

ST. LOUIS OPEN – 1999

Round Nine

Toss-Up Questions

1. Two answers required. One was drafted by a future U.S. president and argued that a compact among the states formed the government and that the federal powers were limited to those delegated to it in the Constitution. The other, also drafted by a future president, said that the states had the right to interfere with any alleged unconstitutional exercise of power by the federal government. All this was in response to the government's passage of the Alien and Sedition Acts. FTP, identify these 1798 resolutions written by Thomas Jefferson and James Madison.

Answer: Kentucky and Virginia Resolutions

2. The main character of this novel dislikes posturing and must fight a duel with Grushnitsky, who wears his epaulettes too high. He reads Sir Walter Scott on the eve of the duel. The story is introduced to the reader through Maxim Maximich, a friend of the main character, and relates the tale via the main character's journal entries. FTP, identify this small Russian novel of 1839, the story of Pechorin, written by Mikhail Lermontov.

Answer: A Hero of Our Times

3. He was a child prodigy in mathematics, having read l'Hopital's textbook on calculus when he was ten and presented a paper on geometry to the French Academy of Sciences when he was thirteen. At the age of eighteen, he published *Recherches sur les courbes à double courbure*, which was the first systematic treatise on three-dimensional analytic geometry and included the calculus of space curves. FTP, identify this French mathematician whose namesake theorem states that if the partial derivatives of f with respect to x with respect to y and f with respect to y with respect to x are both continuous on a disk, then the two derivatives are equal at the same point.

Answer: Alexis Clairaut

4. It was based on the teachings of Xunzi, who stated that human nature was incorrigibly evil and that strict controls were needed to regulate human conduct. Han Fei was the leading philosopher of this system, while Li Si was its leading practitioner, and espoused strict laws and harsh punishments in the control of every aspect of human society. It was by means of this rigid control that the Great Wall of China was built. FTP, identify this Chinese philosophy that dominated China during the 4th and 3rd centuries B.C.E. through the rule of the Qin Dynasty.

Answer: legalism

5. At an altitude of about 12,000 feet, about all you can do is raise llamas and skimpy potatoes here. It is comprised of a series of intermontane basins located between the Cordillera Oriental and the Cordillera Occidental and extends from southwestern Bolivia into southern Peru. Its claim to fame rests on the fact that Lake Poopó and Lake Titicaca both lie here. FTP, identify this high and dry region of the Andes Mountains that was once home to the Incas, whose name means "high plane."

Answer: Altiplano

6. Although both sides were about 8000 strong, the English forces were a well-trained unit, while the Jacobites were a ragtag mixture of French, Irish, and Scots fighting among themselves. Arrayed on a field about 11 kilometers east of Inverness, the Jacobites rushed the English lines, but were defeated by the second line of musketry and soon retired from the battle. FTP, identify this 1746 battle in which the Duke of Cumberland defeated the Jacobite leader, Prince Charles Edward, the "Young Pretender."

Answer: Battle of Culloden Moor

7. They are composed of three parts: a phosphate group, a pentose sugar, and a nitrogenous base. Two families of this monomer include a six-membered ring of carbon and nitrogen atoms and a five-membered ring fused to the six-membered ring. These monomers are joined by phosphodiester linkages to form their better-known polymers. If their pentose sugar is ribose, they form RNA; if it's deoxyribose, they form DNA. FTP, identify these monomers that make up the purines and pyrimidines: adenine, guanine, cytosine, thymine, and uracil.

Answer: nucleotide(s)

8. Her troubles arise from her desire to be exclusive, but her naïveté causes her to lose standing with the high society of Rome. Her younger brother Randolph wishes only to return to America, while her courier Eugenio watches over her as she cavorts about with many different "gentlemen." The fake Mr. Giovanelli, in particular, makes Winterbourne jealous and angry when he finds the two of them together at night around the Colosseum. Thus she contracts Roman fever and dies at the story's end. FTP, identify this title character of a short story by Henry James.

