

1. A close friend of poet Federico Garcia Lorca, he was expelled in 1926 from the Academia de San Fernando for stating that no faculty member was competent to judge his work. He subsequently traveled to Paris, where he met Picasso, before collaborating with filmmaker Luis Bunuel on the 1929 film *An Andalusian Dog*. Panned by many surrealists for his acceptance of the Franco dictatorship, he completed his final work, *The Swallow's Tail*, in 1983. FTP identify this surrealist, whose works include *Exploding Raphaelesque Head*, *Fried Eggs on the Plate without the Plate*, and several variations on *The Persistence of Memory*.

Answer: Salvador Dali

2. The class Concentricycloidea is a recently discovered division of this phylum. Originating during the Lower Cambrian Period, all members have a mesodermal endoskeleton and a radial nervous system with no brain. All members also exhibit, during at least one portion of their lives radial symmetry, and members use a water vascular system for locomotion. The largest phyla with no representative land species, FTP, name this phylum that includes sea urchins and starfish.

Answer: Echinodermata

3. Its first chapter is simply titled, "I Am Born." After a happy early childhood at Blunderstone Rookery, the title character's mother marries the cruel Edward Murdstone, who beats him until one day the boy bites Murdstone's hand. For this he is sent to Mr. Creakle's school, where his friend Steerforth protects him. As a man he first marries Dora Spewlow, but eventually ends up with the angelic Agnes Wickfield. Also featuring the kindly Micawber, who exposes the wrongdoings of Uriah Heep, FTP this is what novel by Charles Dickens?

Answer: David Copperfield

4. A city official named Robert Hubert claimed to be responsible for this event in an open court, though it was ascertained that it had begun accidentally in Pudding Lane. Chief Magistrate Thomas Bludworth did nothing to take command of the situation, allowing the devastation of over 13,000 houses, 86 churches, and numerous other buildings. Lasting from September 1 through 6 of 1666, FTP what was this conflagration that allowed much of a large European city to be rebuilt?

Answer: Great London Fire

5. He recently turned down an offer to host the 2004 MTV Music Video Awards. He's considered by some to be an overnight success, but those who've followed his career for the past 10 years might disagree. He was a writer for the Dana Carvey show, but is better known for bit parts in the Nutty Professor, Con Air, Robin Hood: Men In Tights and starring turns in Half Baked and Screwed. FTP, name this racially charged star of a self-titled show on Comedy Central.

Answer: Dave Chappelle

6. Pencil and paper ready, you will have 15 seconds. FTP calculate the derivative of the cosine of the quantity x squared.

Answer: - 2 x sin (x^2) [READ: negative two x times the sine of the quantity x squared]

7. The German plan preceding it was originally codenamed "Watch on the Rhine" but was renamed "Autumn Mist" before taking place. On its second day soldiers of 1st SS Panzer Division machine-gunned nearly 80 American POWs in what has become known as the Malmedy Massacre. The German goal of quickly reaching the North Sea was quashed by steadfast defense led by the American 106th Infantry Division in the Ardennes. Beginning in December 1944, and ending in January 1945, FTP name this last-ditch German effort named for the effect it had on the Allied line.

Answer: Battle of the Bulge

8. Some of the images in the poem are stark – such as those of "a patient etherized on a table". The title character wonders if he dares to eat a peach or if he dares to disturb the universe. He says not to compare him to Hamlet, because he is a simpler man who measures out his life "in coffee spoons". Still, the poem always returns to the women who "come and go / talking of Michelangelo." FTP, what is this poem by T.S. Eliot?

Answer: The Love Song of J. Alfred Prufrock

9. This faction was organized during the reign of Herod the Great in opposition to his idolatry. In 6 CE, when Cyrenius, the Roman governor of Syria, attempted a census, they revolted under the leadership of Judas of Galilee and a priest named Zadok. For the next sixty odd years they sporadically revolted or attacked Jews whom they felt adopted Roman ways. So named for their fervent adherence to the Torah, FTP name this group finally destroyed by their mass suicide on the fortress of Masada whose name is now synonymous with one who displays excessive fervor.

