

1. The title character sharpens quills in the office of the Director. He reads in one of Madgie's letters to Fidele that Sophie, the Director's daughter, loves a Guards officer. The Grand Chancellor turns out to be the Grand Inquisitor, who beats Poprishchin on Februarius the thirtieth when he tries to save the Moon from being mounted by the Earth. FTP, name this short story by Gogol with entries dated Year 2000, April 43, and Martober 86.

Answer: Diary of a Madman

2. Both types are formed from parenchyma cells that develop the capacity to divide. The yearly activity of one type results in annual growth rings, while the other type produces protective tissues to replace lost epidermis. Separated by the living phloem, one type produces secondary xylem and phloem while the other produces cork. FTP, name these lateral meristems which function in secondary growth.

Answer: cambium

3. The image of St. Margaret is carved on a high chairback near the center, while a pair of slippers lie in the bottom left corner and a small brown dog appears in the bottom center. Giovanna Cenami appears in a green dress, while the artist almost certainly appears wearing a turban, one of two men who can be seen in the convex mirror on the back wall. Their function as witnesses is reinforced by the inscription 'Johannes de eyck fuit hic'. FTP name this Jan van Eyck wedding portrait.

Answer: Arnolfini Wedding portrait or Arnolfini Marriage portrait or The Betrothal of the Arnolfini or The Marriage of Giovanni Arnolfini and Giovanna Cenami (accept reasonable equivalents)

4. His paper "Arithmetic by Smell" described how he trained himself to forget what numbers mean and assigned numerical values to odors. He investigated the geographical distribution of beauty and the effectiveness of prayer, and determined that mental imagery is distributed in accordance with the normal curve. He applied statistical concepts to problems of heredity in his book Hereditary Genius, which was the most interesting and original book his cousin Darwin said he'd read. FTP, name this founder of eugenics.

Answer: Francis Galton

5. He directed the Presidential campaigns of John F. Kennedy, Lyndon Johnson, Robert F. Kennedy and Hubert H. Humphrey. He also served as Postmaster General under Johnson, and chaired the Democratic National Committee in the late 60's and early 70's. After his political career he transitioned into sports, winning the Sporting News "Sportsman of the Year" in 1976 while NBA commissioner. FTP name this man for whom the NBA Championship Trophy is named.

Answer: Larry O'Brien

6. The title creature is told to "Fade far away, dissolve, and quite forget/ What thou among the leaves has never known," and is addressed as a "light-winged Dryad of the trees", who "singest of summer in full-throated ease." The source of Fitzgerald's title Tender is the Night, the speaker tells us that "My heart aches, and a drowsy numbness pains/ My sense, as though of hemlock I had drunk"; he dreams of his end, but asserts, "Thou wast not born for death, immortal Bird!" FTP, name this Keats poem about the titular bird.

Answer: Ode to a Nightingale

7. This remote city was home to the apadana, or great audience hall, and the hall of a hundred columns. It was the site of rituals celebrating the vernal equinox, where representatives from the satrapies came to pay tribute. Located about

300 miles southeast from the administrative capital at Susa, its construction began during the reign of Darius the Great. FTP name this home of the Persian imperial treasury.

Answer: **Persepolis**

8. Proposed in a letter to Lord Rothschild by Lloyd George's foreign secretary on November 2, 1917, its goal was attained 31 years later. Incorporated by the League of Nations into the British mandate in Palestine, in 1939, it was abrogated by Neville Chamberlain's government in order to reduce Arab resentment and violence. FTP, name this idea that secured support by world Jewry for the allied war effort by promising a national home for the Jewish people.

Answer: **Balfour Declaration**

9. They are sometimes called the olefin series, and they can be produced by cracking petroleum or, like ethers, by dehydration of alcohols. They must have at least two carbon atoms, and like cycloalkanes have general formula  $C_nH_{2n}$ . FTP, name these hydrocarbons distinguished by a double covalent bond between two carbons.

Answer: alkenes

10. When Kashyyk was conquered, these natives were declared fair game for slave trade. Their traditional weapons include the bowcaster. If you play a game of dejarik against one, you should let your opponent win, since they have been known to rip off people's arms when they lose. On the way home from Diorama-rama, Ralph Wiggum tripped and bent his. FTP, name these large furry aliens whose most famous representative is Chewbacca.

