

1. Tano Sulci is one of the faults that passes over its Bubeme region, which is known for its "cantaloupe" terrain. Its obliquity is 28.8 degrees and it is expected to reach its Roche limit 5 to 10 gigayears from now, at which time it will spiral into a larger object's atmosphere. It is the only object in the solar system known to have a surface made mainly of nitrogen ice and pink deposits on its south polar cap are believed to contain methane ice. Traveling around its planet in a retrograde orbit, for 10 points identify this largest of Neptune's moons.

Answer: Triton

2. Late in life this brewer's son returned to his roots as a tavernkeeper. Like his contemporary Rembrandt, he attended the Latin school in Leiden. The wide range of his body of work reflects his prolific career and the susceptibility to trends that makes his style hard to pin down, though his name is in a Dutch idiom meaning a messy scene because of his lively works. FTP name the artist whose sense of humor is apparent in such works as *The Oyster Dinner*, *Teaching the Cat to Dance*, *Topsy Turvy World*, and *The Family Concert*.

Answer: Jan Steen

3. He stressed within his community the importance of their financial obligations to their London backers. After seven years he and seven other "undertakers" ultimately assumed their debt, taking another 21 years to pay it off. He assumed his most famous position after the death of John Carver and was reelected 30 times. This man failed to mention the drowning of his wife, which occurred within sight of New England, in his famous journal. FTP, name this man, a Governor of the Plymouth Colony and a signer and primary architect of the Mayflower Compact.

Answer: William Bradford

4. This man was a roadie for Winger and is the lead singer of Big Mountain Fudgecake. He is taller than 6'2" and wears white Sergio Valente jeans. He received 12 acres from the federal government but gave it to the man he is cuckolding. He is a licensed new age healer and personal masseuse of Nancy. FTP, name this Anasazi Indian on *King of the Hill* who had an affair with Dale Gribble's wife and is the father of Joseph Gribble.

Answer: John Redcorn

5. One of his novels was created from interviews and documents about one woman, through whom the lives of some sixty other characters are depicted. His novel *Adam, Where Art Thou?* focused on the brutality of war and he attacked yellow journalism in *The Lost Honour of Katharina Blum*. Best known for his "rubble literature," FTP, name this Nobel-winning author of *The Clown* and *Billiards at Half Past Nine*.

Answer: Heinrich Boll

6. Fractal geometry assigns its namesake paths a dimensionality greater than one but less than two, and Jean Perrin's research on this phenomenon is regarded as one of the most direct verifications of the kinetic-molecular theory of gases. Because colloidal particles exhibit it, scattered light will show a Doppler shift towards higher or lower frequency depending on the particle velocities, and Einstein's paper on it repudiated the idea that solids and liquids weren't atomic in character. For 10 points identify this constant random motion exhibited by microscopic particles immersed in a fluid.

Answer: Brownian Motion

7. He studied under Horatio Parker and composed *Calcium Light Night* and *Yale-Princeton Football Game* while in college. He also wrote a song for McKinley's 1896 presidential campaign, and gave away the prize money after he won the Pulitzer for music in 1947. *The Unanswered Question* shows the influence of Emerson and New England on his works. FTP, name this American composer from Connecticut whose most famous works are *Three Places in New England* and *Concord Sonata*.

Answer: Charles Ives

8. The fengjian system emerged during this dynasty and at one point during it, the capital was sacked by the Marquess of Shen and some barbarians. The capital was moved to Loyang from Xian during it and its rulers created the mandate of heaven. One half of it is divided into the Spring and Autumn periods. FTP, name this Chinese dynasty that preceded the Warring States period and is divided into the Western and Eastern periods.

Answer: Zhou or Chou dynasty

9. One character in this work suggests selling certain items to the Egyptians to use in making laxatives. The main character attempts to buy a breast plate and use it as a stool. It was written shortly after the treaty of Nicias and an oracle named Hierocles is beaten at a feast celebrating the release of the title character. In this play, the townspeople roll dung to attract a dung beetle so that Trygaeus may reach heaven. FTP, name this play written by Aristophanes that lampoons Cleon and the efforts to stop war.

Answer: Peace

10. This book was rediscovered by Abbé Brasseur de Bourbourg and Carl Scherzer in 1854 in the Universidad de San Carlos library and Sam Colop has recently done a translation of it. It tells of the creation of the world to Heart of Sky and its name translates as "Book of the Mat." This religious text tells of the twins Hunahpu and Xbalanque. Originally translated into Spanish by Francisco Ximénez, FTP, name this book of scripture that describes the Mayan religion.

