

1. Varmus and Bishop showed that they integrate proto-oncogenes into their own genetic material, switching the genes “on” and triggering potential malignance. This process explains their ability to cause cancers such as adult T-cell leukemia. FTP—name this class of viruses that use the enzyme reverse transcriptase to create DNA from RNA, that includes HIV.

Answer: retrovirus(es)

2. This subsidiary of Evercore Partners, Inc., owns Distribution Services, Inc., the US’s number one in-store supermarket merchandising company. It also publishes *Country Weekly*, the US’s best-selling country music magazine, and seven of the US’s 15 best-selling weekly magazines. Based in Boca Raton, Florida—FTP—name this publisher of many tabloids, the site of the first anthrax death.

Answer: American Media, Inc.

3. His end is assured when a night-time reading of Ossian scares the object of his affections, and his attempt to embrace her causes her to flee. After moving to Walheim, he writes to his friend Wilhelm that he has met a girl named Lotte or Charlotte. Alas, her betrothed, Albert, arrives, shattering his dreams. FTP—name this title character who commits suicide at the end of a 1774 novel by Goethe.

Answer: Werther [accept *The Sorrows of Young Werther* or *Die Leiden des jungen Werther*]

4. According to legend, after enacting his most famous laws, he made his people agree that no one but he could repeal them; he then left for 10 years, starting around 598 BC. His political program involved abolishing slavery for debt, and establishing property classifications. Herodotus attributed the notion that no one can know he is happy until he is dead to—FTP—what archon who, in the line of Athenian lawgivers, followed Draco?

Answer: Solon

5. His *Ode to Death* is a setting of Whitman, and he translated the Apocrypha for his *Hymn of Jesus*. Though he did compose folk-inspired music like the *Somerset Rhapsody* and *Egdon Heath*, he is better known for works inspired by Eastern mysticism, such as the opera *Savitri* and hymns from the *Rig Veda*. FTP—name this German-born British composer who detested being known for *The Planets*.

Answer: Gustav(us) Theodore von Holst

6. When she first appears in the novel, this 16-year-old is pregnant, she needs to be led to pray at her grandmother’s grave by her husband, Connie Rivers. He abandons her and her family upon reaching California. At the novel’s end, she’s “smiling mysteriously,” as she feeds a sick cotton worker her breast milk after her child is stillborn. FTP—name this sister of Tom Joad in *The Grapes of Wrath*, who shares her name with a flower mentioned in the Song of Solomon.

Answer: Rose of Sharon or Rosasharn Joad

7. Monthly features include “Ear to the Street,” cartoonist Leroy Davis’s “Last Page,” and the infamous “Record Report.” A recent *GQ* article focused on its founder, and his suspect association with Ray Benzino of Made Men, because Dave Mays’s publication is the most-read hip-hop magazine in circulation. FTP—name this magazine whose five-microphone ratings system is pivotal to the success of many rap albums.

Answer: *The* Source

8. Edith Wharton’s *The House of Mirth* and Ernest Hemingway’s *The Sun Also Rises* both take their titles from this book of the Bible, flanked by two books usually ascribed to the same author. Though known for his wisdom, the author concludes that “the race is not to the swift,” and that wisdom “also is vanity;” in fact, “vanity of vanities, all is vanity.” FTP—name this book that provided the text for a song about how everything is appropriate, sooner or later.

Answer: Ecclesiastes or The Preacher [do not accept “Ecclesiasticus”]

9. Charges in the two murders that spawned the case were quickly dismissed; the focus of the trial was on property and salvage rights. Deportation of the defendants to Spain was advocated by Van Buren, while John Quincy Adams supported their request for repatriation, arguing their case before the Supreme Court, which ruled the defendants were free men, as their capture had been illegal. For 10 points—name this 1841 case about a Spanish slave ship.

Answer: *US v. Amistad*

10. Its first application was in a study of deaths in the Prussian army by horse kicks. Because of the law of large numbers, the continuous binomial approaches this distribution, unique in that its expected value and variance both equal the same, single parameter, lambda. First described in *Researches on the Probabilities of Opinions*, name this distribution used to model events of low probability, such as, possibly, catching fish.

Answer: Poisson distribution

11. This province is home to the Leshan Giant Buddha, the largest Buddha statue in the world. The third most populous province in China, it is split between a western plateau and an eastern basin drained by the Yangtze River. With its capital at Chengdu—FTP—name this province in Southern China, well-known for its style of spicy cooking.

