

Valencia Delta Burke Invitational 2004—Semifinal
Questions by CB with Math by Raj and Science by Elissa Caffery

1. It reached prominence after 1235 when it defeated forces from their southern rivals, the Soninke (soh-NIN-kay). At that time its capital was established at Niani, near the gold fields of Bure, which helped finance this empire's growth. Its first great leader, Sundiata, extended it to the Atlantic on the west and to Gao on the Niger River bend on the east. Later led by Mansa Musa, FTP name this African empire that included the famous trading center of Timbuktu which is now part of the country that shares its name.

A. Mali

2. Alice Walker has written that an iron statue of this literary character in Eatonton, Georgia, her hometown, filled her with anger and shame. Related to the Compair Lapin figure of Creole myth, and based on a common trickster figure of West African folktales, this character first appeared in print in the US in 1881. In one exemplary tale, he pretends to be sick to dupe his nemesis into acting as his horse; then he rides him to a brothel. FTP name this lagomorph wrtitten about by Joel Chandler Harris who was caught by the tar baby of Br'er Fox.

A. Br'er Rabbit

3. Hardly any were observed during the Maunder minimum from 1645 to 1750, which probably contributed to the Little Ice Age. At the start of their 11-year cycle they tend to appear in higher latitudes and gradually make their way toward the equator. They are caused by local magnetic effects which inhibit convection, forming areas of low surface temperature. They are actually brighter than an electric arc, but, FTP, name these relatively dim areas on the sun's surface.

A. sunspots

4. The founder of this school of thought began propounding his ideas in Athens around 306 BCE, where he created a secluded community called the "Garden." It followed the atomistic metaphysics of Leucippus and Democritus, but it included a doctrine of survival of the fittest in order to explain evolution without appeal to Aristotle's "final causes." That doctrine is best explained in De Rerum Natura by Lucretius. Espousing the need for philosophy to create katestamatic, or prolonged, pleasures, attained by renouncing unnecessary desires, FTP what was this ancient philosophical school whose name is now wrongly associated with hedonism and sensual enjoyment?

A. Epicureanism (prompt on Epicurus)

5. Two figures, a woman and man, sit in the center and right of this painting, respectively. The man, wearing a hat, looks right, off the canvas, while the woman, dressed formally and also wearing a hat, stares vacantly downward. A glass filled with the titular greenish liquid sits before her. FTP name this 1876 work by Edgar Degas showing the deleterious effect of a powerful concoction of wormwood.

A. L'Absinthe (acc. "Absinthe," "The Absinthe Drinker," or "Glass of Absinthe")

6. Nearly 90% of this nation's population is centered in the northern and northwestern urban areas which surround the llanos (YAH-nos), or central grasslands. Its capital is ringed by an enormous slum area called "los ranchos" which have been an epicenter of recent protests there. Its huge gap between rich and poor is mostly a result of the discovery of oil in 1914 in its western area around Lake Maracaibo. FTP name this South American nation with capital at Caracas.

A. Venezuela

7. As a boy apprenticed in a printer's shop, this author earned the nickname "Gravity" and "Serious," apropos of his later novels. In 1733 he wrote *The Apprentice's Vade Mecum*, urging young men like himself to be diligent and self-denying. These qualities were also depicted positively in his three novels, the last of which was *Sir Charles Grandison*. However, it is for two very long epistolary novels that he is remembered. FTP name this author of those banes of English majors' existence, *Clarissa* and *Pamela*.

A. Samuel Richardson

8. It encompassed 27 acres surrounded by pine log walls 15-20 feet high. Although it had a crude hospital, barracks were never constructed for prisoners, who slept exposed to the elements. Meant to hold 10,000 men, at its most crowded it held over 30,000, subject to attacks from marauding gangs of fellow prisoners as well as the abuses of Superintendent Henry Wirz, the only man executed by the US after the Civil War. FTP name this infamous Confederate prison camp in Georgia.

A. Andersonville

9. This physicist sometimes wrote verse in a Scots dialect reminiscent of Burns. In better-known endeavors, he formulated a kinetic theory of gases and calculated a distribution of molecular velocities independently of Boltzmann, and postulated a "demon" that might reverse entropy. He also interpreted Faraday's experimentation mathematically and recognized light as an electromagnetic wave. FTP, who was this namesake of the four fundamental equations of electromagnetism?

