# NAQT
### National Academic Quiz Tournaments, LLC

Invitational Series #116
Packet 1

Tossups

1. **In 404 BC, all but 3,000 citizens of this polis had their arms confiscated. One struggle for control of it saw the death of the oligarch Critias at the Battle of Piraeus; after that 403 BC battle, Thrasybulus pardoned many of the (\*)** Thirty Tyrants who ruled this city after it lost the Peloponnesian War. For 10 points—name this ancient Greek city-state whose democracy was temporarily ended by Spartan control.

answer: <u>Athens</u> (or <u>Athína</u>)

<311503>

2. **This giver of the 1974 Jefferson Lecture *Poetry and Democracy* co-authored *Understanding Poetry* with Cleanth Brooks. His collection *Promises* won a 1958 Pulitzer. One of his characters drives to California, where he adopts the nihilistic "Great Twitch"; that character appears in a work with (\*)** Judge Irwin, Jack Burden, and Willie Stark, who is based on Huey Long. For 10 points—name this author of *All the King's Men*.

answer: Robert Penn <u>Warren</u>

<312330>

3. **Congenital decreased activity of this organ can lead to cretinism, while its hyperactivity can cause heart palpitations and bulging eyeballs. Its C cells produce calcitonin [KAAL-sih-TOH-nin], while its follicular cells use tyrosine [TYE-ruh-seen] to make a namesake (\*)** hormone. Graves' disease and Hashimoto's disease are autoimmune disorders of—for 10 points—what gland in the neck, enlarged in goiter, that requires iodine?

answer: <u>thyroid</u> gland

<312477>

4. **Characters in this musical stage "The Small House of Uncle Thomas," narrated by Tuptim. One song in it teaches Louis not to appear afraid, while another notes "by your pupils you'll be taught." Those songs, "I Whistle a Happy Tune" and (\*)** "Getting to Know You," appear in this musical that ends with Mongkut's death. For 10 points—name this Rodgers and Hammerstein musical about Anna Leonowens' tutelage of the royal family of Siam.

answer: The <u>King and I</u>

<311498>

5. **This man was supposedly instructed to write one of his books by Raymond of Penafort, who wanted him to refute the "errors of unbelievers." In addition to that work "contra gentiles," he wrote one work criticizing Averroës [uh-VAIR-oh-eez] and another, left unfinished at his death in 1274, that offers five (\*)** arguments for the existence of God. For 10 points—name this Dominican, a Scholastic philosopher best known for the *Summa Theologica* [SOO-muh TAY-oh-LOH-jih-kuh].

answer:   Saint <u>Thomas</u> <u>Aquinas</u> (accept either)

<div align="right"><312145></div>

6. **In medieval times, this island was known as Trinacria due to its three-sided shape. Its provinces include Enna, Ragusa, Trapani, and Agrigento. The Aeolian Islands, which lie north of this island, include Lipari and the volcanic (\*)** Stromboli. Near its eastern shore is Europe's highest active volcano, Mount Etna. For 10 points—name this site of Syracuse and Palermo, an island across the Strait of Messina from Italy.

answer:   <u>Sicily</u> (or <u>Sicilia</u>)

<div align="right"><310343></div>

7. **This country was home to rival poetic styles called "culturanism" and "conceptism." A poet from this country wrote about traveling with the title donkey in *Platero and I*. The treatise *The New Art of Writing Plays* originated in this country, as did the *Exemplary Novels*. The Generations of '98 and '27 hailed from this country of (\*)** Juan Ramón Jiménez. For 10 points—name this country of Lope de Vega and Miguel de Cervantes [sair-VAHN-tayss].

answer:   (Kingdom of) <u>Spain</u> (or Reino de <u>España</u>)

<div align="right"><312868></div>

8. **The value of this quantity for the current in an RLC circuit depends on *L* and *C*, but not *R*. The equation for the position of a mass on a spring has a nonzero one of these if the mass does not start at its highest or lowest point. A value of (\*)** pi for this quantity leads two equal-amplitude, equal-frequency waves to destructively interfere. For 10 points—name this aspect of sine waves that "shifts" the graph left or right.