Answer: **Zealots**

10. This compound is used in the Solvay process for the synthesis of sodium carbonate and in the Ostwald process for producing nitric acid. Also found in volcanic gases and produced in small amounts by organic decomposition, it's produced commercially by the Haber process. Its biggest commercial use is in fertilizers. FTP name this colorless gas with formula NH_3 , used in diluted form as a household cleaner, especially for glass.

Answer: **ammonia**

11. Founded in 1988 by Orv Madden, these 490 stores carry the latest in fashions from labels like Lucky 13, Lip Service, Caffeine, and its in-house label, Morbid Threads. It's probably best known for its quirkier and exclusive merchandise, such as Invader Zim and Gameskins. FTP, name this boutique whose motto is "Everything about the music".

Answer: **Hot Topic**

12. One of the Twelve Peers of France, little is known of him historically other than his leadership of the Breton Marches. His foil is his best friend and fellow Peer, Olivier, whose prudence contrasts with this character's boldness. Before his final battle, he selects Olivier and the Archbishop Turpin to fight with him, and though Olivier urges him to blow his Oliphant when he sees the number of Saracens on the battlefield, he refuses. Overwhelmed and killed at Roncevalles, FTP this is what title character of a famous French chanson, or song?

Answer: **Roland**

13. The man who first discovered that it was a planet called it "Georgium Sidus", after his patron, King George III. It had first been catalogued as a star in 1690 by John Flamsteed, and to this day only Voyager 2 in January of 1986 has visited it. It has 21 named moons, the biggest of which is Titania. FTP, what is this third largest planet in diameter, named for Greek god of the heavens and father of Cronos?

Answer: **Uranus**

14. After taking the oath of office, he said, "I feel as though the moon and all the stars and all the planets have fallen upon me. Please, boys, give me your prayers. I need them very much." Like his distant relative, John Tyler who was the first, he became the seventh vice-president to become president by succession. He fought in World War-I in France and married his childhood sweetheart, Bess Wallace. FTP, name this president who introduced the Marshall plan and made the decision to drop the atomic bomb on Japan to end World War-2.

Answer: **Harry S Truman**

15. A particularly wily one named Nessus offered to help Deianeira across the water while Heracles forded the stream on his own. After Heracles jumped on in, Nessus seized Deianeira and galloped off in the other direction. Crime does not pay, and Heracles shot him with a poisoned arrow. FTP name this creature whose blood is not itself poisonous, but because it had Hydra's blood mixed into it, it later caused Heracles' death.

Answer: **Centaur**

16. Some camps that one can find on the so-called "Normal Route" to the summit of this mountain include Canada, Berlin and Plaza del Mulas, where one can rent mules to carry baggage. Because it's possible to hike to the peak, inexperienced climbers often make the attempt, leading it to have one of the three highest death tolls of any mountain. Attempts to scale it begin with a bus ride from Mendoza to the resort of Puente del Inca. The 67th-highest in the world, FTP name this peak in Argentina that is the highest in the Western Hemisphere.

Answer: **Mt. Aconcagua**

17. He wrote operas like *Hercules*, *Atalanta*, and *Julius Caesar*, but it was in other forms that he found his métier. He went blind while composing the oratorio *Jephtha*, but he finished it, like he did the oratorios *Israel in Egypt* and *Saul*. A number of his pieces were written to entertain his fellow Hanoverian-turned-Englishman George I, including *Music for the Royal Fireworks* and *Water Music*. FTP name this composer whose oratorio *The Messiah* includes the "Hallelujah Chorus."

Answer: George Frideric Handel

18. At the age of 16, this man worked as a surveyor for Thomas, Lord Fairfax, on land in the Shenandoah Valley. After a trip to Barbados with his half-brother, Lawrence, he took a position as a major in the Virginia militia and traveled as part of a delegation to Fort LeBouef (la-buff) in Pennsylvania, delivering an ultimatum to French forces there to leave the area. Later, after a stint in the House of Burgesses and some noteworthy military exploits, he laid the cornerstone for the US Capitol Building in 1793. FTP, name this soldier, farmer and politician, known for his Farewell Address, which was never actually delivered, and for being the first president of the US.

Answer: George Washington

19. In the logistic map it occurs after an infinite chain of period-doublings, and it is characterized by a Lyapunov exponent greater than one. For ten points, name this condition of a dynamical system which is related to extreme sensitivity to initial conditions, the so-called "Butterfly Effect."