Answer: Popul Vuh

11. He gave the first experimental demonstration of K-electron capture by nuclei and, with Robert Cornog, discovered the radioactivity of tritium. His suggestion for charge exchange acceleration led to the development of the Tandem Van de Graaf accelerator, and he invented three types of radar systems. Responsible for developing the detonator for the plutonium bomb, for 10 points name this physicist who proposed that the high levels of iridium at the boundary between Cretaceous and Tertiary rocks were the result of a meteor that caused the mass extinction of dinosaurs.

Answer: Luis Alvarez

12. (OK) He was known in his day for his work with haikai, a comic poetic form of linked verses, and he wrote a number of travel journals, which described his journeys, including selections of his poetry, and featured his discussions of art. Some of these journals include *A Visit to the Kashima Shrine*, *The Records of a Weather-worn Skeleton*, and *The Records of a Travel-worn Satchel*. FTP, who is this Japanese writer, best known today for his journal *The Narrow Road to the Deep North* and for his haikus.

Answer: Matsuo **Basho** or **Basho Matsuo**

13. Its tributaries include the Culgoa and the Burwon, and Thomas Mitchell was the first to travel the whole length. Henry Lawson wrote an ironic ode to it, and although it was used in the 19th century primarily to transport wool, it is now dying from pollution and drought. Beginning at Bourke, it meets another major river at Wentworth. Named after a governor of New South Wales, FTP, what is this longest river in Australia that joins with the Murray before emptying into the Indian Ocean?

Answer: Darling River (Do NOT accept Murray-Darling – all clues about the Darling only)

14. During this period, a child can engage in deferred imitation and also develops circular reactions, in which a child's action serves as a stimulus to which it responds with the same action. During it, the awareness that an object exists even when it is not in view, or object permanence, is developed. Lasting from birth until two years of age, for 10 points identify this first stage in Piaget's stages of cognitive development that precedes the preoperational stage.

Answer: Sensorimotor stage

15. In the beginning of this man's reign, the eunuch Basileios remained in control and Bardas Skleros and Bardas Phocas both revolted. Georgius Tzul was captured by this man and Czar Samuil harassed his army in the Balkans. He sent his sister to be married to Vladimir the Great of Russia and in one of his most famous acts, he blinded his opponent's army, leaving only one out of every hundred men with their sight. FTP, name this Byzantine emperor who was known for his skills at killing a particular ethnic group.

Answer: Basil II or Basil the Bulgar-Slayer or Basil Bulgaroktonus

16. It has been studied by Isabel Guerrero and Ariel Ruiz i Altaba and Alimonti described how HIV-1 causes it. The absence of Sonic Hedgehog may be an important part of this and karyorrhexis usually occurs near the end of this cellular process. Caspase activators such as Cytochrome C are released at one point and phagocytosis of the cell transpires at the end of this process. FTP, name this process that occurs during the differentiation of fingers in embryos and is a form of suicide by cells.

Answer: Apoptosis

17. H.L. Mencken responded to it in his *Prejudices*, and although considered to be a seminal work in its field, it has no citations. Chapters in this work include "Pecuniary Emulation" and "The Belief in Luck." In this work, the author declares that churches are wastes of space and points out that people will emulate the use of silver utensils even if it doesn't work as well as other materials. FTP, name this work that coined the term conspicuous consumption, written by Thorstein Veblen.

Answer: Theory of the Leisure Class

18. J. E. Littlewood and Atle Selberg doubt its truthfulness and it is number 8 on David Hilbert's list of problems. It first appeared in paper *On the Number of Primes Less Than a Given Magnitude* but was not the central focus. Two equivalents to this involve the Farey sequence and it is about the distribution of the zeros of the its creator's zeta-function. FTP, name this hypothesis that is still unproven and was formulated by a German mathematician.

Answer: Riemann Hypothesis or Riemann zeta hypothesis

19. The phrase "mustard gas and roses" is used to describe a drunk's breath. The main character has a copy of the Serenity Prayer in his office and is able to see his own murder after he has established a fatalistic quasireligion. He is captured by aliens who can see in four dimensions who exhibit him in a zoo along with softcore porn star Montana Wildhack. The action starts off in Dresden during the allied bombings. FTP, name this novel by Kurt Vonnegut in which Billy Pilgrim becomes unstuck in time.