Answer: Szechuan or Sichuan

12. As the protagonist goes blind, his wife cheats on him, adding validity to warnings from his brother Justinus. Pluto pities the husband and restores his sight so he may catch his wife fornicating with squire Damian, but Proserpian one-ups Pluto, and lets the wife fool her husband into doubting what he had seen. FTP—name this Canterbury Tale about elderly knight January and his young wife May.

Answer: “The Merchant’s Tale”

13. Elati, its eastern dialect, became extinct in the 1800s, while Atali and Kituhwa, the western and middle dialects, are still extant. A southern Iroquois language, it is spoken by about 20,000 speakers today, mostly in North Carolina and Oklahoma. FTP—name this Native American language for which a writing system was developed by Sequoyah.

Answer: Cherokee or Tsalagi or Aniyunwiya

14. He left the US only twice in his life—once for his honeymoon in Montréal, and once to address the Sixth Annual International Conference of American States in Havana. Praise for his stern action during the Boston police strike led to his vice presidential nomination. The first president to light a national Christmas tree, he had two pet raccoons that he walked on White House grounds, and boasted he got more sleep than any previous president. FTP—name this governor of Massachusetts who became President early on the morning of August 3, 1923.

Answer: (John) Calvin Coolidge

15. Discovered in the 1930s by Gerhard Schrader, its IUPAC name is isopropyl methyl-fluoro-phosphonate. It causes involuntary muscle spasms by inhibiting acetylcholinesterase [uh-SEE-til-ko-lih-NEH-stuh-race], and exposure to it can be treated with atropine. As little as ten micrograms per kilogram can be a fatal dose of—FTP—what nerve gas, used by Iraq against the Kurds, and in a 1995 attack in the subways of Tokyo?

Answer: Sarin

16. She grew up in Harrison, New Jersey, though she was born in Havana. Originally a weather girl for New York’s Telemundo affiliate, she has appeared on the soap opera *Loving* and in the film *Curdled*. A co-host of *America’s Funniest Home Videos*, she is probably better known for *House of Style* and swimsuit calendars. FTP—name this model, MTV’s first Latina VJ.

Answer: Daisy Fuentes

17. He argued that the material world is organized as a sphere, argued for a limited form of evolution, and decided that air is a separate substance. The subject of a Matthew Arnold poem, his extant works include *Purifications*, a treatise on transmigration, and a long poem in hexameter on each of the four immutable elements, *On Nature*. FTP—name this Sicilian philosopher who, believing himself a god, jumped into Mount Etna.

Answer: Empedocles

18. Legislators in this president's Fifth Republic Movement party suspended a session of parliament in December 2001 rather than debate the implications of a 12-hour nationwide strike organized by the Fedecamaras business chamber. Also in December 2001, he proposed an alternative to the Free Trade Agreement of the Americas at the Association of Caribbean States summit that his country hosted. FTP - identify this president of Venezuela.

Answer: Hugo **Chavez**

19. First predicted in 1962, it will not occur in the presence of an electromotive force, and can be used to measure weak magnetic fields. Quantum mechanics predicts that electrons, in Cooper pairs, can tunnel across a thin insulating layer between two superconductors. FTP—what is this effect, named after the 1973 Nobel Prize winner in physics?

Answer: **Josephson** effect or current or tunneling

20. The hero's running feud with Monopolarized Light and Power explains why his basement hideout has 1,369 lights. He dislikes Dr. Bledsoe, who kicked him out of college. After deciding he doesn't like Brother Jack and his Communist buddies either, he finally realizes he is in the visual state to which the title refers. Dostoyevsky's *Notes from Underground* obviously inspired—FTP—what novel by Ralph Ellison about an angry black man?

Answer: **Invisible Man** [do not accept "The Invisible Man"]

21. Skopas, Timotheos, Leochares [lee-oh-KAH-rees], and Bryaxis were involved in its construction. Its pyramid-shaped roof was topped with a four-horse chariot. Sculptures around its poem included a chariot race, a centauromachy, and an Amazonomachy. Atop the podium was a rectangular building with a colonnade with life-size statues. FTP—name this 4th century burial monument, one of the Seven Wonders of the Ancient World.

