

1. Goldbach conjectured that every number greater than 4 is the sum of two of these. An estimate of the number of them below an integer n is n over the natural log of n . Finding the zeros of the Riemann zeta function would make current encryption schemes worthless, because generating them would be easy. Mersenne ones are one less than a power of two. FTP, name these integers whose only factors are one and itself.

Answer: primes

2. Surprisingly, this man wrote "Home Thoughts from Abroad" in 1845, a year before he and his bride eloped to a self-imposed 16-year exile in Italy. Also predating the move were two of his most famous works with Italian settings, "My Last Duchess," and "Pippa Passes." FTP name this English poet, master of the dramatic monologue, whose other works included "The Ring and the Book" and "The Pied Piper of Hamelin."

Answer: Robert Browning [prompt on just "Browning"]

3. His position shortly before his rise to power was precarious because the conspirators who killed his uncle didn't trust him and neither did Mark Antony. As the Senate's champion, he defeated Antony, then joined with him and Lepidus to form the Second Triumvirate. After beating Brutus and Cassius at Phillippi, he avoided an open break with Antony until the latter's marriage to Cleopatra provided an excuse to rouse the people of Rome against him. FTP name this Roman statesman and ruler, who took 17 years from the death of his uncle Julius Caesar to consolidate his rule as Emperor.

Answer: Augustus [accept Octavian or Octavius or Octavianus]

4. Mayonnaise, butter, jelly, milk, and blood are all types of these. So are smoke and fog. Oddly enough, so is a pearl, as it's a subcategory called a solid sol. FTP name this type of mixture in which small particles of one substance are permanently dispersed throughout a solvent of another substance.

Answer: colloidal dispersions or colloidal suspensions
[prompt on dispersion or suspension; accept colloids]

5. He moved with his father from the Dominican Republic at age 16, settling in Independence Missouri, and earning a scholarship to Maple Woods Junior College. In 2000, he earned the Midwest League's MVP award for Peoria and the Pacific Coast League's Post-Season MVP Award with Memphis. 2001 saw his debut in the majors, where he became the first player on his team to lead in batting, homers, RBIs, and runs scored since Ken Boyer in 1961 en route to unanimous selection as the N.L.'s MVP. FTP, name this 2003 *Sporting News* Player of the Year, wearing #5 for the St. Louis Cardinals.

Answer: Luis Pujols (POO-holes)

6. This phrase can refer to two very different writings. One is a passage in the Koran within the sura al-Najm, which speaks of the traditional goddesses revered by Meccans in positive terms, but which is more or less negated by a later sura which said those were not the words of Allah. The other is its use as the title of an allegorical novel in 1988, which led to a fatwa or death decree against its author, Salman Rushdie. FTP give the common title.

Answer: The Satanic Verses

7. So it wouldn't need a prohibitively long path, it used a cylindrical magnet to bend particles into a circular path. A hollow, circular metal box was split into two halves so that each had the shape of the letter D. Whenever a particle crossed the gap between the D's, it triggered a reversal of polarity so the particle would be given an accelerating boost. FTP name this high-energy particle accelerator, invented in the 1930's by Ernest O. Lawrence.

Answer: cyclotron

8. This man's ideal city design, described in his book *Urbanism*, involved huge skyscrapers distant from one another in a park-like landscape featuring wide boulevards and separate zones for work, residence and leisure, a concept he called The Radiant City. He got a chance to put the theory to work in his design of the planned city of Chandigarh in India. Better known for his buildings in France, like Notre Dame du Haut, FTP who was this Swiss-born architect, born Charles-Edouard Jeanneret, who called his residences "machines for living in"?

Answer: Le Corbusier

9. His father and namesake, as superintendent of the New Jersey State Police, played a leading role in the Lindbergh baby kidnapping case. The son, commander of a battalion of the Americal Division in Vietnam, was deputy commander of the Joint Task Force that carried out the 1983 invasion of Grenada. FTP name this general, who retired in July 1991 shortly after he successfully commanded U.S. and UN forces in the 1991 Gulf War.

