

1. The author of this work identified himself as “Florentine by Citizenship, Not by Morals”, and much of the first of its three parts is spent contemplating the sins of Italians. Its second part describes an ascent up a mountain, with the protagonist guided by the same man who led him through the first part. Finally, after leaving Virgil, he meets Beatrice, who takes him through Paradise, the final part of, FTP, what 3-part masterpiece by Dante?

Answer: The **Divine Comedy** (or: Divina Commedia)

2. The northwest corner of this island was a German possession before the First World War. Hence, Mount Wilhelm is the highest peak and the Bismarck Sea lies to the north. The former German colony was taken over by Australia and became independent in 1975. The island’s eastern half, known as Irian Jaya, was a Dutch possession and is now the scene of unrest against its Indonesian government. FTP, name this large island separated from Australia by the Torres Strait, half of which is known as Papua.

Answer: **New Guinea**

3. The language of this name, a near relation of Breton, was last spoken by Dolly Pentreath, a poor fisherwoman of Mousehole who died in 1777. The trilogy, about scholars at the University of Saint John and the Holy Ghost, consists of *The Rebel Angels*, *What’s Bred in the Bone*, and *The Lyre of Orpheus*, written by Robertson Davies. FTP, give the shared adjective, most commonly applied to the small chicken called a “game hen.”

Answer: **Cornish**

4. Torricelli’s theorem is a straightforward consequence of this theorem, which also allows us to use Pitot tubes and Venturi meters, which are used to measure the flow speeds of gases and fluids. Of the three terms, one is often referred to as the “dynamic pressure” and the other two as the “static pressure”, since they are not velocity-dependent. Essentially a restatement of the conservation of energy, FTP, what is this equation which states that an increase in velocity of a fluid is accompanied by a decrease in pressure?

Answer: **Bernoulli’s equation** (or: Bernoulli’s theorem)

5. “A writer may tell me that he thinks man will ultimately become an ostrich. But he ought to show that the necks of mankind have been gradually elongating, and that the hair is beginning to change into stubs of feathers.” The author applied a similar process of logical deduction to his two postulates, that “food is necessary to the existence of man” and that “the passion between the sexes is necessary and will remain in its present state.” FTP, name this English clergyman, author of the *Essay on the Principle of Population*.

Answer: Thomas **Malthus**

6. He denounced the rebellious peasants of Thomas Muntzer as “mad dogs,” urging them to obey their princes and citing the defense of secular authority found in the thirteenth chapter of Romans. The empire, though viewed him as a troublemaker: “It is certain that a single monk errs in his opinion which is against what all of Christendom has held for over a thousand years to the present.” Or so went the proclamation of Charles V at the Diet of Worms. FTP, name the subject of this declaration, who posted ninety-five theses on the church-door at Wittenberg.

Answer: Martin **Luther**

7. This battle followed the capture of Eretria, which was done to punish it for aiding in the earlier destruction of Sardis. The two sides met in the Valley of Vrana, the attackers’ army consisting of cavalry and infantry and armed with bows, and the defenders relying on long spears and the phalanx, and outnumbered 4 to 1. FTP, name this battle of 490 BCE, an Athenian success, which gives its name to the distance Phaedippas ran back to Athens to warn it of the Persians’ approach.

Answer: **Marathon**

8. The juxtamedullary variety can be found only in mammals and birds. In humans there are about 2 million, representing about 100 miles of tubules, which have a specialized transport epithelium lining. They process about 180 liters of filtrate each day. In these structures, blood travels to the peritubular capillaries and vasa recta after leaving the glomerulus in Bowman's capsule. FTP, name these specialized cells, the functional unit of the kidneys.

Answer: **nephrons**

9. For large, dilute systems of non-interacting particles, the relative size of density fluctuations scales as this power of the particle number. In most materials the phase velocity scales with this power of the dielectric constant. The Riemann hypothesis states that the real parts of the zeros of the zeta function have this value. It is the coefficient of the x squared term in the Taylor series for the natural log of $1 + x$. Equal to the geometric series $-1/4 -1/8 -1/16$ and so on, FTP name this value, equal to the sine of minus 30 degrees.