answer:   <u>phase</u> (accept <u>phase shift</u> or <u>phase difference</u>)

<div align="right"><312399></div>

9. **This ruler created military units called *streltsy* to use in the Siege of Kazan and in the Livonian War. He ordered the execution of the Metropolitan Philip II during a conflict with the clergy that caused him to abdicate and set up his own state called the (\*)** Oprichnina [ah-PRICH-nee-nuh]. His main opponents were the boyars, over whom he triumphed to become the first Tsar of All Russia. For 10 points—name this tsar known for his brutality.

answer:   <u>Ivan the Terrible</u> (or <u>Ivan IV</u> ["the fourth"] Vasilyevich or <u>Ivan Grozny</u>; prompt on "Ivan")

<div align="right"><312472></div>

10. **A minor character in this work is Motor Boat, who survives a hurricane by hiding in an abandoned house. Another character in this work buys a street lamp and builds a store in Eatonville. The main character leaves (\*)** Logan Killicks for Jody Starks, and has to kill her third husband Tea Cake after he contracts rabies from a dog bite. Janie Crawford is the protagonist of—for 10 points—what Zora Neale Hurston novel?

answer:   <u>Their Eyes Were Watching God</u>

<div align="right"><312498></div>

11. **Coordinate covalent bonds are formed by one class of this substance, whose concentration appears in the numerator of the Henderson-Hasselbalch equation. J. N. Brønsted defined them as capable of (\*)** accepting protons, while Svante Arrhenius [uh-REE-nee-us] defined them as donors of hydroxide ions. For 10 points—name these substances, such as sodium hydroxide, that are commonly described as having pHs greater than 7.

answer:   <u>bases</u> or <u>basic</u> substances (accept <u>Lewis base</u> before "Brønsted")
        [Coordinate covalent bonds are examples of Lewis bases.]

<div align="right"><312959></div>

12. **The first month of ancient Egypt's calendar was named for this god, who was considered master of time. This god healed the eye of Horus after the latter's fight with Set. This god or Anubis weighs the hearts of dead men against the Feather of Truth. He is usually depicted with the head of an (\*)** ibis or baboon. For 10 points—name this Egyptian god of wisdom and writing, whom the Greeks identified with Hermes.

answer:   <u>Thoth</u> [toth] (or <u>Djehwty</u> or <u>Tehuti</u> or <u>Djehuty</u>)

<div align="right"><312359></div>

13. **Like New York, this state lost two electoral votes due to the 2010 Census, and in it Josh Mandel will contest Sherrod Brown's Senate seat.  In 2011 a statewide referendum overturned a curtailment of (\*)** collective bargaining rights supported by Governor John Kasich.  Dennis Kucinich once represented—for 10 points—what state whose Super Tuesday primary was decided by votes from Cuyahoga [ky-uh-HOH-guh] County, which includes Cleveland?

answer: <u>Ohio</u>

<div align="right"><312407></div>

14. **This artist used at least 44 talents of gold in a work whose subject has a spear, a statue of Nike, and a breastplate with Medusa's head crafted in ivory.  He also used gold and ivory in his most famous work, one of the (\*)** Seven Wonders of the Ancient World that was found at Olympia.  The Elgin Marbles on the Acropolis were created by—for 10 points—what Greek sculptor who designed Athena Parthenos and a Statue of Zeus?

answer: <u>Phidias</u>

<div align="right"><308184></div>

15. **Pencil and paper ready.  Jonah needs to solve for $x$ given that the common logarithm of the quantity $3x$ minus 2 equals 2.  Since the common logarithm has a base of 10, he begins by converting the logarithmic equation into one involving exponents.  Use any method and find (\*)** —for 10 points—the value of $x$ given that the logarithm of the quantity $3x$ minus 2 equals 2.

answer: $x = \underline{34}$ [$\log_{10}(3x - 2) = 2$, so $3x - 2 = 10^2 = 100$, so $3x = 102$, and $x = 34$]

<div align="right"><311010></div>

16. **The first holder of this position led the Army of Three Guarantees and signed the 1821 Treaty of Córdoba. The second holder of this position was executed in Querétaro [kay-RAY-tah-roh] three years after he gave up rights to the (\*)** Austrian throne in order to be installed in this position by Napoleon III.  For 10 points—name this position, held by Agustín Iturbide and Maximilian I in a certain North American country.