Answer: H. Norman **Schwarzkopf**

10. The name's the same. Following US government reparations to black people, this fictional character on *Chappelle's Show* quickly replaced Bill Gates as the world's richest man, after he won a big game of dice. Later, after being arrested for trafficking in cocaine, he appeared before Congress and pled the Fifth. The movie by this name, released in 1982, was produced by Disney and stars Jeff Bridges and Bruce Boxleitner, who must take part in gladiatorial fights inside of a computer. The movie inspired a video game of the same title, where you have to drive your bike in such a way that you don't crash into the other guy's trail. FTP, give the shared four-letter name.

Answer: **Tron**

11. After moving from Chicago to New York, this author dropped out of college and became an editor of Paul Robeson's magazine *Freedom*. When her husband, Robert Nemiroff, had a pop hit with his song "Cindy, Oh Cindy!" she was able to dedicate herself to writing full time, though she only finished two full-length dramas, the second being *The Sign in Sidney Brustein's Window*, before dying from cancer in 1965. FTP name this author best known for depicting the life of the Younger family in her play *A Raisin in the Sun*.

Answer: Lorraine **Hansberry**

12. The US commanding officer at this June 25 engagement divided his troops into three, with troops under his own command charging the enemy encampment, while those under Captain Frederick Benteen prevented escape and those under Major Marcus Reno pursued their enemy across the namesake river. Men led by the Cheyenne leader *Lame White Man* decimated Reno's troops, though Reno himself and a number of his soldiers escaped. Troops under Benteen and the commanding officer were not so lucky, with nearly every man killed, their bodies mutilated in the belief that their souls would then walk the earth forever. Taking place in 1876, FTP what was this huge victory for Sioux and other warriors over forces led by George Custer?

Answer: **Little Big Horn** (prompt on "Custer's Last Stand")

13. It is dark grey to reddish or greenish brown on its back and sides and spotted with roundish white or yellow markings on its ventral surface. Like other members of its order, it has a wide mouth which is right at the front of its head, rather than slung underneath as in other species. Despite its common name, it is not a member of the class chondrichthyes. FTP growing up to 30-40 feet in length and weighing nearly 30,000 pounds, what is this largest fish on Earth?

Answer: **whale shark**

14. The grandson of a then-famous Jewish philosopher, he played piano for German novelist Wolfgang von Goethe as a teenager, and at age 15 wrote his first symphony. Unlike many of his contemporaries, he was unswayed by nationalist sentiment and found inspiration in such places as Italy and Scotland, composing the *Hebrides Overture* and both *Italian* and *Scottish Symphonies*. FTP name this composer whose most frequently played work today was written for *A Midsummer Night's Dream*.

Answer: Felix **Mendelssohn**

15. A 3rd century work recounts his missionary work in India, and a Coptic document discovered in Nag Hammadi in the 1940's is a Gnostic gospel attributed to him. The stance that distinguished him from his colleagues is described in John 20, verses 25-28. FTP name this early Christian, one of the Twelve Apostles, who until he was visited in person and invited to touch the wounds doubted the resurrection of Jesus.

Answer: St. **Thomas**

16. He published his theory of evolution in 1809, the same year that Charles Darwin was born. He was in charge of the invertebrate collection at the Natural History Museum in Paris, and used the fossils there to determine the mechanism of evolution through adaptation. His main assertion was that body parts used extensively would become larger and stronger, while those which were not used would deteriorate and disappear, and that all of these modifications could be passed down from one generation to the next. FTP, name this early proponent of evolution, who is now ridiculed for his assertion that acquired characteristics are inherited.

Answer: Jean Baptiste **Lamarck**

17. During the Riff Rebellion of Abd-el-Krim he fought with the Spanish Foreign Legion in Morocco, rising to its command by the rebellion's end in 1926. Following the 1931 overthrow of the monarchy, he was removed as head of the military academy and transferred first to the Balearic Islands, then to the Canary Islands. With fellow generals Mola, Sanjurjo, and Goded he led a right-wing revolt in 1936. FTP name this general and dictator, officially head of state in Spain from 1939 till his death in 1975.