Answer: **Mausoleum** at Helikarnassos [prompt on "Helikarnassos"]

22. Interrupted only by cholera epidemics and wars, its first year saw horse races and the wedding of Prince Ludwig I and Princess Theresa. In 1818, it began serving food and beverages. Running for two weeks starting in late September, it is still held in its original location of Wies'n [VEE-zin]. FTP—name this annual German beer-drinking festival.

Answer: **Oktoberfest**

23. The most common aromatic amino acid found in proteins, it plays an important role in the biosynthesis of some neurotransmitters, such as tyrosine. The DPLA form has also been used as treatment for depression, Parkinson's disease, and osteoarthritis. Deficiency is rare as it is found in many high-protein foods, but for those who cannot metabolize it, build-up in the brain and can result in mental damage. FTP, name this essential amino acid that together with aspartamic acid forms aspartame.

Answer: **Phenylalanine**

1. Answer the following questions about a Shakespearean work FTSNOP:

[5] In what play would you find the characters Kent and Gloucester?

Answer: King Lear

[15] This fiend possesses “poor Tom” in *King Lear*. The name was taken from Harsnet’s *Declaration of Egregious Popish Impostures* and he is “the fiend of mopping and mowing, who possesses chambermaids and women.” It also turns up in the song “How Do You Solve a Problem Like Maria?” from *The Sound of Music*.

Answer: Flibbertigibbet

[10] This bastard son of Gloucester plays Goneril and Regan off one another and estranges his father from his legitimate son Edgar.

Answer: Edmund

2. Name these Nazis, FTPE.

[10] This foreign minister negotiated an infamous treaty with his Soviet counterpart, Molotov.

Answer: Joachim von Ribbentrop

[10] This deputy, third in line to Hitler’s power after Goering [GAY-ring], was captured in 1941 when he flew a plane to Britain. He spent the next 46 years in prison.

Answer: Walther Richard Rudolf Hess

[10] The son of a Jewish musician, this early planner of the Final Solution and leader of the SS death squads or *Einsatzgruppen* was assassinated in Prague in July 1942.

Answer: Reinhard Tristan Eugen Heydrich

3. Thanks to their performance at a rally for gubernatorial candidate Homer Stokes, they made Mississippi the haven of racial tolerance it is today. FTPE:

A. (10) Identify this band whose biggest hit was “I am a Man of Constant Sorrow.”

Answer: Soggy Bottom Boys

B. (10) The 2000 movie in which the Soggy Bottom Boys appeared.

Answer: O Brother, Where Art Thou?

C. (10) Although the lead singer of the Soggy Bottom Boys was played by George Clooney, his voice was supplied by this member of Alison Krauss’ band Union Station.

Answer: Dan Tyminski

4. It equals approximately 96,500 Coulombs [KOO-lohms] per mole. FTPE.

[10] Name this constant.

Answer: Faraday constant [prompt on “F”]

[10] Faraday’s constant equals this constant times the absolute value of the charge of an electron.

Answer: Avogadro’s number [prompt on “N_A”]

[10] Faraday’s constant appears in this equation that allows the calculation of electrochemical potentials.

Answer: Nernst equation

5. Name these roles in Islam, 10 points each.

[10] This leader of congregational prayers is often a religious scholar, but no formal training is required.

Answer: imam [ee-MAAM]

[10] Arabic for “sign of God,” this title is given to certain Shi’ite scholars of Islamic religious law.

Answer: Ayatollah [EYE-yuh-TOE-luh]

[10] This is the term for a man who recites the call to prayer.

Answer: muezzin [moo-AH-zeen] or muadhin

6. Name the composers of these 20th century operas, FTPE:

[10] *Einstein on the Beach*

Answer: Philip Glass

[10] *Nixon in China*

Answer: John Coolidge Adams

[10] *Love for Three Oranges*

Answer: Sergei Sergeyevich Prokofiev

7. Name the author, 30-20-10:

30: She drew on her husband's childhood reminiscences for such works *Poganuc People*, *Old Town Folks*, and *The Pearl of Orr's Island*, considered among the first examples of local color writing in New England.

20: While abroad in England she took up the cause of Lord Byron's aggrieved widow Annabella, alleging that Byron had an incestuous relationship with his half-sister. Her inflammatory interview with Annabella in *Atlantic Monthly* led to the controversial 1870 book *Lady Byron Vindicated* and lots of cancelled subscriptions.