answer: <u>Emperor</u> of <u>Mexico</u> (accept word forms; prompt on a partial answer; prompt on "leader of Mexico" or other generic terms for heads of state; do not accept "President of Mexico")

<div align="right"><312734></div>

17. **This city, the most populous within the Altiplano Cundiboyacense [koon-dee-boy-ah-SEN-say], lies in a namesake savannah north of the Páramo de Sumapaz [PAH-rah-moh "day" soom-AH-paz].  Its namesake river is a tributary of the Magdalena River.  This city of nearly 7 million, lying 8,600 feet above sea level, is the most populous in a country whose other cities include (\*)** Barranquilla [bar-ran-"KEY"-yah] and Medellín [meh-dee-YEEN].  For 10 points—name this South American city, the capital of Colombia.

answer: <u>Bogotá</u> (Distrito Capital)

<div align="right"><312169></div>

18. **In one opera by this composer, the title character teaches miners to read and is wooed in "Minnie, dalla mia casa" [DAH-lah MEE-ah KAH-sah] by Sheriff Rance.  A servant girl sings "Signore, ascolta" [seen-YOH-ray, ahs-KOL-tah] to persuade Calàf [kah-LAHF] not to try to answer three riddles in another work by this composer of *The Girl of the Golden West*. (\*)** Baron Scarpia murders the title character's lover in *Tosca*, a work by—for 10 points—what Italian composer of *Turandot* [TOO-rin-DOT]?

answer: Giacomo <u>Puccini</u> [poo-CHEE-nee] (or Giacomo Antonio Domenico Michele Secondo Maria <u>Puccini</u>)

<div align="right"><295792></div>

19. **Photography taken in this state includes the collection *Born Free and Equal* detailing the Manzanar internment camp, as well as Dorothea Lange's *Migrant Mother*.  Nathaniel West's *The Day of the Locust* is set here, and this state is the *destination* of Connie Rivers, (\*)** Jim Casy, and the Joad family in John Steinbeck's *The Grapes of Wrath*.  For 10 points—name this state where a 1906 earthquake devastated San Francisco.

answer: <u>California</u>

<div align="right"><310706></div>

20. **This treaty's Tenth Article committed both sides to ending the slave trade.  Most of its other terms merely restored the *status quo* as of start of hostilities, and it did not address the issue of impressment of (\*)** sailors. British Admiral James Gambier, Albert Gallatin, John Quincy Adams, and others negotiated—for 10 points—what treaty named for a city in modern-day Belgium that ended the War of 1812?

answer: Treaty of <u>Ghent</u>

<div align="right"><312918></div>

21. **Macbeth claims that Duncan's corpse appears to have skin made of this material, which also forms the second of three caskets in *The Merchant of Venice*. Prince Rillian is bound to a chair made from it, and Walter de la Mare wrote a poem in which the Moon walks in (\*)** "shoon"—that is, shoes—made of it. The chief villain of *Treasure Island* is named for—for 10 points—what precious metal that went into Hans Brinker's skates?

answer:  silver (accept Long John Silver)

<div align="right"><312388></div>

22. **The derivative of this function is the signum function, which is defined at every point except zero. It is applied three times in the triangle inequality. Applied to complex numbers, it is called (\*)** modulus, and this function is equivalent to squaring the square root. It gives the distance from zero of any number. For 10 points—name this function with a characteristic "V"-shaped graph.

answer:  absolute value function (accept absolute value of x, where "x" is any letter; accept norm or magnitude; accept modulus before it is mentioned)

<div align="right"><308817></div>

23. **One opponent of this movement was Charles Chauncy who gave the sermon *Enthusiasm Described and Cautioned Against* and led the Old Lights. Samuel Davies was a leader of this movement in Virginia, and its other leaders included the "Great Itinerant" (\*)** George Whitefield and Jonathan Edwards, who delivered *Sinners in the Hands of an Angry God* in 1741. For 10 points—name this first of two sweeping religious revivals in America.