Answer: Francisco **Franco** [Francisco Paulino Hermengildo Teodoro Franco-Bahamonde, for the record]

18. Her first big break happened when a friend told her that a music manager was taking a tour at her company. Unable to leave her sister and with no driver's license or parents in the house, she stole her neighbor's golf cart and made her way down to meet him. After signing with that manager, she joined Hanson on tour in Summer 2000. In December of that year, she came out with her first major label release, "The Spirit Room". She won "Best Pop Collaboration with Vocals" at the 2003 Grammys. FTP, name this singer/songwriter with hits like "Everywhere", "All You Wanted", and "The Game of Love"

Answer: Michelle **Branch**

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

Answer: **Venezuela**

20. Mourning her father, this character says "Oh, I was fond of misery with him! Even what was most unlovely grew beloved when he was with me." Her betrothed, Haemon, kills himself after his father's sentence on her is carried out. She is punished after she ignores the edict of the king, despite the entreaties of her sister, Ismene. FTP what title character buries her brother Polynices and is condemned to live burial in a Sophocles drama?

Answer: **Antigone**

21. Its massive summit crater, 1.5 miles across, is called Kibo. The highest point on Kibo, and thus on its continent, is Uhuru. This extinct volcano has a second, smaller cone, called Mawenzi, which is the third highest mountain on its continent. This is, FTP, what mountain in Tanzania that the band Toto described "rising like an empress above the Serengetee"?

Answer: Mount **Kilimanjaro**

22. His tombstone in Yonkers, New York reads, "I Still Trust the People." We would assume he means the American people at large, and not more specifically the good people of the special election commission that decided his fate. He was the clear winner of the popular vote, but the electoral results of, among other places, Florida were in question. Imagine that. The aforementioned commission voted along party lines and the election was given to the Republican. Four years later, in 1880, this man declined to run again. FTP name this reform-minded Democrat who disappeared from public life after the victory of his opponent, Rutherford B. Hayes.

Answer: Samuel **Tilden**

1. Identify the following organelles from a description of their function FTPE.

A. Protein synthesis from mRNA.

Answer: ribosomes

B. Packaging and transport of proteins and other molecules from the ER to the rest of the cell.

Answer: Golgi apparatus (or body or complex)

C. Vacuoles containing enzymes which break down toxins and other unwanted cellular substances.

Answer: lysozymes

2. Stuff about the 1787 Constitutional Convention FTPE.

A. The large-state plan, advocated originally by Madison, was known as this state's plan.

Answer: Virginia

B. The small-state plan, submitted by William Paterson, was known as this state's plan.

Answer: New Jersey

C. Though he later became the first Attorney General, this Virginian refused to sign the constitution as a delegate from Virginia.

Answer: Edmund Randolph

3. FTPE, name these stories of Nathaniel Hawthorne.

(10) This story tells of the townspeople's reactions to the title object worn by Rev. Hooper.

Answer: The Minister's Black Veil

(10) The protagonist wanders into the forest at night and comes upon a Witches Sabbath which includes his own wife.

Answer: Young Goodman Brown

(10) In this story, Georgiana's husband kills her trying to remove the title object from her body.

Answer: The Birthmark

4. A rhapsody may be defined loosely as an "enthusiastic musical composition of indeterminate form." FTPE identify the following rhapsodies.

a. Nineteen rhapsodies by composer Franz Liszt used this title, of which Number 2 is the most famous.

Answer: Hungarian Rhapsodies

b. Sergei Rachmaninoff composed a series of variations in the form of a rhapsody, based on the works of this Italian violinist.

Answer: Niccolo Paganini

c. This piece varies constantly in style between a sweet ballad, a pseudo-operatic midsection which features interplay between the lead vocal and a solo piano, and harmonized, heavily layered vocals against a rock background. It was first released on Queen's album *A Night at the Opera* in 1975.