Answer: chaos

20. The protagonist of this novel intervenes when townspeople taunt an overworked mule, seeing it as symbolic of the way she thinks black men treat their women. After the protagonist is seen kissing Johnny Taylor when she's sixteen, her grandmother Nanny arranges for her to marry Logan Killicks, whom she doesn't love and eventually leaves for Joe Starks, who becomes mayor of Eatonville. She eventually finds true love with Tea Cake, but has to shoot him after he goes mad from a rabies-infected dog bite. So goes, FTP, the story of Janie Crawford in what novel by Zora Neale Hurston?

Answer: *Their Eyes Were Watching God*

21. This company's Lutine Bell was traditionally rung once for bad news about an overdue ship and twice for good news. It originated as a coffee house on the Thames in the late 17th century which was a gathering place for ship owners and investors looking for news about marine trade. Over time these wealthy men began to share the financial risks of shipping. FTP name this now-modern English company, the largest insurance firm in the world.

Answer: Lloyd's of London

22. The first authentic mention of this figure is in the 1145 chronicle written by Otto, the Bishop of Friesing. A century later a Franciscan friar described this leader destroying a Muslim force by creating men out of copper, filling them with Greek Fire, and sending them on horseback into the opponent's army. At times confused with actual rulers like Genghis Khan, because of the damage they inflicted on Islamic armies and empires, this fictional character's realm was thought to be in either India or Ethiopia. FTP name this legendary Christian prince thought to have a kingdom beyond the bounds explored by Europeans in the Middle Ages and Renaissance.

Answer: Prester John (or Presbyter John)

1. Provide the titles of these Tennessee Williams plays FTPE.

A. Laura Wingfield's unicorn is the prize piece of this titular collection.

Answer: The *Glass Menagerie*

B. Maggie helps Brick Pollitt come to terms with Big Daddy in this work.

Answer: *Cat on a Hot Tin Roof*

C. In this play Mrs. Venable discovers the awful truth of the slaughter of her son Sebastian at the hands of boys from whom he'd sought sexual favors.

Answer: *Suddenly Last Summer*

2. Name these elements on a 10-5 basis.

A. (10 pts.) Its mass number is 40, and its atomic number is 20.

(5 pts.) This element is important in muscle contraction.

Answer: calcium

B. (10 pts.) Its mass number is 127, and atomic number is 53.

(5 pts.) It is used as a starch indicator in biology.

Answer: iodine

C. (10 pts.) Its mass number is 200, and atomic number is 80.

(5 pts.) This element used to be used in thermometers.

Answer: mercury

3. FTPE name the female artist from a general description of their characteristic works:

a) Lots of cows' skulls and close-ups of flowers, especially irises, with lots of sexual imagery

Answer: Georgia **O'Keeffe**

b) Self-portraits that didn't hide her unibrow or her injured leg, sometimes also showing her husband, Diego Rivera.

Answer: Frida **Kahlo**

c) Rustic scenes of farm life and small town Americana, like *Sugaring Off*, which look like they were painted by a little old lady from the country with no formal training – well, in fact, they were.

Answer: Anna Mary Robertson "Grandma" **Moses**

4. Identify the Navy aircraft seen in a feature film. 10 points if all you need is a description, 5 if you need a nickname.

a. Participates in both fighter and attack roles. Will soon be replaced in favor of a cheaper model from McDonnell-Douglas. Made famous by the film *Top-Gun*.

5-point clue: Tomcat

Answer: **F-14**

b. Replacing the F-14, this will be the most revolutionary fighter to date. This was the aircraft was flown by Will Smith in *Independence Day*.

5-point clue: Hornet

Answer: **F/A-18**. Prompt on F-18

c. This large anti-submarine and patrol aircraft has recently been used to attack shore installations in the former Yugoslavia. If you looked closely in *The Hunt For Red October*, you would have seen it drop a torpedo on the Red October.

5-point clue: Orion

Answer: **P-3**

5. Answer the following about the Louisiana Purchase FTPE.

A. The treaty making the purchase was signed in what year?

Answer: **1803**

B. What two Americans, one the minister to France, the other a future president, negotiated the purchase with the French finance minister Barbe-Marbois (bar-BAY-mar-BWAH)?