Answer: Slaughterhouse Five

20. With fellow C.C.N.Y. student Chandler Owen, this man founded the magazine *The Messenger*. He ran unsuccessfully for New York Secretary of State on the Socialist ticket. The founder of the Committee Against Jim Crow in Military Service, this man received the Presidential Medal of Freedom in 1964. The passage of the Fair Employment Act made him cancel a 1941 march on Washington. FTP, name this African-American who served as a Vice President of the AFL-CIO and founded the Brotherhood of Sleeping Car Porters.

Answer: Asa Philip Randolph

21. His statues could be found in the palaestras and, in *The Birds*, he hatches from an egg laid by Night, which was fathered by Darkness. The fourth day of every month was sacred to this Greek god and he was occasionally shown blindfolded. He had a daughter, Voluptus, with Psyche, and he caused Apollo to fall in love with Daphne. FTP, name this Greek god associated with love, lust, and sex, sometimes said to be the son of Aphrodite.

Answer: Eros (accept Cupid before Greek is mentioned)

22. This work is divided into two sections and the author's discussion of schema and symbol near the end of the first section questions the way the mind represents its objects to itself. The second half of this philosophical text argues that the organic must be treated as if it were constituted as teleological. Creating two categories to address the fact that it is impossible to prove humans have free will, the author also adds the agreeable and the good to beautiful and sublime notions. FTP name this work of Immanuel Kant that created the field of aesthetics.

Answer: Critique of Judgment or Kritik der Urteilskraft

23. In 2000, he released his debut album, which features a mix of R & B and rap. Singer/actress Vivian Hsu wrote the lyrics to three of the songs in the album: Cute Woman, Istanbul, and Tornado. He is known for his innovative usage of the famous classical pieces from the late composer Julian Labrin. He has written songs for such artists as Coco Lee and Jacky Wu. FTP, who is the Taiwanese heartthrob who recently made his acting debut in a live action version of "Initial D"?

Answer: Jay Chou

1. Name the following poems from lines FTPE. You get 5 if you need the poet.

[10] Yet even these bones from insult to protect / Some frail memorial still erected nigh,

[5] Thomas Gray

Answer: "Elegy Written in a Country Churchyard"

[10] I met a lady in the meads, Full beautiful—a faery's child, Her hair was long, her foot was light, And her eyes were wild

[5] John Keats

Answer: "La Belle Dame Sans Merci"

[10] Take from the dresser of deal / Lacking the three glass knobs, that sheet / On which she embroidered fantails once / And spread it so as to cover her face.

[5] Wallace Stevens

Answer: "The Emperor of Ice Cream"

2. Identify the following terms from thermodynamics, for 10 points each:

[10] This function describes the average number of photons in a particular frequency for blackbody radiation.

Answer: Planck distribution function

[10] This law says that the energy per unit area emitted from a blackbody is proportional to the absolute temperature raised to the fourth power.

Answer: Stefan-Boltzman law

[10] This law describes the temperature dependence of the wavelength at which a blackbody will emit its maximum amount of energy.

Answer: Wien's displacement law

3. Identify the following terms from the dismal science, for 10 points each:

[10] This term describes a buyer's willingness to pay minus the amount the buyer actually pays.

Answer: Consumer Surplus

[10] This is the theory that if private parties can bargain without cost over the allocation of resources, they can solve the problem of externalities without outside interference.

Answer: Coase Theorem

[10] This term describes the tendency of a person who is imperfectly monitored to engage in dishonest or undesirable behavior.

Answer: Moral Hazard

4. Name these things from African history FTPE:

[10] This kingdom's capital was at Meroe, home to around 300 pyramids.

Answer: Kush

[10] This was a northern capital of Kush and featured a temple to Amun. It has been listed as a World Heritage Site by UNESCO.

Answer: Jebel Barka

[10] The first African kingdom to convert to Christianity, it may have destroyed the Kushite kingdom. This kingdom, located in what is now Ethiopia, erected a victory stele at Meroe.

Answer: Axum

5. Name these gods who had body parts cut off FTPE

[10] This Egyptian god of the sky and son of Osiris lost an eye in a battle with Seth and had his hands cut off by Isis for catching the semen of Seth.

Answer: Horus

[10] This Hindu god of overcoming obstacles had his head knocked off by the gaze of his uncle Sani, or more commonly is said to have had it ripped off by his mother's consort and then had it replaced.

Answer: Ganesh or Ganesha

[10] This Norse god traded his eye for a drink from the Well of Wisdom

Answer: Odin or Wotan or some variant

6. Name these members of The Mighty Handful (aka The Five) FTPE:

[10] This man composed *Puss-in-Boots*, *The Mandarin's Son*, *Prisoner of the Caucasus*, and *Le Flibustier*. Also an accomplished music critic, he was not as nationalistic as the other members of the Five.