Answer: **-1/2 or -0.5**

10. Act I, scene 1 begins with the volunteer army, navy, and air force singing "The Three Main Rules of Discipline and the Eight Points of Attention." Act II scene 2 begins with an opera within the opera: *The Red Detachment of Women*, led by Jiang Qing. Perhaps most famous are the minimalist "Chairman Dances," written by the opera's composer, John Adams. FTP what is this musical drama recalling Dick and Pat's 1972 trip out East?

Answer: **Nixon in China**

11. Matthew Arnold called it "the most perfect brief poem in the language." The narrator is confident that a higher power exists to guide his steps just as it guided the flight of the title object, which has since disappeared. Undoubtedly its "solitary way" across the "rosy depths" has led it safe to its home among the reeds and away from the hunter's gun. FTP, name this William Cullen Bryant poem in eight quatrains.

Answer: **To A Waterfowl**

12. During a feud with his father-in-law Daksha, he ripped off Daksha's head, and eventually replaced it with a goat's head. He gave Parasurama his axe, and his throat turned blue when he drank the poison in the churning of the world ocean. He rides the white bull Nandi, and in some stories he is the father of the war god Karttikeya as well as the god Ganesha by his wife Parvati. FTP name this three-eyed member of the Hindu Trimurti, called the Destroyer.

Answer: **Shiva**

13. In the 1890's a Darwinian interpretation portrayed him as the missing link, while in more recent times he has been depicted as a Native American or black victim of colonialism. This last representation is supported by a speech in which he declares "this island's mine by Sycorax my mother/ Which thou tak'st from me." FTP, name this character from *The Tempest* who is described as "a savage and deformed slave."

Answer: **Caliban**

14. One solution to this problem was proposed by Arnold Geulincx, whose theory of occasionalism suggested that two parallel series of acts occur when will is exerted, one physical and one internal. One of the consequences of this problem is that animals are automata with no vital spirits, because they are external to our mental phenomena. FTP name this philosophical dichotomy that separates substances into two types based on the two distinct attributes of thought and extension, most notably associated with Descartes.

Answer: **mind-body duality** or equivalent (eg. separation of the mental and the physical)

15. When he served as Chancellor of the Exchequer under Stanley Baldwin, his economic policies were so disastrous that John Maynard Keynes wrote an essay titled "The Economic Consequences of" him. In his earlier career he had written a book about military operations in the Sudan, escaped from a Boer prison camp, and taken a starring role in the bungled planning for the Gallipoli campaign, none of which promised great results when he replaced Neville Chamberlain in May 1940. FTP, name this British prime minister, who promised "blood, toil, tears, and sweat" during the Battle of Britain.

Answer: **Winston Spencer Churchill**

16. Many observers believed that Micaela Bastidos, the wife of its namesake, was in fact the most important commander. It began in November 1780, when a small group seized the towns of Tungosuca and Tinta. Despite its quick spread, it proved unable to capture Cuzco and was subdued by 1783. FTP, name this Andean rebellion led by Jose Gabriel Condorcanqui, who assumed the name of the last Inca ruler.

Answer: **Tupac Amaru II** rebellion

17. Two amino acids in this protein, hydroxyproline and hydroxylysine, are not produced by the ribosomes but must be converted from proline and lysine by enzymes, for which vitamin C is usually required. It has a very regular primary structure, usually repeating triplets of glycine, proline, and either proline or hydroxyproline, producing its eponymous helix as its secondary structure. In crystallized form, it can appear in the cornea, but its type I form is most abundant, found in scar tissue and tendons. For ten points, name this protein, the principle component of connective tissue.

Answer: **collagen**

18. This man surrounded himself with actors, prostitutes and thugs, wrote a memoir, and quite possibly died of syphilis after retiring from political life in 78 BCE. In earlier years, he had, as dictator, concretized the *cursus honorum* and rewritten the constitution to return power to the Senate at the expense of the Tribunes, persuaded King Bocchus to betray his son-in-law Jugurtha, defeated Mithridates, and marched on Rome. FTP, name this father of proscriptions and opponent of Marius.

Answer: **Lucius Cornelius Sulla Felix**

19. He calls his mistress "a cross section of the American public," according to his cigar-loving music critic and friend Jed Leland. All he really wanted was love, but all he really got was money to throw around and a failed political career. He tried to make Susan Alexander into an opera star and his newspaper *The Inquirer* into a muckraker. FTP name this title character of a film who ends his life with the mysterious exclamation "Rosebud."

