

1. This dioecious gymnosperm with fan-shaped leaves can live as long as 1,000 years. Considered a living fossil, Westerners thought it extinct till it was found in Japan in 1691 by Engelbert Kaempfer. One near ground zero was the first tree to bud without major deformations after the bombing of Hiroshima. The Chinese use a tannin found in its seeds to cure hides, and its Chinese name means “silver apricot,” as its fruit is a shimmering white. Used as an herbal remedy for coughing and asthma, FTP, this is what tree whose biloba variety may combat Alzheimer’s Disease?

Answer: **ginkgo**

2. Many critics hold that this author’s best poems are ones which recreate imagined settings, like “The Deserted Garden” and “Bianca Among the Nightengales”. Her social awareness is seen in works like “The Cry of the Children” and her most ambitious work, “Aurora Leigh”, but she is best known for a collection of poems intended as a gift to her husband. FTP, who is this poet who penned the line “How to I love thee? Let me count the ways” in *Sonnets from the Portuguese*?

Answer: **Elizabeth Barrett Browning**

3. After graduating from Harvard he lost the family business through incompetence, then filled a vacancy in the Massachusetts legislative assembly in 1774. He wrote radical columns under the pseudonyms Candidus and Vindex, and he led colonial opposition to the Tea Act, culminating in the Boston Tea Party. Cousin to the second president, FTP, name this namesake of a modern American micro-brew.

Answer: **Samuel Adams**

4. This religion about 185,000 adherents today, with an estimated 20,000 of those in the U.S.; the modern-day followers are known as Parsees. They revere the forces of nature, especially fire, as manifestations of the power of the “Wise Lord” or Ahura-Mazda. FTP name this ancient religion that declined dramatically after the Islamic conquest in the 8th century AD of its native Persia.

Answer: **Zoroastrianism**

5. He was knighted in 1997, the same year his symphony *Standing Stone* premiered at Carnegie Hall; other major works include the *Liverpool Oratorio*. In 2001 he received his first solo Oscar nomination in the Best Song category for “Vanilla Sky”; he had earlier shared a nomination with his wife for “Live and Let Die.” The successful ten-year run of his group Wings was somewhat overshadowed by his earlier successes. FTP name this man, the bassist and half of the songwriting team behind the Beatles.

Answer: **Paul McCartney**

6. The plaintiff was a Louisiana resident who was traveling on a first-class ticket from New Orleans to Covington, Louisiana. Though only one of his great-grandparents was of African descent, the conductor noticed his difference and told him he had to leave the white section of the train. After the plaintiff refused, he was jailed. This sparked, FTP, what Supreme Court case which established the “separate but equal” doctrine?

Answer: **Plessy v. Ferguson**

7. The first step in a proof that demonstrates this theorem shows that the quantity x plus y obviously equals the quantity of x plus the quantity of y . The second step in proving this theorem involves assuming the theorem works for k and showing that the combinatorial identity of k plus one choose one gives the appropriate coefficient of x and y , which also happen to appear in Pascal’s Triangle. FTP--name this theorem that allows you to expand x plus y the quantity raised to the n .

Answer: **binomial theorem**

8. Connected to the Pacific Ocean by the Juan de Fuca Strait, this body of water is entered through the Admiralty Inlet, extending south in two arms for 100 miles. Home to a naval shipyard at Bremerton, it is home to several important deepwater ports, including Port Townsend, Everett, and Tacoma. Named for the aide to George Vancouver who first explored it, FTP, what is this sound on which Seattle can be found?

Answer: **Puget Sound**

9. They were originally called condensers, and a displacement current flows in the interior until they reach equilibrium. They can be made more effective by inserting a dielectric, and their electric fields store energy equal to the charge squared divided by the voltage. The total charge on one of these devices is generally zero, and the electric field in the interior is essentially constant for large area and small separation. The most common example consists of two parallel metal plates. FTP name these electronic devices with two conductors storing charge proportional to the applied voltage.