A. James Clerk Maxwell

10. This creature ate special hazelnuts that grew under the sea, giving it its special property. A poet named Finnegas had spent seven years waiting for it to appear, and when he caught it, he gave it to a boy who claimed to be named Demne to cook, but when the boy burned his thumb on the skillet in which it was cooking, he thrust it into his mouth, tasting it and fulfilling a prophecy that one named Finn would eat of it. FTP name this fish in Celtic mythology that imparted its wisdom to Finn MacCool.

A. Salmon of Knowledge (acc. Salmon of Wisdom before "wisdom" is read)

11. The Eddas present the story that this historical figure was fed the meat of two of his sons by his wife. The real man took the kingship of Scythian tribes in 433 and promptly began pushing westward, eventually being stopped for the first time by combined Roman and Visigothic forces at Chalons in 451. Later he spared Rome after a personal appeal from Pope Leo I. FTP name this "Scourge of God," a king of the Huns.

A. Attila

12. Pencil and paper ready. A particle's position function is defined by the following equation: $s = 3t^2 - 6t + 4$. FTP, at the moment when $t = 4$, what is the velocity of the particle? You have 10 seconds.

Answer: 18 [$v = 6t - 6$]

13. A member of his state's legislature since 1996, he co-authored a major bill creating an earned income tax credit. He was badly beaten in the Democratic primary for his state's first seat in the US congress by incumbent Bobby Rush, the only election he has lost. Born in Hawaii, his name means "one who is blessed by god" in Swahili. The winner of the first US senate election featuring two African Americans, FTP name this new senator from Illinois.

A. Barack Obama

14. They're not bacteria, but they're sensitive to some antibiotics and begin translation with N-formyl methionine. They still have genes for some tRNAs and components of photosystems I and II, although most of their genome has been transferred to the nucleus. They have an extra membrane compartment compared with mitochondria: the thylakoids, on which the light reactions occur. FTP, name these organelles in which photosynthesis takes place.

A. chloroplasts

15. For a few years before WWI, this poet served as literary secretary for William Butler Yeats. One of his first published works was his homage to a painter, "To Whistler, American," followed soon after by "Portrait d'une Femme." Still, it was as an editor and encourager of writers like William Carlos Williams and T.S. Eliot that his more lasting mark was made. After WWII he was imprisoned in a psychiatric ward for 12 years before returning to Italy to die. FTP name this poet known for his advice to "make it new" and his authorship of "Hugh Selwyn Mauberly" and "The Pisan Cantos."

A. Ezra Pound

16. Three efforts were made to colonize this New World location. The second built housing but arrived too late to plant crops, so many settlers returned to England when Francis Drake stopped by. The third expedition included 94 men and 17 women and made artist John White governor. It was during this effort that Virginia Dare was born. White returned to England for supplies, but when he returned in 1590, the settlers were gone with only the cryptic word "Croatoan" carved into a tree as a clue to their whereabouts. FTP name this island off Cape Hatteras that was the first English attempt at colonization in North America.

A. Roanoke Island

17. The main melody was originally composed as accompaniment for choral music with text by a Viennese policeman named Josef Weyl. However, when the composer was asked to compose something for the Paris Exhibition of 1875, he dug up the music and converted it to a string orchestra piece. Soon it was a smash hit, and by 1900 was the bestselling piece of sheet music in history. Used as background music in 2001: A Space Odyssey, FTP name this famous waltz by Johann Strauss Jr.

A. *On the Beautiful Blue Danube* (acc. Blue Danube Waltz)

18. Born in Lubeck, his first novel, *Little Mister Friedmann*, was published in 1898. He began work on *Felix Krull*, *Confidence Man*, in 1905, but abandoned it before working again at it forty years later, dying in 1947 before he could finish it. Other works include *Mario and the Magician* and *Tonio Kroger*. FTP name this German author best known for *Buddenbrooks* and *The Magic Mountain*.

A. Thomas Mann

19. The earliest known one is *Eoraptor lunensis*, which appeared in the early Carnian. They had perforate acetabula, and are divided into the Saurischia and Ornithischia on the basis of hip structure. Subgroups include the Marginocephalia, Ornithopoda, Sauropoda and Theropoda, which includes the only surviving lineage, the Aves. FTP, identify these extinct animals such as Ornithomimus, Diplodocus, Iguanodon, and Tyrannosaurus.