Answer: Daisy Miller

9. First was Europe's Mont Blanc at age 16. Next was Africa's Mount Kilimanjaro at age 17. Australia's Mount Kosciusko, South America's Mount Aconcagua, North America's Mount McKinley, and Antarctica's Vinson Massif fell in rapid succession over the next few years. Finally, this past September, he conquered Mount Everest. FTP, identify this Japanese mountain climber who, at age 25, is the youngest person to complete the grand slam of mountain climbing by cresting the tallest peaks on each of the world's continents.

Answer: Ken Noguchi

10. For this opera, the composer reworked the *commedia dell'arte* traditions of Gozzi's *Fiaba dell'amore delle tre melarancie*. It is a whimsical opera as evident by the cast, which calls for ten ridiculous people, a chorus of little devils, a Gigantic Cook, and a smattering of princesses. The orchestration is sparse, but colorful, the only famous musical tunes being the well-known March and Scherzo. FTP, identify this lunatic 20th century Russian opera, one of the most famous works of Sergey Prokofiev.

Answer: The Love for Three Oranges

11. It is the subject of MacKinlay Kantor's Pulitzer Prize-winning novel. A year after it shut down its superintendent, Major Henry Wirz, was tried by a U.S. military court, convicted of murder, and hanged. Close to 50,000 men were detained here, of which 13,700 died from epidemics of scurvy and dysentery. As a result, two Confederate medical officers ordered the prisoners transferred from this site, where the National Prisoner of War Museum is now located. FTP, identify this Confederate prison camp in Georgia that was used to confine Union army enlisted men between 1864 and 1865.

Answer: Andersonville Prison

12. Based on the 1912 findings of Max von Laue, who suggested that x-rays might be diffracted when passed through a crystal, it permits physicists to measure the wavelengths of x-rays and calculate the distances between the planes of atoms from previous data and use the results to find the wavelength of the x-rays. FTP, identify this law which states that the distance between parallel planes of atoms determines the angle at which reflection can take place for a certain wavelength of x-rays, postulated by the father and son team that won the 1915 Nobel Prize in Physics.

Answer: Bragg's law or equation

13. His first poems were religious in nature, but as he became dissatisfied with the role of the church in society he turned to a fiercer topic: war. He enlisted in World War I and fought as an officer in the Battle of the Somme but was hospitalized for shell shock. He met his mentor Siegfried Sassoon in the psychiatric ward and under his tutelage began producing some of his best wartime poems. Nine of his

poems ended up becoming the text for Benjamin Britten's *War Requiem* of 1962. FTP, identify this British poet of World War I, the creator of *Dulce et Decorum Est*.

Answer: Wilfred Owen

14. His work combined the elements of Antonio Rossellino and Antonio del Pollaiuolo. He carved in silver, marble, and terracotta, but is most famous for his bronze sculptures. His *The Doubting of Thomas* is based on his painting *Baptism of Christ*, which he executed with his more famous pupil. His most famous bronze, however, is probably his monument dedicated to a Venetian army commander. FTP, identify this 15th century sculptor of *Equestrian Monument of Colleoni*, more famously known as the teacher of Leonardo da Vinci.

Answer: Andrea del Verrocchio

15. Sarah, a young relative of the title character living in Ecbatana, prays for death because every one of her seven husbands has been killed on her wedding night by the demon Asmodeus. The title character's son, Tobias, is sent on a mission to the city of Rages to collect money left in trust with a friend. The title character, a pious Israelite of the tribe of Naphtali, goes blind despite his good works and faith. The archangel Raphael is sent to help all three and brings them happiness. Before the title character's death, he predicts the fall of Nineveh. FTP, identify this apocryphal book of the Old Testament that follows the Septuagint.