answer:  First Great Awakening (accept Great Awakening after "first"; prompt on "Great Awakening" before "first")

<div align="right"><283321></div>

24. **In March 2012 this country considered adopting the Canadian dollar. This country with the world's first openly lesbian head of government announced in 2008 that it would only guarantee deposits of its own citizens in the nationalized Landsbanki bank, leading Britain to (\*)** freeze its assets and invoke an anti-terrorism law. The króna is the currency of—for 10 points—what island country with capital Reykjavik [RAYK-yah-vihk]?

answer:  (Republic of) Iceland (or Ísland)

<div align="right"><312904></div>

National Academic Quiz Tournaments, LLC

1. For 10 points each—give the following about the Royal Navy of Nelson's time:

A. This was the highest rank within the navy; in Nelson's time there were "rear" and "vice" variants as well.
answer: admiral (accept rear admiral or vice admiral; do not accept "admiral of the fleet")

B. This four-word phrase denoted first- and second-rate ships that were powerful enough to stand in its namesake, simple formation and blaze away.
answer: ship of the line (accept line of battle ship)

C. This type of single-decked warship was built for speed and carried 28 to 36 guns. The fictional HMS *Surprise* was one, as was the USS *Constitution*.
answer: frigate
<312422>

2. For 10 points each—name these works featuring teachers:

A. The title woman attends and then teaches at the Lowood School for Girls in this Charlotte Brontë [BRON-tay] work. She ultimately marries Edward Rochester.
answer: Jane Eyre ["air"]

B. In this novel, Mr. Antolini touches the protagonist's forehead, an action that protagonist calls "flitty."
answer: The Catcher in the Rye

C. Rose and Eunice are assigned a Edinburgh teacher in this Muriel Spark work. The title woman has an affair with Mr. Lowther and encourages Joyce Emily to fight in the Spanish Civil War.
answer: The Prime of Miss Jean Brodie
<312558>

3. For 10 points each—name these substances found in plants:

A. Indole-3-acetic [IN-dohl "three" uh-SEE-tik] acid is one example of these plant hormones that promote the growth of stems toward light sources.
answer: auxins [AWK-sin(s)]

B. These magnesium-containing molecules absorb sunlight and give plants their green color.
answer: chlorophylls (accept longer answers mentioning chlorophyll)

C. This enzyme catalyzes the fixation of carbon dioxide during the first step of the Calvin cycle. It is thought to be the most abundant protein on Earth.
answer: RuBisCO [roo-BISS-koh] (or ribulose-1,5-bisphosphate carboxylase oxygenase)
<308953>

4. After Toyotomi Hideyoshi died, one of his former vassals defeated his rivals at the Battle of Sekigahara. For 10 points each—

A. Name that founder and namesake of Japan's last shogunate.
answer: Tokugawa Ieyasu

B. Following the victory at Sekigahara, Tokugawa established his capital at this city formerly known as Edo.
answer: Tokyo

C. Despite Tokugawa's victory at Sekigahara, the Toyotomi clan continued to resist him until he defeated them in the 1615 siege of this castle.
answer: Osaka Castle
<310712>

5.   It features a dog named Dug and a bird named Kevin.   For 10 points each—

A.   Name this 2009 Pixar film.

answer:   Up

B.   This *Lou Grant* star voiced *Up*'s main character, the elderly Carl Fredricksen.

answer:   Edward Asner

C.   In *Up*, this explorer voiced by Christopher Plummer antagonizes Carl by trying to capture Kevin.

answer:   Charles F. Muntz (accept either)

<250026>

6.   For 10 points each—answer these questions about electronegativity:

A.   On the Pauling scale of electronegativity, what element has the highest value, at 3.98?

answer:   fluorine

B.   An electronegativity difference on the order of 0.5 to 1.0 corresponds to what type of bond between atoms?

answer:   polar covalent bond (prompt on "polar")

C.   Among naturally-occurring elements, the element with the lowest value of electronegativity is found in what group of the periodic table?

answer:   alkali metals or group 1 (prompt on "IA"; do not accept "alkaline" or "alkaline earth") [Francium has a Pauling electronegativity of about 0.7.]