Answer: **Citizen Kane** (or: Charles Foster Kane)

20. This second magnitude star consists of an F7 supergiant Population II Cepheid variable with two smaller companions. Starting from Pegasus, it can be found by following the line through the left side of the Great Square asterism through the end star in Cassiopeia. An easier way of finding it is to follow the line of the stars Merak and Dubhe, known as the Pointers. FTP name this star at the tip of the handle of the Little Dipper asterism which appears to stay in one place, making it useful for navigation.

Answer: **Polaris** (also accept: North Star, polar star, polestar, or Alpha Ursae Minoris)

21. Calvin believed that Luke wrote it, on the basis of the reference to the freeing of Timothy in the final chapter. Luther admitted that "who wrote it is not known, and will probably not be known for a while." Chapters eight and nine discuss the new covenant, while chapter eleven offers the famous definition of faith as "the substance of things hoped for, the evidence of things not seen." FTP, name this epistle traditionally ascribed to Paul, directed to potential Jewish converts to Christianity.

Answer: **Hebrews**

22. Apparently the ninth most popular dinner in the United States when combined with another crucial element, Thomas Jefferson is credited with being the first to bring a machine for making this food to the US, from France. In Italian, it literally means "mixture of elements" and refers to all types of pasta. In May, Kraft introduced a "green wiggles" version of its signature dish which replaced this standard pasta with a corkscrew-shaped one, some of which are dyed green. FTP, name this noodle, whose name was used by Yankee Doodle to refer to a feather he stuck in his cap.

Answer: **macaroni**

23. He died of consumption at the age of 45 after publishing his one major work. He axiomatized philosophical study and distinguished among three levels of knowledge: imagination, reason, and the highest of all, intuition. He starts with the existence of God, the substance with infinite thought and infinite extension, and proceeds to explain the world as the various modes of God's attributes. FTP name this Portuguese Jew whose crowning achievement was *Ethics*.

Answer: **Baruch Spinoza**

BONUSES- BERKELEY E

WIT XI/COTKU 2003

Questions by Juliana Froggatt, Jeff Hoppes, Larissa Kelly, Paul Lujan, Ray Luo, Seth Teitler

1. Documents from antebellum debate, FTPE.

A. James Buchanan, U. S. minister to England, was among the signatories to this document that proposed the forcible annexation of Cuba.

Answer: the **Ostend Manifesto**

B. This document would have admitted Kansas to the union as a slave state. The state erupted into violence after free soil voters questioned its validity.

Answer: the **Lecompton Constitution**

C. The 1846 creation of a Pennsylvania Democrat, it would have prohibited slavery in territories acquired from Mexico, but it was rejected by Southerners in the Senate.

Answer: the **Wilmot Proviso**

2. Answer the following on women's contributions to astronomy FTPE.

A. Vera Rubin provided the first strong evidence for the existence of this non-luminous stuff. Candidates include WIMPs and MACHOs.

Answer: **dark matter**

B. Jocelyn Bell Burnell and Anthony Hewish were the first to detect a signal from one of these objects, a spinning magnetized neutron star.

Answer: **pulsar**

C. Margaret Geller and John Huchra found this largest known structure in the universe, a sheet of galaxies which probably wasn't built to keep the Mongols out.

Answer: the **Great Wall**

3. Name these figures from the crusades, FTPE.

A. The pope who called for the first crusade at the Council of Clermont amid shouts of "God wills it!"

Answer: **Urban II**

B. The sainted French king who was captured along with most of his army at Damietta in Egypt.

Answer: **Louis IX**

C. This leader of the first crusade was elected "Lord of Jerusalem" when the crusade reached its goal, but died before he could be crowned king.

Answer: **Godfrey (or Geoffrey) of Boulougne**

4. 30-20-10, name the city.

30. Along with Toul and Metz, it was one of three bishoprics ceded to the king of France by the Holy Roman Empire at the Peace of Westphalia.

20. The treaty signed here in 843 ended the civil war among the grandsons of Charlemagne.

10. The bloodiest battle of the First World War was fought here in 1916 and 1917, as Marshal Petain defended the city against the Germans.