A. dinosaurs or Dinosauria

20. A lawyer by trade, he continued taking clients well after he became a member of Congress in 1813, even representing the college in the 1818 Dartmouth College Case before the Supreme Court. His enduring fame is due to his oratory, including his 1820 Plymouth Oration, 1825 Bunker Hill Address and 1826 Eulogy for Adams and Jefferson. His Second Reply to Hayne contains his most famous line: "Liberty and union, now and forever, one and inseparable." FTP name this Massachusetts man whom Stephen Vincent Benet once depicted as beating the devil himself in a court case.

A. Daniel Webster

Valencia Delta Burke Invitational 2004—Semi-Final Bonuses

1. Identify these terms from economics FTPE.

A. This economic “law” states that in the short-run with one input to production fixed, the marginal product of the other input will eventually begin to fall.

A. the law of diminishing returns or law of diminishing marginal returns

B. It is the name for the fall in the long-run average total cost of making something as the amount that is being produced is increased.

A. economies of scale

C. Coined by Thorstein Veblen in *The Theory of the Leisure Class*, it is the buying of goods not for their use value but to impress other people. Buying expensive designer clothes or a flashy sports car may be examples.

A. conspicuous consumption

2. Answer the following about a controversial Middle Eastern group FTPE.

A. Founded in 1964, this umbrella group of Arabs against Israeli occupation of a certain region formally renounced violence in 1988 and now runs a provisional state.

A. Palestinian Liberation Organization (acc. PLO)

B. The PLO has been dominated by its inception by this Palestinian group whose name is Arabic for “victory.”

A. al-Fatah

C. Al-Fatah has always been led by this man who probably has died by today.

A. Yasser Arafat

3. Identify these state roads in Florida FTPE.

A. This state road runs nearly the exact route of Interstate 10 from Tallahassee to Pensacola.

A. S.R. 90

B. This road runs due west from Miami to Naples, turns north to go through St. Pete and Tampa and then continues into Georgia.

A. S.R. 41

C. This road runs northeast from Port Charlotte into Orlando where it merges with State Road 92 for a long way before splitting off to run north into Jacksonville.

A. S.R. 17

4. Answer these questions about RNA FSNOP.

A. (5 pts.) Messenger RNA is created from a DNA template in this process.

A. transcription

B. (10 pts.) This nitrogenous base is found in place of thymine in RNA.

A. uracil

C. (15 pts.) Molecular biologists can use double-stranded RNA to suppress the expression of a gene in this process.

A. RNA interference or RNAi (accept interfering RNA or iRNA)

5. Provide the titles of these Tennessee Williams plays FTPE.

A. Laura Wingfield’s unicorn is the prize piece of this titular collection.

A. The Glass Menagerie

B. Maggie helps Brick Pollitt come to terms with Big Daddy in this work.

A. Cat on a Hot Tin Roof

C. In this play Mrs. Venable discovers the awful truth of the slaughter of her son Sebastian at the hands of boys from whom he’d sought sexual favors.

A. Suddenly Last Summer

6. Answer the following about the pyramids at Giza FTPE.

A. The largest of the pyramids is named for this Fourth Dynasty Pharaoh, known by the Greeks as Cheops.

A. Khufu

B. The famous sphinx is thought by most archaeologists to have the face of this son of Khufu, also the namesake of the second-largest of the three pyramids.

A. Chephren (acc. Khafre)

C. The internal funeral chambers of all three pyramids face this direction, thought by the ancient Egyptians to be the direction of the land of the dead.

A. west

7. 30-20-10 Name the composer from works.

A. (30 pts.) The Garland Tone Poems; Othello Overture

B. (20 pts.) Quartet No. 12 in F (known as American); Slavonic Dances

C. (10 pts.) Symphony #9, From the New World

A. Antonin Dvorak

8. ID these Jewish texts FTPE.

A. The Talmud is made up mainly of the Mishnah and this other book, covering many strains of Jewish thought.

A. Gemara

B. This book comprises the first five books of the Christian Old Testament, aka the Pentateuch.

A. Torah

C. The Torah, the Nevi'im and the Ketuvim together constitute this, the Jewish scripture.

A. Tanakh

9. ID these plays by George Bernard Shaw FTPE.

A. This play featuring Eliza Doolittle provided the basis for the musical My Fair Lady.

A. Pygmalion

B. This 1894 work was not produced for over 20 years due to its frank study of prostitution and its wider social organization and effects.

A. Mrs. Warren's Profession

C. Shaw attacked Christian orthodoxy in this take on the life of Joan of Arc.

A. Saint Joan

10. Name these early chemists FTPE.

A. This brilliant French chemist, often called the father of modern chemistry, disproved phlogiston theory and formulated the law of conservation of matter.