<308970>

7.   This novelist wrote about a man who hangs himself rather than face trial for killing a white messenger.   For 10 points each—

A.   Name this Nigerian author of *Things Fall Apart*.

answer:   (Albert) Chinua(lumogu) Achebe

B.   In his essay "An Image of Africa," Achebe attacked this author's racism.

answer:   Joseph Conrad (or Jozef Teodor Konrad Korzeniowski)

C.   Achebe's "An Image of Africa" critiques this Conrad work, in which Marlow journeys up the Congo to find Kurtz.

answer:   Heart of Darkness

<302536>

8.   The White Nile proper begins at Lake No, but its headstreams pass through two of Africa's Great Lakes.   For 10 points each—

A.   Name the largest lake in Africa, which borders Uganda, Kenya, and Tanzania.

answer:   Lake Victoria (or Victoria Nyanza or Ukerewe or Nalubaale or Sango or Lolwe)

B.   This lake used to be named Lake Mobutu Sese Seko.   Like Lake Edward, it is on the border of Uganda and the Democratic Republic of the Congo.

answer:   Lake Albert (or Albert Nyanza)

C.   Lake No lies in this newly created country north of Uganda.

answer:   Republic of South Sudan (do not accept or prompt on "Sudan")

<308102>

9.   For 10 points each—answer the following related to the Second Red Scare:

A.   This Wisconsin senator claimed in Wheeling, West Virginia, that he had a list of members of the State Department who were known communists.

answer:   (Joseph Raymond) Joe McCarthy

B.   This committee, which succeeded the Overman and Fish Committees, heard testimony from Whittaker Chambers and condemned the Hollywood Ten to blacklisting for contempt.

answer:   HUAC (or  House Committee on Un-American Activities or House Un-American Activities Committee)

C.   The testimony of Whittaker Chambers in front of the HUAC led to the conviction of this man for perjury; he had earlier worked on drafting the UN Charter at Dumbarton Oaks.

answer:   Alger Hiss

<263153>

10. Pencil and paper ready.  Tom has an option to buy up to 500 shares of stock, with the first 100 shares priced at 10 cents per share, and the remaining shares at 20 cents per share.  For 10 points each—

A. If Tom exercises his options to the fullest extent, then what will be his average price per share, in cents?

answer:  18 cents (accept $0.18) [((100 × .1) + (400 × .2))/(100 + 400) = (10 + 80)/500 = 90/500 = 9/50 = 0.18]

B. What is the maximum number of shares that Tom could buy for 20 dollars?

answer:  150 shares [The first 100 shares would cost a total of 100 × 0.1 = $10, and the remaining $10 would cover 1000/20 = 50 additional shares; 100 + 50 = 150.]

C. If the stock is currently trading at 13 cents per share, then what is the maximum profit in dollars that Tom could make from exercising his option, then immediately selling?

answer:  3 dollars (accept 300 cents; do not prompt on "300") [Since buying any shares at the 20 cent price reduces his total profit, the maximum profit comes from buying 100 shares of stock at 10 cents and selling them at 13 cents, netting 13 – 10 = 3 cents a share; $0.03 × 100 = $3.]

<309022>

11. In one of his ballets, Prince Ivan defeats Kashchei [kahsh-CHAY] the Immortal; in another, puppets come to life. For 10 points each—

A. Name this Russian composer of *The Firebird* and *Petrushka* [peh-TROOSH-kah].

answer:  Igor (Fyodorovich) Stravinsky

B. This other Stravinsky ballet's premiere featured a riot.  It depicts pagans sacrificing a virgin.

answer:  The Rite of Spring or Le Sacre du printemps (or Vesna svyashchennaya)

C. Pablo Picasso designed the costumes for the premiere of this Stravinsky ballet in which the title Italian marries Pimpinella [pim-pee-NAYL-lah].

answer:  Pulcinella [pool-chee-NAYL-lah]

<304980>

12. This man won 1984 Democratic primaries in Washington, D.C., and Louisiana.  For 10 points each—

A. Name this African-American candidate who gave a convention speech supporting the "desperate, damned, disinherited, disrespected, and despised."

answer:  (Reverend) Jesse (Louis) Jackson (Sr.)