Answer: Robert Livingston and James Monroe (any order)

6. Identify these ailments of the cardiovascular system FTPE each.

(10) Commonly called a heart attack, this term denotes the death of an area of heart tissue, usually caused by blockage of the coronary arteries.

Answer: **myocardial infarction** or **MI** [sorry, can't accept if they say "myocardial *infraction*"]

(10) This term denotes a weakening of a blood vessel, usually an artery. The rupture of the weakened blood vessel can cause stroke or sudden death.

Answer: **Aneurysm**

(10) This disease is caused by the thickening or hardening of the arterial walls. It is a major cause of heart attacks, aneurysms and strokes.

Answer: **Arteriosclerosis**

7. ID these works by Fyodor Dostoevsky FTPE.

A. This work's title character is Prince Myshkin, whose innocence and naivete get him sent to a sanitarium.

Answer: The **Idiot**

B. In this novel Raskolnikov is pursued by Porfiry Petrovich.

Answer: **Crime and Punishment**

C. Written in 1846, this was Dostoevsky's first novel, focusing on Russia's hard rural life.

Answer: **Poor Folk**

8. Sometimes you should just keep your mouth shut: identify these seers who came to bad ends FTPE.

A. This man warned the Trojans not to take in that horse built by the Greeks, so Poseidon sent a sea serpent to kill him and his sons.

Answer: **Laocoon** (Lay-uh-COH-un)

B. Apollo cursed this Trojan maid by giving her foresight, but not allowing anyone to believe her prophesies; she was butchered by Aegisthus and Clytemnestra along with Agamemnon.

Answer: **Cassandra**

C. After vainly urging Oedipus to drop his investigations into the death of King Laius, this seer eventually died after drinking from the spring of Tiphussa.

Answer: **Tiresias**

9. Identify these instruments found in an orchestra FTPE.

A. Twelve to sixteen feet of coiled brass, instruments in this family have 3-5 valves; in the US the main orchestra version is keyed in B-flat and has a range all below middle C.

Answer: **tuba**

B. Generally considered the most important woodwind in the orchestra, this 26-inch instrument is also the youngest; the B-flat and A varieties are most common.

Answer: **clarinet**

C. Played with fourteen-inch wooden sticks, this percussion instrument can have its pitch changed by a foot pedal.

Answer: **timpani**

10. While the Civil War officially began in South Carolina, the fighting there was nowhere near as important as the fighting in South Carolina during the Revolutionary War. FTPE:

(10) This guerrilla leader, known as "the Swamp Fox," proved to be a major thorn in the side of the British.

Answer: Francis **Marion**

(10) Two of the most important battles of the Revolution took place near Gaffney, S.C. – one in October 1780, the other in Jan. 1781. Name these battles FTPE, in no particular order.

Answers: **Kings Mountain** and **Cowpens**

11. Find the value of the dot product of the following vectors for ten points each.

(a) $1\mathbf{i} + 3\mathbf{j}$ and $-1\mathbf{i} - 2\mathbf{j}$

Answer: **-7**

(b) $2\mathbf{i} - 4\mathbf{j} + 2\mathbf{k}$ and $3\mathbf{i} + 2\mathbf{k} - 3\mathbf{j}$

Answer: **-8**

(c) $1\mathbf{i} + 2\mathbf{j} + \mathbf{k}$ and $2\mathbf{i} - \mathbf{j}$

Answer: **0**

12. Answer the following about the novel 1984 FTPE.

A. The novel's protagonist, is lured deeper into anti-government dealings by the double agent O'Brien, who's working for the Inner-Party.

Answer: Winston **Smith**

B. In what country does Smith live?

Answer: **Oceania**

C. Oh, all right. Who wrote 1984?

Answer: George **Orwell**

13. Name these London landmarks and tourist magnets FTPE.

A. This area dominated by the 185-foot Nelson column is the confluence of some of London's most congested streets; despite the name, it's really more of a circle.

Answer: **Trafalgar Square**

B. Sitting on the Western edge of congested Parliament Square is this religious building in which all monarchs from Henry III to George II are buried.

Answer: **Westminster Abbey**

C. This area of upscale shops and restaurants northeast of Trafalgar Square is home to the Royal Opera House, which is often referred to by the same name.