Answer: Wookies

11. The protagonist returns to his home country, taking such odd jobs as keeping a circus cat which is capable of counting, and running an insane asylum with his former friend the Traveller, having left Paris after the disappearance of his mistress, La Maga. Of the 155 chapters, the last 99 are extraneous to the plot and are included partly to provide a second scheme for reading the novel in which the reader begins with Chapter 73. FTP, name this novel about Argentine writer Horacio Oliveira, the masterpiece of Julio Cortazar.

Answer: Hopscotch or Rayuela

12. It was the name of a house of German nobles who were dukes of Saxony and Bavaria. They were rivals of the Hohenstaufens, and the name was first used in Florence to designate supporters of Otto IV. After they succeeded in expelling their rivals from Florence at the end of the 13th century CE, they soon split into Blacks and Whites. FTP, name this political faction opposed to the Ghibellines.

Answer: Guelphs

13. TWO ANSWERS REQUIRED: Teachers, be nice to your students, and it might pay off. This professor of mathematical physics at Leyden helped a prize pupil land a position there. The teacher clarified Maxwell's electromagnetic theory of. His theoretical work was confirmed when his protégé discovered that when a ray of light from a source placed in a magnetic field is examined spectroscopically, the spectral line splits into several components. FTP name these two men, co-winners of the 1902 Nobel Prize for Physics.

Answers: Hendrik **Lorentz** & Pieter **Zeeman**

14. In the section The Four Great Errors, the author lists the error of confusing cause and effect, the error of a false causality, the error of imaginary causes, and the error of free will. Other sections include The Problem of Socrates, and How the "True World" Finally Became a Fable. The final part, a dialogue between a diamond and a piece of charcoal, is taken from Thus Spake Zarathustra, and is titled The Hammer Speaks. FTP, name this Nietzsche essay.

Answer: Twilight of the Idols Or How One Philosophizes With a Hammer or Gotzendämmerung

15. The finale contains a motif which resembles Three Blind Mice, and the opening of the fourth movement sounds somewhat like the theme to Jaws. A famous English horn solo in second movement provided the theme for the hymn Goin' Home. The second and third movements supposedly contain material from a planned opera based on The Song of Hiawatha. The composer later stated that it was in fact not based on indigenous American music. FTP, name this ninth symphony of Antonin Dvorak.

Answer: From the New World Symphony (accept Dvorak's Ninth before the end of the question)

16. His student Paul Langevin deduced a formula correlating paramagnetism and absolute temperature. With his brother Jacques, he discovered piezoelectricity, and he found that permanent magnets lose their magnetization above his

namesake temperature. With his more famous partner he discovered, by fractionations of pitchblende, the elements uranium, polonium, and radium. FTP name this husband of Marie Sklodowska.

Answer: **Pierre Curie**

17. Victor Rosewater, disguised as Christian Jorgensen, is married to Mimi, the divorced wife of the title character. The title character, an eccentric inventor, has actually been dead for some time, and his bones are found below his shop, buried with a fat man's clothes, a lame man's stick, and a belt marked D. W. Q. The lawyer Macaulay murders Clyde Wynant, explaining why it's so hard to catch a glimpse of him. Between wisecracks and drinks, Nora and Nick Charles solve the mystery in, FTP, what Dashiell Hammett novel?

Answer: **The Thin Man**

18. He proved the fundamental theorem of infinite Abelian groups, but spoke out against Weierstrass's continuous non-differentiable function and Cantor's work, saying "God made the natural numbers; all else is the work of man." The Kronecker symbol is an extension of the Jacobi symbol to all integers, and is essentially the only type of real primitive character. The permutation tensor is a generalization of, FTP, what man's delta function, which is 1 for equal indices and 0 otherwise?

Answer: **Leopold Kronecker**

19. The English infantry, drawn up in open lines, were routed by Colonel Johnson's cavalry. The British troops under Proctor were retreating from Fort Malden, but were convinced to make a stand at Moraviantown near the namesake river. Following shortly after Perry's victory in the Battle of Lake Erie, this William Henry Harrison victory saw the death of Tecumseh. FTP, name this 1813 battle that did not take place anywhere near London.

Answer: **Battle of the Thames** (accept **Battle of Moraviantown** before mention in the question)

20. According to a Tahiti 80 song, things are made to have this property. William Hazlitt once stated that only words do this. The universe will, if it turns out to be open. In *Gentlemen Prefer Blondes*, Anita Loos states that a diamond and sapphire bracelet has this advantage over kissing your hand. According to Guns n Roses, nothing does, even cold November rain. FTP, things that will endure to eternity will do what?