B. The Democratic nomination in 1984 was eventually won by this former Minnesotan senator who had served as Jimmy Carter's Vice President.

answer:  Walter (Frederick "Fritz") Mondale

C. When Walter Mondale chose this former district attorney from Queens as his running mate, she became the first woman on a major ticket.

answer:  Geraldine (Anne) Ferraro

<274928>

13. For 10 points each—name these authors who got into fights:

A. This author of *Vanity Fair* quarreled with Charles Dickens, most notably in the "Garrick Club affair."

answer:  William Makepeace Thackeray

B. A drunk Wallace Stevens was once knocked out by this author of *The Snows of Kilimanjaro* at a Key West party.

answer:  Ernest (Miller) Hemingway

C. This English playwright of *Edward II* was killed in 1593 by Ingram Frizer in a quarrel over a tavern bill.

answer:  Christopher Marlowe

<219251>

14. The constant 8.99 times $10^9$ newton meters squared per coulomb squared appears in a force law. For 10 points each—

A. Name that law.

answer: Coulomb's law (of electrostatic attraction)

B. That constant equals 1 over 4 pi times this constant that characterizes electrical properties of the vacuum.

answer: vacuum permittivity or permittivity of free space (prompt on "epsilon nought" or "electric constant"; do not accept "permeability of free space")

C. Multiplying the vacuum permittivity by the vacuum permeability—a constant related to magnetism—gives 1 over the square of this quantity.

answer: speed of light (in a vacuum) (prompt on "c")

<312403>

15. It is not New Jersey, but this state has a town named Newark that lies near its northern border, the Twelve-Mile Circle. For 10 points each—

A. Name this first state to be admitted to the Union.

answer: Delaware

B. This capital of Delaware is situated on the St. Jones River.

answer: Dover

C. Delaware is located partly on this peninsula east of Chesapeake Bay.

answer: Delmarva Peninsula

<306183>

16. She was abducted while she was collecting flowers on the plain of Enna in Sicily. For 10 points each—

A. Name this Greek goddess, who was also known as Kore [KOR-ay] and who was condemned to spend half her life in a certain place after eating a pomegranate.

answer: Persephone [per-SEH-foh-nee] (do not accept "Proserpine")

B. Persephone was the daughter of this Greek earth goddess, who roamed the world trying to find Persephone after Hades kidnapped her.

answer: Demeter (do not accept "Ceres")

C. This sun god witnessed Persephone's abduction. His own children included Phaeton, to whom he once unwisely loaned his chariot.

answer: Helios

<252552>

17. For 10 points each—answer the following about the Patient Protection and Affordable Care Act:

A. By 2020, the act will phase out the "donut hole" in this Medicare prescription drug program.

answer: Medicare Part D

B. Beginning in 2012, those with incomes at 133% of the poverty line will be eligible for this state-managed health care program.

answer: Medicaid

C. In October 2011 the Obama administration declared unworkable this law, enacted as Title VIII of the PPACA, which would have created a public long-term care insurance option.

answer: CLASS Act (or Community Living Assistance Services and Supports Act)

<312957>

18.  The first one was discovered in 1967 by Jocelyn Bell Burnell and Antony Hewish and named "LGM-1," for "little green men."   For 10 points each—

A.  Name these astronomical objects detected when their beams of radiation are observed on Earth, up to many times per second.

answer:   <u>pulsars</u> (prompt on, but do not otherwise reveal, "neutron star(s)")

B.  Pulsars are massive agglomerations of these particles commonly found in atomic nuclei.

answer:   <u>neutrons</u> (do not accept "neutrinos")

C.  Though many pulsars are classified as rotation-powered, others that emit X-rays due to being part of a binary system are classified as this type of pulsar.

answer:   <u>accretion</u>-powered

<div align="right">&lt;308948&gt;</div>

19.  For 10 points each—name these teams that had the worst record in the NFL:

A.  This NFC team had the worst record in 2008, when it had an NFL-first 0–16 regular season.

answer:   <u>Detroit</u> <u>Lions</u> (accept either)

B.  This AFC team went an NFL-worst 2–14 in 2006, but solved all its problems by drafting JaMarcus Russell in the subsequent NFL draft.