Answer: Book of Tobit

16. In 1967, he founded the People's Revolutionary Party in Uganda, which gained much infamy for the kidnapping of four research students working under Jane Goodall in Tanzania. This was after he was expelled from his own country for supporting its first Prime Minister Patrice Lumumba, who was deposed by a more famous dictator. He formed the Alliance of Democratic Forces for the Liberation of Congo and his 1997 capture of Kinshasa was greeted with jubilation. FTP, identify this ouster of Mobutu Sese Seko, the current president of the Democratic Republic of the Congo.

Answer: Laurent Désiré Kabila

17. It is only applicable to systems that are heterogeneous, in which two or more physically distinct states are in equilibrium. In this equation, C corresponds to the number of chemical components of the system, P corresponds to the number of states present, and F is the number of variables that can be changed without causing the disappearance of a state or the appearance of a new one. FTP, identify this rule purported by an American physicist that mathematically describes the behavior of chemical systems in equilibrium, denoted by the equation $F = C - P + 2$.

Answer: Gibbs Phase rule

18. Though the author died in 1994, he left behind an 800-page manuscript for this novel, which was edited by his friend John F. Callahan. The story centers on Adam Sunraider, a United States senator who hides his mixed-race background with racist views and policies, and the black musician and preacher who adopted him as a boy and raised him. Callahan named the novel after the annual African American freedom celebration of the same name and published it appropriately in June 1999. FTP, identify this long-awaited follow-up to Ralph Ellison's *Invisible Man*.

Answer: Juneteenth

19. He began working in the Midvale Steel Company in 1878, where he became the foreman. Twenty years later, he became the joint discover, along with White, of a method of tempering steel. However, it was his study of industrial productivity at the steel mill that made him famous. He published his most famous findings in 1911's *The Principles of Scientific Management*. FTP, identify this industrial engineer who developed detailed systems intended to gain maximum efficiency from workers and their machinery.

Answer: Frederick Winslow Taylor

20. He is one of the two sons of Nyx and lives in a cave beside the river Lethe. Ovid depicts him dressed in black but with his robe scattered with stars, wearing a crown of poppies and holding a goblet of opium juice. His attendant is Morpheus, who is the overseer of dreams and nightmares. He is better known as the Roman cognate of the Greek god Hypnos. FTP, identify this minor Roman deity, the god of sleep.

Answer: Somnus (accept Hypnos before "Ovid")

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Bonus Questions

1. Identify the following animals from Norse mythology FTPE.
 - a) This is the golden-combed cock that wakes the warriors of Valhalla every day.
Answer: Gullinkambi
 - b) Forged by Brokk and Eitri, this golden boar was given to Freyr as a mount.
Answer: Gullinbursti
 - c) At Ragnarok, Thor will kill – and be killed by – this beast that encircles the world.
Answer: Jormungand (accept Midgard Serpent)
2. Damn, I hate hockey! Given a description, identify the following hockey trophies FFPE and a five point bonus for all correct.
 - a) This trophy is given to the goalkeeper judged to be the best at his position.
Answer: Vezina Trophy
 - b) This trophy is given to the forward who best excels in the defensive aspects of the game.
Answer: Frank J. Selke Trophy
 - c) This trophy is awarded to the most valuable player for his team in the playoffs.
Answer: Conn Smythe Trophy
 - d) This trophy is given to the player judged to have exhibited the best type of sportsmanship and gentlemanly conduct combined with a high standard of playing ability.
Answer: Lady Byng Memorial Trophy
 - e) This trophy is awarded to the player selected as the most proficient in his first year of competition in the National Hockey League.
Answer: Calder Memorial Trophy
3. Identify the following works of the newest Nobel Prize in Literature recipient Günter Grass given a description FTPE.
 - a) The narrator of this novel has refused to grow physically since the age of three and languishes in an asylum for a murder he didn't commit. His gift for screaming has the uncanny ability to wreck Nazi rallies.
Answer: The Tin Drum
 - b) This novel follows the rage of a character who embraces and then rejects Nazism, driven to beat his half-Jewish friend, before plaguing his former military colleagues with sexual diseases.
Answer: Dog Years

- c) This novel depicts a man impelled to join the Nazis by a physical peculiarity: an abnormally large Adam's Apple.

