circadian rhythms, largely by receiving signals about light levels from the retina.

ANSWER: **suprachiasmatic** nucleus [accept **SCN**]

20. This figure was given the epithet "Argeiphontes" for slaying a one-hundred-eyed figure. For 10 points each:

[10] Identify this inventor of the lyre, the father of Pan.

ANSWER: Hermes [accept Mercury]

[10] Hermes also invented the panpipes, which he traded to Apollo in exchange for this item closely associated with him.

ANSWER: caduceus [accept kerykeion; prompt on staff or similar terms]

[10] This is another one of the epithets given to Hermes, as he was responsible for guiding dead souls to the underworld.

ANSWER: psychopompos