Answer: **last forever or lasts forever**

21. He passes beneath the mountain Mashu after encountering the Scorpion People, and arrives at the tavern of Siduri the divine barmaid. This son of Lugalbanda and Ninsun the Wild Cow is two-thirds a god and one-third man. He and his companion slay the guardian of the Cedar Forest and the Bull of Heaven. He tries to become immortal with the help of Utnapishtim, and spurns Ishtar. FTP name this companion of Enkidu, a Sumerian hero.

Answer: **Gilgamesh**

22. The title character accuses himself of catching a flea while praying and pinching it to death with too much anger. Madame Pernelle cites Orante as an example of a virtuous woman, and Cléante cites Ariston and Polydore as examples of true pietists. The title character tries to seduce Elmire and is sent to prison because Louis XIV is an enemy of fraud. FTP, name this Moliere play in which Orgon is fooled by the title character's religious fervor.

Answer: **Tartuffe**

23. He killed his brother-in-law with an antler. According to some myths, at Ragnarok he will put out Surt's eye with an antler before Surt kills him. When he sat on Hlidskialf he fell in love with the giantess Gerda, and to win her he had to give away his magic sword. Other possessions include the golden boar Gullinbursti and the ship Skidbladnir. The son of Njord, FTP name this handsome Vanir, the brother of Freya.

Answer: **Frey or Freyr**

1. Identify the following about important people named Bertha, FTPE.

10) Bertha von Pappenheim was the real name of this famous patient of first Breuer and then Freud.

Answer: **Anna O.**

10) Bertha of the Big Foot, also called Queen Goosefoot, was the mother of Charlemagne by this Carolingian king.

Answer: **Pepin the short** or **Pepin III**

10) Baroness Bertha von Suttner won the first of these in 1905, and was influential in convincing the namesake to create a prize in the category.

Answer: **Nobel peace prize**

2. Identify the following useful things from electrodynamics, FTPE.

10) This principle states that the total force, the electric field, and the electric potential at any point are the sum of the individual contributions of all source charges.

Answer: **superposition**

10) This law is equivalent to Coulomb's Law together with the principle of superposition. In integral form, it relates the flux through a closed surface to the enclosed charge.

Answer: **Gauss' Law**

10) This equation can be obtained from the differential form of Gauss' Law. It relates the Laplacian of the potential to the local charge density, and reduces to Laplace's equation in free space.

Answer: **Poisson's equation**

3. Identify the Shakespeare play from quotes, 30-20-10.

30) "The lunatic, the lover, and the poet/ Are of imagination all compact."

20) "To bring in—God shield us!—a lion among ladies is a most dreadful thing; for there is not a more fearful wildfowl than your lion living, and we ought to look to it."

10) "Ill met by moonlight, proud Titania." "What, jealous Oberon! Faeries, skip hence."

Answer: **A Midsummer Night's Dream**

4. Identify these signers of the Declaration of Independence and the U.S. Constitution 5-10-15.

5) He was the oldest signer of the Constitution, from the state of Pennsylvania.

Answer: **Benjamin Franklin**

10) This Connecticut delegate served on the committee to draft the Declaration, and helped to shape the constitutional bicameral legislative branch.

Answer: **Roger Sherman**

15) This Pennsylvanian worked closely with Robert Morris in financing the revolution. He was appointed to the Supreme Court by Washington and served nine years.

Answer: **James Wilson**

5. Name the following French artists from paintings on a 15-5 basis.

15) The Lictors Bring Home To Brutus The Bodies Of His Sons, Madame Julie Recamier

5) Death of Marat, Oath Of The Horatii

Answer: **Jacques-Louis David**

15) The Sleepers, The Peasants Of Flagey Returning From The Fair

5) Stonebreakers, Burial At Ornans

Answer: **Jean Desire Gustave Courbet**

6. Identify the following associated with Pangaea, 5-10-15.

5) It joined with Gondwanaland about 275 million years ago to form Pangaea.

Answer: **Laurasia**

10) This universal ocean surrounded Pangaea. It was the ancestor of the Pacific Ocean.

Answer: **Panthalassa**

15) This oldest known supercontinent formed about 1100 million years ago and broke apart about 750 million years ago. Eventually the fragments came together to form Pangaea.