Answer: **Covent Garden**

14. Name these hormones for ten points each.

A. It is also called the anti-diuretic hormone because it controls the formation of urine by stimulating the kidney to reabsorb water. It also raised the blood pressure by constricting the blood vessels.

Answer: **vasopressin or pitresin**

B. Produced in the beta cells of the Islets of Langerhans of the pancreas, its principal function is to control the oxidation of glucose in the body.

Answer: **insulin**

C. This hormone is produced in the alpha cells of the Islets of Langerhans in the pancreas. It raises the blood sugar level, thus counteracting the effects of insulin.

Answer: **glucagon**

15. Identify these European explorers FTPE.

A. In 1513 this Spaniard saw the shores of the Pacific by making a land crossing from his Atlantic landing.

Answer: Vasco Nunez de **Balboa**

B. This Portuguese sailor was the first European to round the Cape of Good Hope, which he called the Cape of Storms.

Answer: Bartolomeu **Dias**

C. This Frenchman navigated the length of the Mississippi, claiming the area called Louisiana for France.

Answer: Robert **LaSalle**

16. Stuff about a certain Elizabethan playwright FTPE.

A. Almost hanged in 1598 for killing a man in a duel, this guy survived to write plays like Bartholomew Fair and The Alchemist. The Cavalier Poets liked to call themselves the "sons of" him.

Answer: Ben **Jonson**

B. Jonson's friend Bill Shakespeare was one of the actors in this play, which has characters whose personalities are phlegmatic, bilious, or sanguine.

Answer: **Every Man in His Humor**

C. Jonson is probably best known for this play, subtitled "the Fox."

Answer: **Volpone**

17. Answer the following about the electromagnetic force for ten points each.

(a) In electrostatics, this is the inverse square force law that the electric force obeys, and is named for the Frenchman who discovered it.

Answer: **Coulomb's law**

(b) The electromagnetic force is mediated by these fundamental particles.

Answer: **photon**

(c) The theory of the interaction of the electromagnetic field with matter, quantum electrodynamics, won three people the Nobel prize in physics in 1965. For ten points each, name any one of them.

Answer: Julian **Schwinger**, Shin'ichiro **Tomonaga**, or Richard Phillips **Feynman**

18. Answer the following about a home-grown school of philosophy FTPE.

A. Famously called a new name for an old way of thinking, this philosophical movement emphasized the usefulness of ideas as a test of their validity.

Answer: **Pragmatism**

B. First to use the term "Pragmatism," in an article titled "How to Make Our Ideas Clear," this man is considered the founder of the school.

Answer: C. S. **Peirce** (purse)

C. This American progressive used Pragmatic thinking to advocate "learning by doing" in works like The School and Society and Democracy and Education.

Answer: John **Dewey**

19. Name these Beatles songs from lyrics, FTPE.

A. Dear sir or madam, will you read my book? It took me years to write – will you take a look?

Answer: **Paperback Writer**

B. Asked the girl what she wanted to be. She said baby, can't you see? I wanna be famous, a star of the screen, but you can do something in between.

Answer: **Drive My Car**

C. Every now and then I feel so insecure. I know that I just need you like I've never done before.

Answer: **Help!**

20. Answer the following about the splitting of the Roman Empire FTPE.

A. Chosen by the army in 285 CE, what emperor chose to create a co-ruler of the empire in the East?

Answer: **Diocletian**

B. Whom did Diocletian select as his fellow Augustus?

Answer: **Maximian**

C. Diocletian also ordered that each emperor select a subordinate who would eventually succeed him; what term was used for this emperor-in-waiting position?

Answer: **Caesar**

21. Name the following related to zeroes FTP:

[10] Gauss formulated this theorem that says that each polynomials have a number of complex roots equal to its degree.

Answer: **Fundamental Theorem of Algebra**

[10] This theorem states that for a polynomial with leading coefficient p and constant term q has rational roots that are positive or negative fractions where the numerator is a factor of q , and the denominator is a factor of p .

Answer: **Polynomial Remainder** theorem or **Rational Root** theorem

[10] This rule states that, starting with the highest power, the number of sign changes in a polynomial equals the maximum number of positive roots it can have.

Answer: **Descartes' Sign** rule