Answer: **Verdun**

5. Given the primary production centers of a neurotransmitter, identify the transmitter, FTPE. For example, if I said basal forebrain, you would say acetylcholine.

A. Ventral tegmental area, which projects to nucleus accumbens and the cortex; and substantia nigra, which projects to the striatum (ie. the caudate nucleus and putamen).

Answer: **dopamine (or: DA)**

B. Dorsal medullary group; lateral tegmental area, and most importantly, the locus coeruleus complex in the pons, which outputs to the thalamus, cerebral cortex, cerebellum, and spinal cord.

Answer: **norepinephrine (or: NE)**

C. Raphe nuclei, which includes areas of the mesencephalon that project to thalamus, basal ganglia, cortex, hippocampus, spinal cord, and cerebellum.

Answer: **serotonin (also accept: 5-HT or 5-hydroxytryptamine)**

6. Given the name assumed by a Shakespearean character, give their real name, FTPE. 5 if you need the play in which each appears.

A. 10) Cesario

5) Twelfth Night

Answer: **Viola**

B. 10) Doricles

5) The Winter's Tale

Answer: **Florizel**

C. 10) Poor Tom

5) King Lear

Answer: **Edgar**

7. Works by Machiavelli, FTPE.

A. Machiavelli's praise of Cesare Borgia was one of the elements that led his contemporaries to denounce this work for its political immorality.

Answer: **The Prince**

B. In this commentary on the history of Rome, Machiavelli makes clear his preference for the republic as the ideal form of government.

Answer: **Discourses on the First Ten Books of Titus Livy**

C. This comedy, whose plot revolves around a magic potion used as an aid in conceiving an heir, is thought to be the greatest Italian Renaissance play.

Answer: **The Mandrake Root (La Mandragola)**

8. Name these Egyptian goddesses FTPE.

A. This popular goddess was the wife of Osiris and mother of Horus.

Answer: **Isis**

B. This goddess was originally a solar deity, but the Greeks associated her with Artemis. She had a cat's head, and was often paired with the lion-headed Sakhmet.

Answer: **Bastet**

C. In one story, this normally peaceful goddess turned into Sakhmet and almost destroyed mankind. She is often depicted with a cow's head.

Answer: **Hathor**

9. Given some lakes, name the U.S. state, FTPE.

A. Mono Lake, Salton Sea

Answer: **California**

B. Lake Apopka, Lake Istokpoga, Lake Okeechobee

Answer: **Florida**

C. Pyramid Lake, Lake Mead

Answer: **Nevada**

10. Identify these French novelists FTPE.

A. He once told his sister, "Salute me. I am well on the way to becoming a genius!" He developed the device of the reappearing character, which he used to connect works such as *Eugenie Grandet* and *Pere Goriot* into a grand scheme he called The Human Comedy.

Answer: **Honore de Balzac**

B. The author of *The Temptation of Saint Anthony*, he traveled to Egypt in order to "steep himself in the sources of romanticism." His greatest character is a provincial doctor's wife who has read too many novels.

Answer: **Gustave Flaubert**

C. Francois Mauriac wrote that his poetry attained "a heroic banality" while Andre Gide lamented that he was France's greatest poet. However, he is better known for works like *Ruy Blas* and *Toilers of the Sea*.

Answer: **Victor Hugo**

11. Answer the following on the methane molecule CH₄, FTPE.

A. What is the 3-dimensional shape of the molecule according to VSEPR theory?

Answer: **tetrahedral**

B. What is the bond hybridization of the central carbon atom?

Answer: **sp³**

C. Methane gas, like water vapor and carbon dioxide, can absorb infrared radiation to a significant extent, making it a contributor to what global warming phenomenon?

Answer: **greenhouse effect**

12. Name these men present at the battles of Philippi, FTPE.

A. This "noble Roman" was rumored to be Caesar's son, a fact which, if true, would have made his betrayal of Caesar all the more interesting.

Answer: Marcus Junius **Brutus** Caepio

B. This man, Brutus' brother-in-law, was offended when Brutus was appointed *praetor urbanus* over him. Brutus eulogized him as "last of the Romans"; Shakespeare noted his "lean and hungry look".