Answer: Cat and Mouse

4. Given a description, identify the terms from chemistry FTPE.

- a) This equation is useful in electrochemistry because it enables one to calculate cell potentials under non-standard-state conditions. It is named after the German chemist who first derived it.

Answer: Nernst equation

- b) Symbolized by the letter M, this constant of proportionality, dependent on crystal structure, relates the lattice energy of an ionic crystal to the interatomic separation.

Answer: Madelung constant

- c) Named after two scientists, this equation is useful in thermodynamics because it makes it possible to calculate the heat of vaporization of a liquid by measuring the vapor pressure at several temperatures and then plotting the results to obtain the slope of the line.

Answer: Clausius-Clapeyron equation

5. Given a description, identify the following violent episodes in the history of the United States FTPE.

- a) This was a series of riots that took place in New York from 1839 to 1846 against landowners. It was the result of unrest against the leasehold system, originated in the 17th century, known as the patroon era.

Answer: Antirent War

- b) This was one of the most violent labor strikes in United States history. It was called for by the Amalgamated Association of Iron, Steel and Tin Workers against the namesake steel works in Pennsylvania. Pinkerton agents were ordered to open fire on picket lines, inciting a riot.

Answer: Homestead strike

- c) This university was the site of a fatal shooting by national guardsmen of four students during a 1970 protest against the Vietnam War.

Answer: Kent State University

6. Identify the following terms for the preparation of food in Judaism FTPE.

- a) This is the term given to the body of Jewish food laws.

Answer: kashrut

- b) This is the term given to food that may be eaten by Jewish people. It applies to land animals that both chew the cud and have a cloven hoof. The fish also has both fins and scales.

Answer: kosher

- c) This is the term given to food that may not be eaten by Jewish people. It includes non-kosher foods and eating meat and dairy products together.

Answer: terefah

7. Given a brief description, identify the sociologist FTPE.

- a) This American functionalist regarded society as tending toward a self-regulating, self-maintaining entity with certain basic needs, including the preservation of social order, the delivery of goods and services, and the care of children.

Answer: Talcott Parsons

- b) He developed a theory of social relations in which neither the individual nor the group was given precedence, but in which both were seen as indispensable and complementary to one another. He is also known for his theory of "primary groups" in which human nature is developed.

Answer: Charles Horton Cooley

- c) He was a proponent of social Darwinism and opposed governmental interference in the free-market economy. Among his major works are *Folkways* and *Science and Society*, which was published after his death.

Answer: William Graham Sumner

8. Identify these Latin American authors given a description FTPE.

- a) This Peruvian poet was interested in Native American rights, Communism, Marxism, and the Parnassian movement as exemplified by his *Los heraldos negros* of 1918. Other books of his poetry include *Poemas humanos*, as well as the novel *El tungsteno*.

Answer: César Vallejo

- b) This Brazilian novelist is noted for his works based on his life in his native state of Bahia. Such novels include *Gabriela, cravo e canela*, *Os velhos marinheiros*, and *Os pastores da noite*.

Answer: Jorge Amado

- c) Before working as a diplomat for the Mexican government, he was a prolific short story writer and novelist. His works include *La region más transparente* and the more famous *La muerte de Artemio Cruz*.

Answer: Carlos Fuentes

9. Identify the following about a set of physical laws from a description FTSNOP.

- a) (5 points) The radial line segment from one body orbiting another sweeps out equal areas in equal times.

Answer: Kepler's Second Law of Planetary Motion

- b) (5 points) The orbits of the planets are ellipses with the Sun at one focus.