10: That was small potatoes compared to the reaction to her 1852 novel *Uncle Tom's Cabin*.

Answer: Harriet Beecher **Stowe**

8. Name these people who founded stuff, FTPE.

[10] After making excessively heavy demands on the tolerance of Massachusetts, he was kicked out in 1635. He then founded Rhode Island.

Answer: Roger **Williams**

[10] His brother Pierre founded Louisiana. In 1718, he himself came up with the outstandingly good idea of New Orleans.

Answer: Jean-Baptiste **Le Moyne**, sieur de **Bienville** [accept either]

[10] Starting in 1769 in San Diego, this Franciscan founded everything in sight, including missions at Santa Clara and San Luis Obispo.

Answer: Father Junipero **Serra**

9. Name these phases in a star's evolution, 10 points each.

[10] In this stage, a swirling cloud of matter collapses in on itself until the pressure and temperature are high enough to allow nuclear reactions to begin.

Answer: **protostar**

[10] When our Sun is old, the core will collapse, and the increase in temperature will ignite nuclear fusion in the next layer out, expanding the Sun to this type of star.

Answer: **red giant**

[10] A star too big to end up a dwarf star but too small to become a black hole will usually become one of these stars, with a diameter of about 10 miles.

Answer: **neutron** stars

10. Name these people connected to Karl Marx, FTPE.

[10] Marx co-authored the *Communist Manifesto* with this man.

Answer: Friedrich **Engels**

[10] While in London, Marx occasionally dashed off dispatches for the New York *Tribune* that were edited by this radical future presidential candidate.

Answer: Horace **Greeley**

[10] Marx cofounded the newspaper *Deutsch-Französische Jahrbucher* with Feuerbach, Ruge, and this Russian ideologist of anarchism, who became Marx's leading rival in the First International until his expulsion in 1872.

Answer: Mikhail **Bakunin**

11. Name these *Apollo* missions, for the stated number of points.

[10] This 1968 mission was the first to place astronauts in orbit *around* the Moon.

Answer: *Apollo* **8**

[5] This 1969 mission was the first to see astronauts actually *land* on the Moon.

Answer: *Apollo* **11**

[15] This December 1972 mission was *Apollo's* last; Harrison Schmitt became the 12th & last man to walk on the moon.

Answer: *Apollo* **17**

12. Name these American novels from characters, FTPE.

[10] Joanna Burden, Gail Hightower, Lena Grove, Joe Christmas

Answer: ***Light in August***

[10] Katey Macauley, Homer, Ulysses, Marcus, Bess

Answer: ***The Human Comedy***

[10] Ona, Elzbieta, Jonas, Marija, and Jurgis Rudkus

Answer: ***The Jungle***

13. In order to distract us from their own various malfeasances, congressmen periodically decide to investigate other villains. Name these examples, FTP:

(10) In 1950-51 this Tennessean [who for years practiced law in Chattanooga] held TV hearings in which he asked everyone he could find with an Italian name whether they were in the Mafia.

Answer: Estes **Kefauver**

(10) The House Un-American Activities committee was created in 1938, largely at the urging of this paranoid Texas congressman.

Answer: Martin **Dies**

(10) Chairman Sam Ervin and ranking minority member Howard Baker, Jr., became household names as members of the Senate Select Committee on this.

Answer: **Watergate**

14. Given a brief description, name the parts of the kidney FTPE:

[10] These cells form the basic building block of the kidneys, and the filtrate from them is eventually deposited into the ureter.

Answer: **Nephrons**

[10] This U-shaped portion of the renal tubule uses a concentration gradient to filter out sodium and chlorine as necessary

Answer: **Loop of Henle**

[10] This main filter of the nephron is located within the Bowman's Capsule and resembles a twisted mass of tiny tubes. Filtered blood flows from here into the efferent arteriole.

Answer: **Glomerulus**

15. The XFL is still dead. [Thank God.] F5PE give the *team names* of any *six* of the eight XFL teams. *You have 15 seconds.*

Answer: San Francisco **Demons**; Chicago **Enforcers**; New York/New Jersey **Hitmen**; Memphis **Maniax**; Orlando **Rage**; Birmingham **Thunderbolts**; Los Angeles **Xtreme**; Las Vegas **Outlaws**

16. Henry VIII had six wives; Julius Caesar managed a paltry three. Answer the following FTPE:

a) Julius married young, and at age 22 he refused to divorce this woman, his first wife, even though Sulla demanded it because she was the daughter of Sulla's enemy Cinna. Instead he left for Rhodes and studied there, returning to Rome only after Sulla had died.