Answer: Gaius **Cassius** Longinus

C. This 18-year-old teamed with Antony to go after the killers of his great-uncle and adopted father, Caesar. After he and Antony turned on each other, he would become the first emperor of Rome.

Answer: Gaius Julius Caesar **Octavianus** (or: Augustus Octavian Caesar; also accept his original name, Gaius Octavius Thurinus)

13. Give the areas of the following figures FTSNOP.

A. 5) A 3-4-5 right triangle.

Answer: **6**

B. 10) A trapezoid with base lengths of 7 and 9, and a height of 5.

Answer: **40**

C. 15) The ellipse x^2 over 16 plus y^2 over 9 equals 1.

Answer: **12 pi**

14. FTPE:

A. This author's later works include *Puzzled America*, *The Triumph of the Egg*, and the autobiographical *Tar: A Midwest Childhood*.

Answer: **Sherwood Anderson**

B. This collection of stories follows the newspaper reporter George Willard as he learns about life, lives through the death of his mother, and departs from the title town.

Answer: **Winesburg, Ohio**

C. Anderson's first major publication, this novel is the story of a man who runs away from a small Iowa town in futile search for life's meaning.

Answer: **Windy McPherson's Son**

15. 30-20-10 name the event.

30. Attempted resolution of a land dispute along the Fish River led to the fear that blacks were "being placed on an equal footing with Christians, contrary to the laws of God."

20. Its participants defeated the Zulus at Blood River and then proclaimed the short-lived republic of Natalia.

10. It enabled Afrikaner groups to establish separate states in the Transvaal, beyond the reach of effective British influence.

Answer: **the Great Trek**

16. Identify these types of resistors FTPE.

A. This most common type of variable resistor typically comes with a screw which can be turned to adjust the resistance.

Answer: **potentiometer** (or: trimmer)

B. These handy resistors exhibit a large change in resistance with a change in temperature, making them useful for measuring temperature.

Answer: **thermistors**

C. You can make a variable resistor out of a field-effect transistor, in which case the resistance can be controlled by this voltage in the transistor.

Answer: **gate** voltage (reluctantly accept: base voltage)

17. Identify these intuitive concepts coined by Jean-Paul Sartre, FTPE.

A. According to Sartre, this is man's psychological condition in a Godless world. The dismissal of God means the disappearance of every possibility of finding values in some intelligible heaven, leading to the forsaking of human kind.

Answer: **abandonment**

B. As opposed to being-in-itself, this other mode of being is what separates human beings from the world of things. It designates man's consciousness and his ability to differentiate objects of the world from the conscious self by investing them with meaning.

Answer: **being-for-itself** (or: pour-soi)

C. This is a form of self-deception in which a person deceives herself by making excuses for her behavior and attributing her actions to external or underlying causes, as if she were not free to have behaved otherwise.

Answer: **bad faith** (or: mauvaise foi)

18. Identify these works by John Dryden FTPE.

A. This attack on Thomas Shadwell, who became England's poet laureate after Dryden was disqualified because of his Catholicism, contains the lines "the rest to some faint meaning make pretense/ but Shadwell never deviates into sense."

Answer: **MacFlecknoe**

B. This 1678 tragedy was Dryden's take on Antony and Cleopatra. Unlike Shakespeare, he confines the action to a single day and a single location- the temple Isis.

Answer: **All For Love**

C. This political satire draws out a parallel between King David and one of his sons and Charles II and the illegitimate Duke of Monmouth.

Answer: **Absalom and Achitophel**

19. Given the European city, name the river that flows through it, FTPE.

A. Berlin

Answer: **Spree**

B. Lisbon

Answer: **Tagus**

C. Dublin

Answer: **Liffey**

20. Give the generic positions of NHL trophy winners FTPE.

A. Norris trophy

Answer: top **defenseman**

B. Vezina trophy

Answer: top **goalie**

C. Selke trophy

Answer: top **defensive forward**

21. Given the capital, name the African nation, F5PE.

1) Algiers

Answer: **Algeria**

2) Brazzaville

Answer: **Congo**

3) Accra

Answer: **Ghana**

4) Bamako

Answer: **Mali**

5) Harare

Answer: **Zimbabwe**

6) Ouagadougou [pron: WA-ga-doo-goo]

Answer: **Burkina Faso**