Answer: Bohemian Rhapsody

5. Answer the following about Friedrich Nietzsche FSNOP.

A. (10 pts.) Freddy's first book, it championed the music of Richard Wagner as emblematic of one of its central opposing tendencies in Greek myth.

Answer: *The Birth of Tragedy from the Spirit of Music*

B. (5 pts. each) In *The Birth of Tragedy*, these are the opposing strains in Greek thought, one showing order, logic and structure, the other chaos, emotion, and entropy. Hint: they're named for two Greek deities.

Answer: Apollonian and Dionysian (any order)

C. Nietzsche's attempt at biography, and including excellent chapter titles like "Why I Am So Clever," this work takes its title from words reputedly said by Pilate when presenting Christ to the mob.

Answer: Ecce Homo

6. Answer the following about that big year in English history, 1066, FTPE.

A. This ruler died early in 1066, leading to a crisis of succession.

Answer: **Edward the Confessor**

B. Harold Hardrada, who claimed the throne as a descendant of Canute, was ruler of this country.

Answer: **Norway**

C. Hardrada was defeated at Stamford Bridge by this Anglo-Saxon, who a few weeks later got served by William of Normandy.

Answer: **Harold I** (or **Harold Godwinson**)

7. Identify these terms from electromagnetic theory for 10 points each.

A. This is a law, one of Maxwell's equations, named for the scientist who gave his name to the SI unit of current.

Answer: **Ampere's Law**

B. This quantity can be calculated using Ohm's law, dividing voltage by current, but it is only constant when other variables like temperature are constant

Answer: **Resistance**

C. This is different from resistance because it is characteristic of a material, not a specific sample of material. It still measures the same thing, essentially the difficulty of current flow in a conductor.

Answer: **Resistivity**

8. We'll give you a quote from the South Park world, you give us the name of the character for 10 pts.

Impersonations are welcomed, but not worth any extra points.

"Move along now, there's nothing to see here"

Answer: Officer **Barbrady**

"Drugs are bad, mmkay?"

Answer: Mr. **Mackey**

"Hooooooooooooooooowdy-ho!"

Answer: Mr. **Hankey** the Christmas Poo

9. Given a function, tell whether it is odd, even, or neither FTPE:

[10] y equals 1

Answer: **even**

[10] y equals x cubed minus 1

Answer: **neither**

[10] y equals sine of x

Answer: **odd**

10. There are more things in heaven and earth than are dreamt of in your philosophy...because your philosophy sucks. Given a Shakespearean insult, name the play for fifteen. If you need a more famous quote, you'll get ten.

(15) "I would not have suck a heart in my bosom for the dignity of the whole body."

(10) "It is a tale told by an idiot, full of sound and fury, signifying nothing."

Answer: **Macbeth**

(15) "Your bedded hair, like life in excrements, start up and stand on end."

(10) "Good night sweet prince, and flights of angels sing thee to thy rest."

Answer: **Hamlet**

11. FTPE identify these Florentine Renaissance artists from clues.

a. Though critics regard his Gattamelata Equestrian statue and his The Feast of Herod altarpiece as quite well-done, this sculptor's fame rests with his gentle, prepubescent bronze David.

Answer: **Donatello**

b. He meant his "Disputation on the Christian Sacrament" as a companion piece to its much more famous pagan counterpart, "The School of Athens," which he also painted.

Answer: **Raphael**

c. He considered "Primavera" his masterpiece, but we know him better for "Birth of Venus," which the question writer's art teacher used to call "Venus on the Half-Shell."