Answer: **capacitor**

10. Although it was published in 1831, this novel is set in 15th-century Paris. It has been adapted for the big screen four times: first in 1923 with Lon Chaney in the leading role, and most recently in 1996. The novel's central characters include Phoebus, Clopin, and Frollo. FTP name this Victor Hugo novel, the story of a gypsy woman named Esmeralda and a bell-ringer named Quasimodo.

Answer: The **Hunchback of Notre Dame**

11. You could call him a whiz kid: He was seven years old when he deliberately urinated in his parents' bedroom, prompting Dad to remark, "That boy will never amount to anything." In the 1884 essay *Über Coca*, he cheerfully admitted trying cocaine "some dozen times" and doubted that it is addictive. FTP, name the Viennese Jew who, in collaboration with Joseph Breuer, treated Anna O. and in 1900 published *The Interpretation of Dreams*.

Answer: Sigmund **Freud**

12. He shares his full name with two other painters, a father and son of minor success as landscape painters in the 18th century. Settling in Barbizon in 1849, he became associated with the Barbizon School more by friendship and proximity than by a shared style. "The Sower" and "The Angelus" are noteworthy examples of his unidealized depictions of peasant life. FTP name the French artist whose best-known work is "The Gleaners."

Answer: Jean Francois **Millet**

13. This leader imprisoned Aleksandr Radishchev for his "A Journey from Petersburg to Moscow", while Nikolay Novikov was jailed for publishing the satirical journals "The Drone", "The Painter" and "The Purse", but was released later by Czar Paul. Establishing the Russian frontier on the Black Sea coast and gaining Ukrainian land long-held by Poland, this leader's early liberalism, seen in the intended reforms of the "Nakaz", or "Instruction", were replaced by conservatism after the revolt of Emelyan Pugachev and the French Revolution. FTP, who was this later 18th century Russian empress, known as "the Great"?

Answer: **Catherine II or Catherine the Great**

14. As surfactants, or wetting agents, they are very compatible with aqueous ions and are resistant to both acids and alkalis. In the middle pH ranges, they become molecules with two ionic groups of opposite charge, called Zwitterions. Water fits the definition, because it can donate or accept a proton. FTP what are these substances which can act as either an acid or a base?

Answer: **amphoteries** (acc. amphoprotic; accept Zwitterions before said, as up to there it's true)

15. Based on the real-life story of the Lost Woman of San Nicolas, this novel has a lesser-known sequel, *Zia*, in which the protagonist's niece tries to rescue her. The natives of the title place board ships to escape Aleutian seal hunters, but Karana goes back to the island to find her brother, only to find he's been eaten by dogs, so she has to fend for herself. This describes, FTP, what Newberry-medal winning novel by Scott O'Dell?

Answer: **Island of the Blue Dolphins**

16. Among those who rejected his notions was Anaxagoras, who posited instead that matter was composed of an infinite number of unique particles. He was himself disputing the notions of Thales, Anaximenes, and others who believed in one universal substance. Anticipating modern physics, he explained change as the result of changes in proportions of the essential components of matter. FTP name this Greek philosopher who asserted that air, water, fire, and earth were the four elements that made the universe.

Answer: **Empedocles**

17. Co-written by *Head of the Class* co-stars Dan Schneider and Brian Robbins, it is the story of Jason Shepherd and his best friend Kaylee. They head to Los Angeles in a convoluted revenge plot against Marty Wolf, the man who stole Jason's class assignment and made it into a hit movie, one which shares its name with this film. Costarring former baseball commissioner's son Paul Giamatti and Nick's Amanda Bynes, FTP, name this 2002 film, starring Frankie Muniz.

Answer: ***Big Fat Liar***

18. Chert, chalk, and dolomite are examples. Composed of geologically reworked materials, they make up only five percent of the uppermost ten miles of the Earth's crust, but they compose nearly 75% of the Earth's exposed surface. FTP what is this type of rock created by the deposition of materials in a typically linear pattern?

Answer: **sedimentary rock**

19. As a teen he was too young to serve in World War II but worked in an airplane factory. He formed the Tatekonai, or Shield Society, stressing martial arts and the samurai code as a way to reinforce Imperial ideals. He traced the decline of those ideals in his tetralogy *The Sea of Fertility*. FTP name this Japanese author, born Kimitake Hiraoka, whose other works include *The Sound of the Waves* and *The Sailor Who Fell from Grace with the Sea*.