Answer: Cesar Cui

[10] The leader of the Five, he composed the symphonic poems *Russia* and *Tamara* and the piano piece *Islamey: an Oriental Fantasy*.

Answer: Mily Balakirev

[10] A chemist, this member of the Five composed the opera *Prince Igor* and the symphonic poem *In The Steppes of Central Asia*. He posthumously received a Tony award in 1954 for a musical adapted from his works, *Kismet*.

Answer: Alexander Borodin

7. Name the comic book/graphic novel from description FTPE:

[10] This comic's protagonist is Dream, who is one of a family of seven siblings known as the Endless, each of whom personifies some aspect of reality, such as Death. It was written by Neil Gaiman

Answer: Sandman

[10] This DC comic won a Hugo and was written by Alan Moore and illustrated by Dave Gibbons. It imagines what the world would be like if superheroes had really existed since the 1940s with very human superheroes getting caught up in the Cold War.

Answer: The Watchmen

[10] This comic is darker and more cynical than other Marvel titles. It is a reimagining of the Avengers.

Answer: Ultimates

8. Name these subatomic particles FTPE:

[10] These are particles that have integer spin. All elementary particles are either this kind or fermions.

Answer: Bosons

[10] These are vector gauge bosons that mediate strong color charge interactions of quarks in quantum chromodynamics. They have negative intrinsic parity and zero isospin.

Answer: Gluons

[10] These particles are theorized to be the elemental particle in one of the fundamental forces. They are thought to be even-spin bosons with a rest mass of zero.

Answer: Gravitons

9. FTPE, stuff about a literary work:

[10] Assuming you accept the last posthumous book genuine, this bawdy classic about a giant and his family encompasses five separate books written over three decades in 16th century France.

Answer: Gargantua and Pantagruel

[10] Name the author of *Gargantua and Pantagruel*.

Answer: François Rabelais

[10] This is a comedic utopia in the story. It is an abbey whose rules were the opposite of the rules of monasteries in Rabelais' time. Its name comes from the Greek for will.

Answer: Abbey of Theleme

10. Name these rebellions and uprisings from American history FTPE

[10] This rebellion in western Massachusetts, which forced the country to reevaluate the Articles of Confederation, was an uprising of farmers who fought against high debt and tax burden.

Answer: Shays' rebellion

[10] This North Carolina uprising, occurring from 1764 to 1771, saw settlers fight against corrupt colonial officials

Answer: Regulator movement or War of Regulation or something similar

[10] This rebellion erupted in 1842 over a constitutional dispute that gave Rhode Island two rival governments.

Answer: Dorr's Rebellion

11. Name the mathematician from clues FTPE:

[10] He wrote a text consolidating number theory at age 24. He created modular arithmetic and created his namesake distribution.

Answer: Carl Friederich Gauss

[10] This French woman explained Ernst Chladni's study on vibrations of elastic surfaces and created a proof, which restricted the possible solutions of Fermat's last theorem.

Answer: Sophie Germain

[10] This man is best known to calculus students for his rule used in calculating the limiting value of a fraction whose numerator and denominator both approach zero or infinity. He was taught by Johann Bernoulli.

Answer: Guillaume François Antoine, Marquis de l'Hôpital

12. Name these New Deal Acts FTPE

[10] It attempted to stabilize prices and wages through cooperative "code authorities" involving government, business, and labor and guaranteed workers the right of collective bargaining.

Answer: National Industrial Recovery Act or NIRA

[10] Amended by the Taft-Hartley Act in 1947 and the Landrum-Griffin Act in 1959, this 1935 act created a board to oversee issues of union organization and collective bargaining.

Answer: Wagner Act or National Labor Relations Act

[10] It closed down insolvent banks and tried to reorganize and reopen those banks that were strong enough to survive.

Answer: Emergency Banking Act or Emergency Banking Relief Act

13. Answer the following about Johnny Cash songs FTPE:

[10] This song from the American Recordings album featured Kate Moss in the video as the title character who is murdered.

Answer: "Delia's Gone"

[10] The pioneering concept album *Bitter Tears* includes a Peter LaFarge ballad about this Pima Indian, one of three survivors of the Iwo Jima flag raising, who died young after struggling with racism and unemployment after the war.

Answer: Ira Hayes

[10] One of Cash's most famous songs, its protagonist who can't be free shot a man in Reno just to watch him die.