A. Antoine-Laurent de Lavoisier

B. This English chemist discovered what he called "de-phlogisticated air" 1774; he was annoyed when Lavoisier identified it as the new element oxygen and took credit for the discovery.

A. Joseph Priestley

C. Since he probably had Asperger's syndrome, this Englishman didn't much care when Lavoisier took credit for his discovery of hydrogen.

A. Henry Cavendish

11. Identify these political maneuvers preceding WWII FTPE.

A. FDR signed the first of a series of three acts with this name in 1935; all of them in various ways forbade munitions sales or other U.S. involvement in wars between other nations.

A. Neutrality Acts

B. Roosevelt compared this January, 1941, act allowing the U.S. to provide ships, planes and munitions to Britain and France to the loaning of a hose to a neighbor whose house was on fire.

A. Lend-Lease Act

C. Roosevelt secretly met Churchill in Newfoundland in August, 1941, where they drafted this document declaring shared principles later signed by 15 anti-axis nations.

A. Atlantic Charter

12. Pencil and paper ready. Find these derivatives with respect to x , FTP each.

A. The second derivative of $\sin 3x$.

Answer: $-9 \sin 3x$

B. The tenth derivative of e to the x .

Answer: e to the x

C. The sixth derivative of x to the 6^{th} .

Answer: 6 factorial or 720

13. Stuff about a famous 19th-century author FTPE.

A. This founder of the Overland Monthly and author of the comic (and racist) ballad "Plain Language from Truthful James" and local color stories about the West was among the most popular writers of his era.

A. Bret Harte

B. This title story of a Harte collection

A. "The Luck of Roaring Camp"

C. Perhaps Harte's best-known work is this story about the eviction of the gambler Oakhurst and four others from the title town.

A. "The Outcasts of Poker Flat" (don't allow them to add an 's' to "Flat")

14. ID these characters from daily comic strips FTPE.

A. This is the wretchedly cute baby of the wretchedly cute family in The Family Circus.

A. PJ

B. This title character is an army private bossed around by Sergeant Snorkel and is in a unit with Killer and Rocky.

A. Beetle Bailey

C. Sure you've heard of Hagar the Horrible, but who's his thin sidekick who seems to wear a metal funnel on his head?

A. Lucky Eddie

15. Identify these thermodynamic quantities FTPE.

A. This quantity is symbolized S and related to the "disorder" of a system.

A. Entropy

B. The change in this quantity, symbolized H , is the same as the heat added to the system at constant pressure.

A. Enthalpy

C. The change in this quantity, symbolized U , is defined as the sum of heat and work, and, unlike them, is a state function.

A. Internal energy

16. Answer the following about a puppet state for fifteen points each.

A. Created in 1932, this was the name given to the puppet state created by the Japanese in Manchuria.

A. Manchukuo

B. The Japanese placed this “last emperor” of China, just a boy when deposed in 1911, at the head of Manchukuo.

A. Henry Pu-Yi

17. Answer the following about the mythology of the Ancient Near East FTPE.

A. This sky dragon of Sumerian myth was turned into the heaven and the earth after she was killed.

A. Tiamat

B. This hero slew Tiamat.

A. Marduk

C. This story, along with the creation myth, is from what ancient mythological text, the name of which is roughly translated as “then, up there”?

A. Enuma Elish

18. Stuff about the Mexican War FTPE.

A. This general, nicknamed “Old Rough and Ready,” took Monterrey in September, 1846.

A. Zachary Taylor

B. This other general, nicknamed “Old Fuss and Feathers,” took Veracruz and won the battles of Cerro Gordo and Chapultepec.

A. Winfield Scott

C. This colonel, after taking Santa Fe, moved on to California where he defeated Americans who had created an independent state called the Bear Flag Republic.

A. Stephen Kearny

19. You gotta love those Little Women. FTPE:

A. Which of the four March sisters dies young of scarlet fever?

A. Beth

B. Which of the girls has sons with Professor Bhaer who become the focus of the sequel, Little Men?

A. Jo

C. This daughter, the youngest, marries the March’s neighbor, Laurie, after he is turned down by Jo.

A. Amy

20. Name these attempts at utopian living in the US for fifteen points each.

A. This community of intellectuals near Boston is most famous now for having been ridiculed by former resident Nathaniel Hawthorne in The Blithedale Romance.

A. Brook Farm

B. Robert Owen created this model community in Indiana that succeeded socially but failed financially.

A. New Harmony