Answer: **Mishima Yukio** [Western-style reverse order OK too]

20. W. H. Auden wondered what "huge imago" affected this man in the poem, "September 1, 1939." The theory that he was a coprophile was floated in a psychobiography of him titled *The Psychopathic God*, but Allan Bullock's *A Study in Tyranny* is considered more reliable, if a drier read. FTP, identify this man, bosom buddy of Rudolf Hess and the author of the two-volume best-seller *Mein Kampf*.

Answer: **Adolf Hitler**

21. Initially designed by Marvin Glass as a toy, Ideal asked him to rework it as a game. Up to four players roll dice and move around the board. Landing on special places allows you to add components, such as a staircase, bathtub, drainpipe, washbasin, stop sign, set of gears, and a tall post. The ultimate goal was to assemble the complete machine while amassing pieces of cheese. FTP, identify this Rube Goldberg-inspired board game in which you attempt to capture the other rodents.

Answer: **Mousetrap**

22. Highly influential comedies of this type were written by Herodas in the 3rd century BCE, while ribald ones were produced by Sophron of Syracuse. Combining dialogue with dancing and suggestive gestures, the church attempted to suppress it due to its frequently lewd nature, but it was kept alive by wandering players, with traces surviving in Mystery Plays and Dumb Shows. FTP, what was this form of comedy whose name now describes the act of Marcel Marceau?

Answer: **mime**

23. It is the only composite number that divides 252, and it is also the Euler totient of seven. It is the smallest positive perfect number, and it is also the area of right triangle with a hypotenuse of five. FTP identify this integer, the number of sides on a hexagon.

Answer: **six**

1. As of Tuesday (4/9) Barry Bonds was still 7th on the career home runs list, but at the rate he's going he may have moved up a notch by tournament time. Given the total homers and teams played for, name the top 6 (for now) F5PE:

a) 755; Milwaukee/Atlanta Braves and Milwaukee Brewers

Answer: Henry "Hank" **Aaron**

b) 714; Boston Red Sox, New York Yankees, and Boston Braves

Answer: George Herman "Babe" **Ruth**

c) 660; New York/San Francisco Giants and New York Mets. By the way, he's Bonds' godfather.

Answer: Willie **Mays**

d) 586; Cincinnati Reds, Baltimore Orioles, L.A. Dodgers, California Angels, Cleveland Indians. This year he's managing the Montreal Expos.

Answer: Frank **Robinson** [prompt on Robinson]

e) 583; Oakland Athletics and St. Louis Cardinals

Answer: Mark **McGwire**

f) 573; Washington Senators and Minnesota Twins

Answer: Harmon **Killebrew**

2. FTPE answer these questions about genetics:

a) Also called the binomial law or distribution, this principle states that in an infinitely large, randomly mating population, in the absence of selection, migration, and mutation, the frequencies of alleles and genotypes do not change from generation to generation.

Answer: **Hardy-Weinberg** law or equilibrium or distribution

b) Let's assume that black fur is a dominant trait over white fur in guinea pigs. If two heterozygous guinea pigs mate, what percentage of their offspring would be expected to have white fur?

Answer: **25%** or **_** (accept equivalents)

c) Not to be confused with genetic drift, this is the alteration in a population of the frequencies of alleles of particular genes resulting from interbreeding with organisms from another population having different frequencies.

Answer: **gene flow**

3. Name the European authors of the following short stories FTPE.

(A) "The Lady with the Pet Dog"

Answer: Anton **Chekhov**

(B) "The Necklace"

Answer: Guy de **Maupassant**

(C) "The Nose" and "The Overcoat"

Answer: Nikolai **Gogol**

4. Answer the following about a 1956 international crisis FTPE.

a) Britain and France conspired with Israel to take this man-made body of water by force after the new Egyptian president nationalized it.

Answer: **Suez Canal**

b) This Egyptian president, who had seized power from King Farouk in 1948, nationalized the Suez Canal.