Answer: Folsom Prison Blues

14. Name the following plant hormones FTPE:

[10] Discovered by Japanese scientists in 1926, these hormones are involved in stem elongation, and mobilization of stored food in seeds.

Answer: Gibberellins

[10] These promote cell division, and are also involved in cell growth and differentiation. They were discovered by the use of coconut milk in the 1940s. At the cell level, these are transported by purine transporters.

Answer: Cytokinins

[10] These are the basic coordinative signal of plant development and can control other plant hormones. They are used by man to promote root growth and are responsible for many tropisms.

Answer: Auxins

15. Stuff about an author, FTPE

[10] *The Deluge* and *Sir Michael* are among the novels by this Pole, winner of the 1905 Nobel Prize in Literature.

Answer: Henryk Sienkiewicz

[10] This is perhaps Sienkiewicz's most famous novel and is the most filmed. It tells of the love between a young Christian woman Lygia and a Roman officer Marcus Vinicius who converts to Christianity.

Answer: Quo Vadis

[10] This Sienkiewicz novel is mandatory reading in Poland. It takes place during the Chmielnicki uprising.

Answer: With Fire and Sword

16. Name the following countries based on the province that attempted to separate from them FTPE:

[10] Katanga

Answer: Democratic Republic of the Congo

[10] Conch Republic

Answer: United States or equivalent

[10] Abkhazia

Answer: Georgia

17. Answer the following questions about a series of biological reactions, for 10 points each:

[10] This series of reactions converts glucose to pyruvate and synthesizes ATP.

Answer: Glycolysis

[10] In the first stage of glycolysis, this enzyme catalyzes the reaction that converts fructose-1,6-bisphosphate to GAP and DHAP.

Answer: Aldolase

[10] In the final step of glycolysis, this enzyme converts phosphoenolpyruvate into pyruvate.

Answer: pyruvate kinase

18. Name these figures associated with King David in Scripture FTPE:

[10] David played his lyre for this king who was tormented by an evil spirit.

Answer: Saul

[10] This nephew of King David was the general who ordered his men to kill Absalom after he had rebelled. This man killed Abner who had murdered this man's brother, Asahel.

Answer: Joab

[10] This soldier was the husband of Bathsheba. King David ordered that he be left in the midst of the enemy forces so that he would be killed.

Answer: Uriah the Hittite

19. Name these battles from the English Civil War FTPE

[10] This was the first pitched battle in the English Civil War and occurred in Warwickshire. In this inconclusive battle, Prince Rupert led the king's cavalry to victory but the king's infantry was routed.

Answer: Battle of Edgehill

[10] This battle, a disaster for the royalist armies, occurred after Prince Rupert broke up the siege of York. Taking place in July 1644, this battle caused the king to lose his hold on northern England.

Answer: Marston Moor

[10] This battle saw the parliamentary forces under Thomas Fairfax decisively defeat the royalist armies under Prince Rupert. At the beginning of this June 1645 battle, dragoons from the Parliamentary force attacked the royalist cavalry from the flank forcing the surprised royalists to charge the main Parliamentary army.

Answer: Battle of Naseby

20. Answer the following about Restoration Comedies FTPE.

[10] The main plot in this comedy revolves around the character Horner faking impotence in order to have sex with many married women. It was written by William Wycherly.

Answer: The Country Wife

[10] This play calls attention to the subordinate legal position of married women and the complexities of divorce and separation in 17th century England. Written by John Vanbrugh, its main characters are the married couple the Brutes.

Answer: The Provoked Wife

[10] This author of the novel *Oronoko* was also the first successful female playwright in English history. Her most famous play, *The Rover*, exposes the cleverness of women and the gullibility of men.

Answer: Aphra Behn

21. Given notable collection pieces, name the museum FTPE:

[10] Hokusai's "The Great Wave"; Hopper "Night Hawks"

Answer: **Art Institute - Chicago** (prompt if they only say Chicago)

[10] Velasquez - Jesus in the House of Mary and Martha; Rembrandt - Belshazzar's Feast

Answer: **National Gallery London** (prompt on National Gallery)

[10] Shen Chou - Lofty Mountain Lu; Wu Zhen - Bamboo

Answer: **National Palace Museum**

22. Answer the following about things associated with glaciers FTPE:

[10] This is the term for debris originally carried by glaciers that have since disappeared.

Answer: **Moraine**

[10] Found in North America and Europe, these are long, winding ridges of stratified sand and gravel in areas that have or once had glaciers.

Answer: **Eskers**

[10] This is a thin ridge of rock that separates two valleys carved by glaciers.

Answer: **Arete**