Answer: **Rodinia**



7. "When it came night, the white waves paced to and fro in the moonlight, and the wind brought the sound of the great sea's voice to the men on shore, and they felt that they could then be interpreters."
- 10) First, for ten points, this is the last line of what Stephen Crane short story?
- Answer: **The Open Boat**
- 10) Of the four men in the boat, this is the only one who dies during the story, drowned while trying to swim through the surf.
- Answer: **the oiler or Billie**
- 10) This character, who represents Crane, shares rowing duties with the oiler.
- Answer: **the correspondent**
8. Varus lost 3 Roman Eagles in the disastrous defeat at Teutoberg Forest in 9 CE. FTPE:
- 10) Who was emperor at the time of the loss?
- Answer: **Gaius Julius Caesar Augustus Octavianus (grudgingly accept Octavius or Octavianus or Octavian, do not prompt on non-underlined parts of name, e.g. "Julius Caesar")**
- 10) This man was emperor when the last of the Eagles was recovered. The first two Eagles had been recovered by troops under his brother's command.
- Answer: **Tiberius Claudius Drusus Nero Germanicus (do not prompt on non-underlined parts of name)**
- 10) Name Claudius's older brother, who led the raids which recaptured the first two Eagles.
- Answer: **Gaius Caesar Augustus Germanicus (do not prompt on non-underlined parts of name)**
9. Name the Beatles album from songs FTPE.
- 10) Dear Prudence, Happiness Is A Warm Gun, Everybody's Got Something To Hide Except Me And My Monkey
- Answer: **The Beatles or The White Album**
- 10) Only a Northern Song, Hey Bulldog, March of The Meanies
- Answer: **Yellow Submarine**
- 10) I Want You (She's So Heavy), You Never Give Me Your Money, Carry That Weight
- Answer: **Abbey Road**
10. Given a 3-4-5 triangle, calculate the following quantities FTPE. [READER: Allow 10 seconds per part.]
- 10) The diameter of the circumscribed circle.
- Answer: **5**
- 10) The diameter of the inscribed circle.
- Answer: **2**
- 10) Dropping an altitude from the right angle to the hypotenuse splits the triangle into two smaller similar triangles. What is the ratio of the sides of these two smaller triangles?
- Answer: **3:4 or 4:3**
11. Name these Felix Mendelssohn compositions, FTPE.
- 10) On his Grand Tour, Mendelssohn wrote the opening notes of this overture in a letter home, but it took him another year to complete it. Its original title, "The Lonely Island", refers to a renowned spot in Scotland.
- Answer: **The Hebrides Overture in B minor or Fingian's Cave or Opus 26**
- 10) Mendelssohn composed incidental music for this Racine play based on II Kings 11. It is named for the woman who orders all her grandchildren to be killed, only to be put to death by the priest Jehoiada, who has also blessed Joash, her grandson who was hidden from her wrath.
- Answer: **Incidental music to Athelie or Opus 74**



10) Unfinished at the time of his death, this opera was to have been based on the German tale of a beautiful woman who sings on a mountain by the Rhine, luring sailors to death on the rocks below. Its *Ave Maria* is sometimes performed today.

Answer: **Loreley** or **Opus 98**

12. Name the following Greek deities FTPE.

10) This goddess of discord wasn't invited to the wedding of Peleus and Thetis. Feeling insulted, she threw a golden apple bearing the words "to the fairest," indirectly leading to the Trojan War.

Answer: **Eris**

10) This brother of Thanatos and father of Morpheus was the Greek god of sleep.

Answer: **Hypnos**

10) The first-born of the Olympians, both Apollo and Poseidon wished to marry this goddess of the hearth, but she swore to remain unmarried.

Answer: **Hestia**

13. Identify these things from the chemistry of solutions FTPE.

5) Coined by Faraday, it describes a water-soluble substance that forms ionic solutions that conduct an electric current.

Answer: **electrolyte**

5) This ion has formula  $\text{H}_3\text{O}^+$ .

Answer: **hydronium**

10) This law states that the vapor pressure of a solvent is proportional to the solvent's mole fraction. It is the basis for the colligative properties of solutions.

Answer: **Raoult's Law**

10) In this theory each ion in a solution is surrounded on average by more ions of opposite charge than of like charge, making the ion activity less than that expected on the basis of the number of ions known to be present.

Answer: **Debye-Hückel theory**

14. Name these members of Warren G. Harding's Cabinet FTPE.

10) This Secretary of State had previously run for President and would later become Chief Justice of the Supreme Court.