Answer: Gamel Abdel **Nasser**

c) After the Suez Crisis, the Soviet Union became Nasser's major financial backer on what major dam he wished to build on the Nile?

Answer: **Aswan High Dam**

5. OK, this time the opera composers **are** Italian. FTPE name the composers of the following:

a) William Tell and The Barber of Seville

Answer: Gioacchino **Rossini**

b) Aida and La Traviata

Answer: Giuseppe **Verdi**

c) Pagliacci

Answer: Ruggiero **Leoncavallo**

6. Given the founder of an American denomination or religious tradition, tell what they founded FTPE:

a) Charles Taze Russell

Answer: **Jehovah's Witnesses** (or Watchtower Bible and Tract Society for the truly picky)

b) Mary Baker Eddy

Answer: **Christian Science** or Christian Scientists or Church of Christ, Scientist

c) L. Ron Hubbard

Answer: **Scientology**

7. Identify the Shakespearean play from which the following well-known quotes come FTPE.

a) "O, beware, my lord, of jealousy:/It is the green-ey'd monster"

Answer: **Othello**

b) "Let it work;/For 'tis the sport to have the engineer/Hoist with his own petard"

Answer: **Hamlet**

c) "Yet I do fear thy nature,/It is too full o'the milk of human kindness"

Answer: **Macbeth**

8. A circuit contains a 10 volt battery connected in series to a 2 ohm resistor and a 3 ohm resistor. Calculate the following quantities FTSNOP. Give your answers in SI units.

5) What is the equivalent resistance of the circuit?

Answer: **5 ohms**

5) What is the current in the circuit?

Answer: **2 amperes** or 2 amps

10) What is the total power dissipated in the circuit?

Answer: **20 watts**

10) What is the combined voltage drop across the two resistors?

Answer: **10 volts**

9. FTPE, name these people who got whacked at the Alamo.

a) One of the two joint commanders of the Alamo, this man was ill during the siege and played little role in the event.

Answer: **Jim Bowie**

b) Due to Bowie's illness, this other commander of the Alamo was the effective leader during the siege.

Answer: **William Travis**

c) Originally serving under Jackson in the Creek War, this adventurer gained fame for his humor and backwoods manner as a Congressman from Tennessee. After turning from politics he joined the Texas revolt, and was killed at the Alamo.

Answer: **Davy Crockett**

10. Identify these games for Xbox from a description FTP each.

a: Mr. Burns bought all of Springfield's buses, and it's up to all of the citizens of town to turn their cars into cabs to raise money to buy back the buses before it's all too late in this racing game.

Answer: **Simpsons Road Rage**

b: This sci-fi shooter puts you on an alien ring world fighting off mankind's sworn enemy, the Covenant.

Answer: **Halo**

c: The title character is a fugitive undercover cop framed for murder who is being hunted by cops and the mob in the midst of a blizzard in New York City.

Answer: **Max Payne**

11. Identify the ancient battles from a brief description FTP each.

(A) In this 31 BC naval battle off north-western Greece, Agrippa defeated the joint forces of Cleopatra and Antony.

Answer: **Actium**

(B) Heavily-armored Greeks under Militades slaughtered Persian archers led by Datis in 490 BC.

Answer: **Marathon**

(C) In two successive engagements, forces of the Second Triumvirate overwhelmed Caesar's assassins.

Answer: **Philippi**

12. Look for a list of classics of science fiction, and you may be surprised at some of the authors who turn up there.

Name the following authors on a 10-5 basis:

a) 10 pts.: His *The Lost World* predated *Jurassic Park* as a glimpse of dinosaurs on the rampage in modern times.

5 pts.: Much to his own chagrin, he's better known as the creator of Sherlock Holmes.

Answer: Sir Arthur Conan **Doyle**

b) 10 pts.: She wrote the utopian 1915 novel *Herland* about a female-dominated society.

5 pts.: You may be more familiar with her unsettling short story "The Yellow Wallpaper."