answer:   <u>Oakland</u> <u>Raiders</u> (accept either)

C.  This NFC team had the NFL's worst record in 2004, when it went 2–14, ten years after it won its fifth Super Bowl.

answer:   <u>San Francisco</u> <u>49ers</u> (accept either underlined portion)

<div align="right">&lt;258497&gt;</div>

20.  The March 2012 solar storm was not as damaging as predicted, but it still had some effects.   For 10 points each—

A.  The storm did push the spread of this multi-colored phenomenon—caused by charged particles in the atmosphere—farther south than usual, reaching southern Canada and the northern United States.

answer:   <u>aurora</u> borealis (or <u>Northern lights</u>)

B.  A European Space Agency probe in orbit around this planet was blinded by the solar radiation.   Other probes that have studied this planet include *Pioneer* 1 and 2 and *Vega* 1 and 2.

answer:   <u>Venus</u> (accept <u>Venus Express</u>)

C.  One possible effect of the storm was increased drag on GPS satellites, which normally travel in this type of orbit with an eleven hour, 58 minute orbital period.

answer:   <u>semi</u>-(geo)<u>synchronous</u> orbit (accept word forms that describe <u>half</u> of a <u>synchronous</u> orbit; do not accept anything involving the word "stationary")

<div align="right">&lt;312807&gt;</div>

21.  This doctrine arises out of the Fourteenth Amendment.   For 10 points each—

A.  Name this doctrine asserting that state and local governments cannot discriminate against protected classes of citizens simply because they are a minority.

answer:   <u>equal protection</u> doctrine

B.  This Supreme Court decision overruled *Plessy v. Ferguson* on equal protection grounds, holding the "separate but equal" doctrine unconstitutional when applied to schools.

answer:   (Oliver) <u>Brown</u> (et al) v. Board of Education (of Topeka, Kansas, et al)

C.  Equal protection concerns were also implicated in this case, in which the internment of Japanese Americans survived strict scrutiny by the Court.

answer:   <u>Korematsu</u> v. United States

<div align="right">&lt;302984&gt;</div>

22. Adherents of this belief system use an electropsychometer—or E-meter—to measure their minds.  For 10 points each—

A. Name this controversial religion, founded by L. Ron Hubbard, that counts John Travolta and Tom Cruise as members.

answer:   Church of <u>Scientology</u> or <u>Scientologists</u> (prompt on "Dianetics")

B. The "Modern Science of Mental Health" is the subtitle of a 1950 book about this self-help system which is a canonical text of Scientology.

answer:   <u>Dianetics</u>: The Modern Science of Mental Health (prompt on "DMSMH")

C. Scientologists believe this dictator brought humans to Earth 75 million years ago and killed them.  Those humans' souls cause spirtual harm to modern individuals.

answer:   <u>Xenu</u> (or <u>Xemu</u>)

<307755>

23. This American wrote the 1986 novel *Demon Box*.  For 10 points each:

A. Name this author who describes an Oregon logging family in *Sometimes a Great Notion*.

answer:   (Kenneth Elton) Ken <u>Kesey</u>

B. This Ken Kesey novel, set in a mental institution, was made into an Oscar-winning film starring Jack Nicholson.

answer:   <u>One Flew Over the Cuckoo's Nest</u>

C. Ken Kesey and his "Merry Pranksters" are described in *The Electric Kool-Aid Acid Test*, a novel by this American author of *A Man in Full* and *The Bonfire of the Vanities*.

answer:   (Thomas Kennerly) Tom <u>Wolfe</u> (Jr.)

<310722>

24. For 10 points each—give the following about fractals:

A. This simple fractal, whose right side's large bulb looks like a heart, is generated by iterating the complex function *z* squared plus a constant.

answer:   <u>Mandelbrot</u> [man-del-broh] set

B. Fractals were first discussed in a paper that talked about measuring this quantity associated with Great Britain.

answer:   length of (its or Great Britain's) <u>coast</u>line (accept similar answers)

C. This fractal, whose study predates the modern concept of fractals, is generated by removing open middle thirds from the closed interval from zero to one.

answer:   <u>Cantor</u> set

<308974>