Answer: **Charles Evans Hughes**

10) This Secretary of Agriculture's son of the same first name would later hold the same position and serve as Vice President of the United States.

Answer: **Henry Cantwell Wallace**

10) This Secretary of the Navy sold western oil reserves and was charged with neglect of duty, leading to his resignation.

Answer: **Edwin Denby**

15. Born around 610 BCE, she was a lyric poet who wrote of the circle of women who surrounded her. FTPE:

10) Name this poet for whom an aeolic meter is named.

Answer: **Sappho or Psappho**

10) This Latin poet of the 1st century BCE translated one of Sappho's poems, adding an enigmatic stanza to the end.

Answer: **Gaius Valerius Catullus**

10) Give the name that Catullus used for his mistress Clodia when writing, probably a nod to the name of the island of Sappho's birth.

Answer: **Lesbia**

16. Name these parts of the pancreas, FTP each.

a. These patches produce glucagon and insulin.

Answer: **islets of Langerhans**

b. The various digestive enzymes are produced in these cells that cluster like grapes.

Answer: **acinar cells**

c. This large duct collects pancreatic juice & enzymes and empties into the duodenum.

Answer: **duct of Wirsung**

17. Name the following archangels FTPE.

10) In Christian theology, he is the leader of the celestial armies. His day is September 29.

Answer: **Michael**

10) In Muslim theology, he was the angel of death. He serves as Allah's messenger.

Answer: **Azrael**

10) One of the principal angels in Jewish theology, in the apocryphal book of Tobit, he tells Tobias how to drive Asmodeus away. He was sent to warn Adam of his danger.

Answer: **Raphael**

18. Time to test some of your non-Xanth Piers Anthony knowledge. There are seven novels in Anthony's Incarnations of Immortality series. FFPE, name any six. You have ten seconds.

Answer: For Love Of Evil, With A Tangled Skein, Bearing An Hourglass, On A Pale Horse, Wielding A Red Sword, Being A Green Mother, And Eternity

19. Name these works of Italo Calvino, FTPE.

10) This novel's about You and the mysterious other reader, Ludmilla. In between the characters' attempts to find the rest of a book they both want to read are 10 parodies of the beginnings of modern novel types.

Answer: If on a Winter's Night a Traveller or Se una notte d'inverno un viaggiatore

10) This novel records a conversation between Marco Polo and Kublai Khan, in which the explorer describes a series of the title locations, each characterized by a unique quality.

Answer: The Invisible Cities or Le città invisibili

10) Amazon.com describes it as "An enchanting series of stories about the evolution of the universe. Calvino makes characters out of mathematical formulae and simple cellular structures. They disport themselves amongst galaxies, experience the solidification of planets, move from aquatic to terrestrial existence, play games with hydrogen atoms -- and have time for a love life."

Answer: Cosmicomics or Las Cosmicomicas

20. Name these battles won by a famous father-son pair of French officers, F15PE.

15) Francois Christophe de Kellermann led the republicans against the armies of Brunswick in this 1792 victory of Revolutionary France, saving Paris and the brand new democracy.

Answer: Valmy

15) Francois Etienne de Kellerman led the cavalry charges that carried the day in this 1800 battle, a victory for Napoleon against the Austrians in northern Italy.

Answer: Marengo

21. Name the following things associated with animal learning, F15PE.

15) This law, enunciated by Thorndike, states that acts that produce satisfaction in a given situation become associated with that situation; when the situation recurs, the act is likely to recur.

Answer: Law of effect

15) Tolman rejected Thorndike's law of effect, positing that learning consists of building up these constructs, consisting of patterns of sign Gestalts. Experiments with cross-shaped mazes and latent learning seem to confirm this view.

Answer: cognitive maps

22. Name the following pioneers in the study of DNA FTPE.

10) Their studies of nutritional mutants of red bread mold led this pair to propose the one gene-one enzyme hypothesis. They shared a Nobel Prize with Lederberg in 1958.

Answer: George Beadle and Edward Tatum

10) With MacCleod and McCarty, in 1944 he demonstrated that Griffith's transforming principle in bacterial transformation is DNA.

Answer: Oswald Avery

10) Using samples of *E. coli* cultured on a medium containing a heavy isotope of nitrogen, this pair provided experimental confirmation of semiconservative nature of DNA replication.

Answer: Matthew Meselson and Franklin Stahl