Answer: Sandro **Botticelli**

12. Click your heels and say, "There's no place like home. There's no place like home....What?!? NARNIA?!? How the heck did we get here?" Oh well, answer these questions about the land created in the mind of C.S. Lewis FTPE:
- (10) He is the son of the Emperor over the Sea. At the beginning of time, he sang Narnia into existence.
 Answer: **Aslan**
- (10) During the golden age of Narnia, he was the High King at Cair Paravel. Mostly because he killed Maugrim, the White Witch's chief wolf. Oh, and also, because he is the oldest of the four Pevensies.
 Answer: **Peter**
- (10) It is the land directly to the south of Narnia. During *The Horse and His Boy*, Shasta discovers that he is not a poor Calormene fisherman's son, but actually Prince Cor, the heir to the throne of this country.
 Answer: **Archenland**
13. Stuff about prohibition FTPE:
- A. Prohibition became the law of the land with the passage of this constitutional amendment.
 Answer: **18th**
- B. This congressional act put teeth into the 18th amendment by enacting enforcement provisions and sentencing guidelines.
 Answer: **Volstead Act**
- C. Along with the Anti-Saloon League, this women's prohibition group founded in 1874 strongly influenced passage of the 18th amendment.
 Answer: **Women's Christian Temperance Union (or WCTU)**
14. Given the chemical species, name the VSEPR [pronounced *vesper*] geometry, 5-10-15:
- [5] ammonia
 Answer: **trigonal pyramidal**
- [10] xenon tetrafluoride
 Answer: **square planar**
- [15] diamminesilver one (one indicates the charge of the silver ion)
 Answer: **linear**
15. Answer the following about a period of Japanese history FTPE.
- A. This term refers to the reintroduction imperial rule in Japan that took place in the second half of the 19th century.
 Answer: **Meiji Restoration**
- B. The Meiji Restoration is often defined as beginning with the 1868 overthrow of this shogunate.
 Answer: **Tokugawa Shogunate**
- C. This Meiji emperor took power from the last shogun in 1868 and moved his capital to Tokyo in the following year.
 Answer: **Mutsuhito**
16. Given a crime novel by Sue Grafton, complete its letter-themed title FTPE. For instance, if I said "A is for...", you'd say "Alibi".
- A. "C" is for...
 Answer: **Corpse**
- B. "K" is for...
 Answer: **Killer**
- C. "N" is for...
 Answer: **Noose**
17. Name these cities associated with Aeneas FTPE.
- Aeneas was a native of this city, and would have succeeded Priam had it not been destroyed.
 Answer: **Troy**
- Vergil's *Aeneid* describes Aeneas' role in the founding of Lavinium, the precursor to this city founded by two brothers.
 Answer: **Rome**
- While on the way to Italy, Aeneas became distracted by Dido, who was queen of this city in North Africa.
 Answer: **Carthage**

18. Name these parts of your heart FTPE.

A. This is the triple-layered sac that surrounds and protects your heart.

Answer: pericardium

B. Located in the right atrial wall this structure sends impulses that stimulate contractions; that's why it's often referred to as your heart's "pacemaker."

Answer: sinoatrial node

C. These two valves prevent blood from flowing backward into the heart.

Answer: semilunar valves

19. 30-20-10 Name the American novelist from works (not all listed are novels).

A. (30 pts.) *Barbary Shore*; *The Deer Park*

B. (20 pts.) *Advertisements for Myself*; *The Armies of the Night*

C. (10 pts.) *The Naked and the Dead*; *Executioner's Song*

Answer: Norman Mailer

20. Identify these muckrakers FTPE.

A. Her *History of the Standard Oil Company* exposed many illegal and monopolistic practices.

Answer: Ida Tarbell

B. This Danish immigrant's photographs of NY slum life in *How the Other Half Lives* caused much outrage.

Answer: Jacob Riis

C. This dude exposed political machines and rackets in his *The Shame of the Cities*.

Answer: Lincoln Steffens

21. Answer these questions about that forgotten nation, Macedonia, FTPE.

A. First, what is Macedonia's capital?

Answer: Skopje (SKOPE-yuh)

B. Within two, in what year did Macedonia declare independence from a faltering Yugoslavia?

Answer: 1991 (acc. 1989-93)

C. Roughly a quarter of Macedonia's population belongs to this ethnicity, which shares its name with the nation neighboring it to the west.

Answer: Albania(ns)