Answer: Charlotte Perkins **Gilman**

c) 10 pts.: His play *Back to Methuselah* traces the path of mankind from Adam and Eve to a world 30,000 years in the future, where humans become bored with the opposite sex and instead take up mathematics. Did I mention it's a comedy?

5 pts.: His other noted plays include *Major Barbara* and *Pygmalion*.

Answer: George Bernard **Shaw**

13. Identify the scientist from clues on a 30-20-10 point basis.

(30) He invented a calculating instrument called a sector, and showed that the forces affecting the flight of a bullet are mathematically measurable.

(20) By timing the rolling of round leaden balls down an inclined plane, he developed theories concerning the relationship between speed, time, and distance.

(10) He may have whispered "E pur si muove" at his public confession.

Answer: **Galileo** Galilei

14. Identify these 19th century French paintings from descriptions FTPE or from the artist for 5:

a) 10 pts.: The artist sits painting in the center with a nude woman standing at his back. The studio is filled with people.

5 pts.: Gustave Courbet [coor BAY]

Answer: The **Artist's Studio**

b) 10 pts.: The title ruler looks bored laying on his bed while his men slaughter slaves all around him and a terrified horse rises up in the lower left.

5 pts.: Eugene Delacroix [del la CWAH]

Answer: The **Death of Sardanapalus**

c) 10 pts.: The musculature of the starving men is emphasized, and one of them at the top of the painting frantically waves a shirt trying to hail a passing ship for rescue.

5 pts.: Theodore Gericault [JERICHO]

Answer: The **Raft of the Medusa**

15. One of the prototypes used to test the space shuttle design was the Enterprise, but it never actually made it all the way into space. For 5 points each or 30 for all 5 correct, name the 5 U.S. shuttles to fly into space.

Answers: (in any order): **Columbia, Challenger, Atlantis, Discovery, Endeavor**

16. Given its formula, name the common alkane FTPE.

a) CH₄

Answer: **methane**

b) C₃H₈

Answer: **propane**

c) C₈H₁₈

Answer: **octane**

17. Identify the U.S. President from clues on a 30-20-10-5 basis:

30- After he picked Claude Brinegar, his Secretary of Transportation to act as a liaison to Catholic Cardinals, Claude told him without irony that "The L.A. Rams are my team, Mr. President." Another memorable personnel choice was rejected Supreme Court nominee G. Harrold Carswell, later arrested for propositioning a vice squad officer in a men's room.

20- This honors graduate of Whittier College finished third in his class at Duke Law School. He used vigorous smear campaigns to unseat first Rep. Jerry Voorhis, then Sen. Helen Gahagan Douglas.

10- Perhaps his most ill-fated personnel decision was the choice of Spiro Agnew as his running mate. Agnew was later found to have taken kickbacks from state construction projects and was forced to resign the Vice Presidency.

5 - When the House Judiciary Committee voted to recommend impeachment, he avoided the almost-certain trial by resigning the presidency of the United States on August 9, 1974.

Answer: Richard Milhous **Nixon**

18. Convert the following numbers from base ten to the given base FTPE.

a) 56 base 10 to base 8

Answer: 70

b) 125 base 10 to base 2

Answer: 1111101

c) 23 base 10 to base 12

Answer: 1B

19. Given a list of characters he or she created, name the author FTPE.

Clym Yeobright, Gabriel Oak, Angel Clare

Answer: Thomas **Hardy**

Max Demian, Joseph Knecht, Harry Haller

Answer: Herman **Hesse**

Ursula Brangwen, Paul Morel, Oliver Mellors

Answer: D. H. **Lawrence**

20. Name the capitals of these African countries, FTPE.

1. (10 points) Sudan

Answer: **Khartoum**

2. (10 points) Zambia

Answer: **Lusaka**

3. (10 points) Mozambique

Answer: **Maputo**

21. Answer the following about logic F15PE:

A. This law states that for every statement, P , either P is true, or $not-P$ is true, though it is possible that both are true.

Answer: law of the **excluded middle** (accept the related law of **bivalence**)

B. This law states that for every statement P , you cannot have both P and $not-P$ be true.

Answer: law of **non-contradiction**