Answer: Kepler's First Law of Planetary Motion

- c) (5 points) The square of the period of revolutions is proportional to the cube of the semimajor axis of the planetary orbit.

Answer: Kepler's Third Law of Planetary Motion

- d) (15 points) Finally, using Kepler's Third Law of Planetary Motion (the square of the period is equal to the cube of the distance), calculate the distance of a hypothetical planet that takes 64 years to orbit around the sun in millions of kilometers. You have ten seconds.

Answer: 2 million kilometers

10. Identify these battles of the American Revolution from a description FTPE.

- a) This 1780 battle was fought between Gates and Cornwallis. The American militiamen broke ranks and fled in disorder. Nathanael Greene replaced Gates as commander of Army of the South after this South Carolina battle that granted the British control of the South.

Answer: Battle of Camden

- b) This battle of 1777 saw the British under General Howe make a frontal feint and General Cornwallis make a surprise attack on the right wing. The Americans, under General Washington, retreated to Chester, Pennsylvania, but prevented the British from reaching Philadelphia for five more days.

Answer: Battle of Brandywine

- c) This 1776 battle saw the British under General Howe advance upon Brooklyn from Staten Island. General Washington's forces were overwhelmed and he evacuated his forces across the East River to Manhattan under the cover of fog.

Answer: Battle of Long Island

11. Identify the capitals of these Pacific island nations FFPE and a five-point bonus for all correct.

- a) Kiribati

Answer: Bairiki

- b) Solomon Islands

Answer: Honiara

- c) Vanuatu

Answer: Port-Vila

- d) Tuvalu

Answer: Fongafale or Funafuti

- e) Fiji

Answer: Suva

12. Identify the philosopher from works FTPE.

- a) *Speech and Phenomena; Of Grammatology; Writing and Difference*

Answer: Jacques Derrida

- b) *Time and Free Will; Matter and Memory; Creative Evolution; On Laughter*

Answer: Henri Bergson

- c) *Essays on the Mind, A Treatise on Man: His Intellectual Faculties and His Education*

Answer: Claude Adrien Helvétius

13. Identify the following shorter works by Nathaniel Hawthorne given their first lines FTPE.

- a) "The sexton stood in the porch of Milford meeting-house, pulling lustily at the bell-rope."

Answer: *The Minister's Black Veil*

- b) "One September night, a family had gathered round their hearth, and piled it high with the drift-wood of mountain-streams, the dry cones of the pine, and the splintered ruins of great trees, that had come crashing down the precipice."

Answer: *The Ambitious Guest*

- c) "We do not remember to have seen any translated specimens of the productions of M. de l'Aubépine; a fact the less to be wondered at, as his very name is unknown to many of his own countrymen, as well as to the student of foreign literature."

Answer: *Rappaccini's Daughter*

14. Identify the following terms regarding lakes given a description FTPE.

- a) This is the zone of open surface water in lakes that is farther from the shore, or littoral zone. It is well lighted and occupied by a variety of phytoplankton, consisting of algae and cyanobacteria.

Answer: limnetic zone

- b) This term refers to lakes that are deep and nutrient-poor, and the phytoplankton in the limnetic zone are not very productive. The water of these lakes is clear and the deep waters contain lots of oxygen due to the lack of detritus.

Answer: oligotrophic lakes

- c) In contrast to oligotrophic lakes, this term refers to lakes that are shallower and have a high nutrient content. Phytoplankton are very productive in these lakes, and the waters are murkier.

Answer: eutrophic lakes

15. Given a description of a geographical area in Europe, identify the area FTPE, or FFPE if you need a historical clue about the area.

- a) (10 points) This city is located in the central Netherlands and is the capital of its namesake province. It is located where the Kromme Rijn divides to form the Oude Rijn and Vecht rivers.

(5 points) This city was the site of a famous treaty that ended the War of Spanish Succession in 1713.