Answer: **Cornelia**

b) After Cornelia died in 68 B.C., Julius took this woman as his second wife but divorced her after her name was linked to the scandalous Clodius. This is the origin of the phrase "Caesar's wife must be above suspicion."

Answer: **Pompeia**

c) His third wife, she was married to Caesar for his last 15 years. She's best remembered as depicted in Shakespeare begging Caesar not to attend the Senate because she'd had a nightmare about his impending death.

Answer: **Calpurnia**

17. Identify the movements in the history of art given members and a founder FTPE.

[10] Marc, Macke, Klee; founder: Wassily Kandinsky.

Answer: **Der Blaue Reiter** (The **Blue Rider** movement)

[10] Alexander Rodchenko and El Lissitzky; founder: Casimir Malevich

Answer: **suprematism**

[10] Francis Picabia, Jean Arp, Man Ray; founder: poet Tristan Tzara

Answer: **dadaism**

18. While on vacation, author Gustave Aschenbach falls in love with a young Polish boy. FTPE:

[10] Name this work by Thomas Mann.

Answer: **Death in Venice** or **Der Tod in Venedig**

[10] Name the young Polish boy.

Answer: **Tadzio**

[10] Aschenbach ultimately dies of what disease running rampant through Venice at the time?

Answer: **cholera**

19. Identify these iterative methods for estimating solutions to equations FTPE.

A. (10) In this method, each successive value in the equation is found by dividing the value of the function at the previous value by the value of the derivative at that value, and subtractive that quotient from the previous value.

Answer: **Newton-Raphson Method** (or **Newton's Method**)

B. (10) Used to solve problems of the form $dy/dx = f(x, y)$, this method devised by a Swiss mathematician consists of adding a step size times the value of the function at a specific x and y to calculate y for various values of x .

Answer: **Euler's Method**

C. (10) Producing solution with at most a error of fourth-order magnitude and named for two Germans, it is an extension of the Euler method and Simpson's Rule that is calculated by finding four constants that estimate the slope of the curve.

Answer: **Runge-Kutta Method**

20. Name these small islands in the Indian Ocean, FTPE.

[10] The southernmost island in the Chagos archipelago, this 17-square-mile atoll houses a joint US/UK military base.

Answer: **Diego Garcia**

[10] This Australian territory, 400 kilometers south of Java, was discovered by William Mynors in December 1643.

Answer: **Christmas Island**

[10] Though claimed by the Comoros, this island did *not* vote for independence in 1975, and remains an overseas possession of France.

Answer: **Mayotte**

21. Identify the follow about a bankrupt company FTPE.

A. (10) Formed in 1985 by the merger of Internorth and Houston Natural Gas, this company filed for Chapter 11 bankruptcy in December 2001.

Answer: **Enron**

B. (10) CEO of Enron at its inception, he hired former Bush cabinet members James Baker and Robert Mosbacher during his tenure.

Answer: Kenneth **Lay**

C. (10) After filing for bankruptcy, Enron was sued by this company, which had been attempting to buy it, for the rights to the Northern Natural Gas pipeline.

Answer: **Dynegy Inc.**

22. 30-20-10-5 name the disease:

30: Baruch Blumberg first developed a diagnostic test for it and it is named for him.

20: In 1990 researchers found that alpha interferons were successful in treating this illness, which severely affects the liver.

10: Of the three types of this disease it is distinguished by its status as an STD

5: Its not Hepatitis A or C

Answer: **Hepatitis B**

23. Name these voting systems, FTPE.

[10] Used in the US, the UK, and Canada, the candidate with the most votes wins, even if it is not a majority.

Answer: **plurality** or **first-past-the-post**

[10] Voters vote for parties, not candidates; parties win seats proportionally by share of vote. The parties rank candidates, who then fill the awarded number of seats.

Answer: **party list**

[10] Used in Australia, voters rank all candidates. The last-place candidate is eliminated, and his second-choice votes are given to the remaining candidates, and so on, until one has a majority.

Answer: **instant runoff** voting or **alternative** vote