Answer: Utrecht

- b) (10 points) This area lies on a plain in Northumberland, England, on the border with Scotland. It is at the base of a hill that is the northeastern continuation of the Cheviot Hills.

(5 points) This field was the site of a battle where James IV of Scotland was defeated by the forces of Henry VIII under Thomas Howard, the Earl of Surrey.

Answer: Flodden Field

- c) (10 points) The chief cities of this region are Strasbourg, Mulhouse, and Metz. It is drained by the Mosel River and bordered on the east by the Vosges Mountains.

(5 points) This region of central Europe passed from France to Germany in 1871, back to France in 1919, back to Germany in 1940, and was regained by France in 1945.

Answer: Alsace-Lorraine (accept Elsass-Lothringen from die-hard Germans)

16. Identify the composers of these related works FTPE.

- a) The 1859 opera *Faust*

Answer: Charles Gounod

- b) The 1846 opera *La Damnation de Faust*

Answer: Hector Berlioz

- c) The 1861 *Faust Symphony*

Answer: Franz Liszt

17. Identify the following regarding a certain artist FTSNOP.

- a) (15 points) One of this artist's earlier works, *Candles in the Dark*, demonstrates his influence by cubism and expressionism. F15P, identify this 20th century painter.

Answer: Marc Chagall

- b) (5 points) Perhaps Chagall's most famous work is this 1911 colorful depiction of a Russian-Jewish village scene.

Answer: I and the Village

- c) (10 points) Chagall worked in this medium to decorate the Hadassah Hospital of the Hadassah-Hebrew University Medical Center in Jerusalem in 1962. He created twelve illustrations from the Old Testament.

Answer: stained glass

18. Identify the author from works, 30-20-10.

- a) *The Three Clerks, The Bertrams, Orley Farm*
b) *He Knew He Was Right, Can You Forgive Her?, The Eustace Diamonds*
c) *The Warden, The Last Chronicle of Barset, Barchester Towers*

Answer: Anthony Trollope

19. Identify these individuals who played a pivotal role in the development of asepsis from a description FTPE.

- a) This Hungarian obstetrician determined that puerperal fever was septic and contagious, and reduced the maternal mortality rate by ordering his students to wash their hands with chlorinated lime before examining patients. Ironically, he died from an infection he had contracted during an operation.

Answer: Ignaz Philipp Semmelweis

- b) This British surgeon discovered antiseptics in 1865. He used Pasteur's germ theory as the basis for cleansing instruments with carbolic acid. Queen Victoria, who had been a patient of his, made him a baron.

Answer: Joseph Lister

- c) This surgeon and Nobel laureate was a student of Lister's and preached the importance of sterilizing medical instruments. He is best known, however, for the set of forceps that bear his name and his elucidation on the physiology of the thyroid gland

Answer: Emil Theodor Kocher

20. Identify the following regarding the War of the Pacific FTPE.

- a) Identify the three countries involved in the War of the Pacific for ten points, all or nothing.

Answer: Chile, Bolivia, Peru

- b) This naval battle of the War saw the Chilean navy defeat the combined forces of Bolivia and Peru in 1879, which allowed the Chilean army to capture the provinces of Tacna and Arica in 1880.

Answer: Battle of Point Angamos

- c) This only other major battle of the War of the Pacific occurred in 1878. Chile occupied this port city in February of 1879, the namesake town of the battle.

Answer: Battle of Antofagasta

21. Identify these different types of unemployment FTPE.

- a) This type of unemployment refers to workers who have lost their jobs because they have been displaced by automation, because their skills are no longer in demand, or for similar reasons.

Answer: structural unemployment

- b) This is the portion of unemployment that is attributable to a decline in the economy's total production. This type of unemployment rises during recessions and falls as prosperity is restored.

Answer: cyclical unemployment

- c) This is unemployment that is due to normal turnover in the labor market. It includes people who are temporarily between jobs because they are moving or changing occupations, or for similar reasons.

Answer: frictional unemployment