

Tossups

1. A group at Oxford University implemented Deutsch's algorithm in a quantum computer based on the NMR of this molecule, thanks to its two amine and one amide groups. Discovered in 1894 by Albrecht Kossel, it differs from two similar molecules in that it only contains one carbonyl group. It is inherently unstable and can spontaneously de-amininate into uracil. FTP, name this pyrimidine base that, in DNA or RNA, forms three hydrogen bonds with guanine.

Answer: Cytosine (prompt on 'C')

2. In chapter eleven of part three of this work, the narrator recalls a time when he got drunk, fell asleep in a public bathroom, and woke up covered in feces. He has this recollection in a movie theater in Detroit, where he has traveled from New York in a Cadillac limousine with Dean Moriarty, his pseudonym for Neal Cassady. Ostensibly narrated by Sal Paradise and originally written on one long roll of paper, FTP, name this work in which the United States is crossed multiple times with multiple adventures, a classic Beat work by Jack Kerouac.

Answer: On the Road

3. Only a small number of people in the royal family supported his claim to the throne, but he gained it anyway with the help of his general Uriyangqadai, before proceeding to defeat his brother, Arik Boke, who had previously taken over for his other brother Mongke. He battled Kaidu, the grandson of Ogodei, for power while he tried to conquer the disintegrating Song dynasty. Supposedly visited by Marco Polo, FTP, name this grandson of Genghis Khan who began the Yuan dynasty in China.

Answer: Kublai Khan or Khubilai Khan

4. One figure of this name, born in Locris, was considered a successful warrior until his ship was destroyed by Poseidon following his rape of Cassandra. The other, who fought in the same war, was the second-most powerful hero of the Greeks thanks to his hammer, although he came to a tragic end after slaughtering a flock of sheep he thought were Odysseus and his men following a dispute over Achilles' armor. FTP, give the name shared by these two heroes of the Trojan war, usually referred to as the Lesser and the Great.

Answer: Ajax

5. In one formulation, power can be calculated as the product of this quantity and angular speed. Equal to the product of moment of inertia and angular acceleration, it is also the derivative of angular momentum. The sum of these, also called moments, acting on an object must sum to zero for it to be in static equilibrium, and it is more commonly calculated as the cross product of a force and the distance between the point of force and a fulcrum. Measured in Newton-meters or foot-pounds, FTP, name this rotational analogue of force, symbolized tau.

Answer: torque

6. This country contains the Dogon and Mandingue plateaus, and its highest altitudes are the cliffs near Bandiagara. It has many neighbors, including Algeria, Burkina Faso, The Cote D'Ivoire, Guinea, and Mauritania, as well as the namesakes of its two major rivers – the Senegal and the Niger. Formerly called French Sudan, its current name comes from the empire that occupied it until the middle of the 17th century. FTP, name this African republic that contains the ancient city Timbuktu, now with its capital at Bamako.

Answer: Republic of Mali

7. He fought in the Mexican-American and Seminole wars before taking his most well-known post. Born in Spain, he did not see the United States until he was 13, but three years after that he entered West Point. He was promoted from Captain to Brigadier General after the start of the Civil War, and was given command of the V Corps after his actions at Fredericksburg. The next year, he took over the Army of the Potomac from Joseph Hooker. FTP, name this man who defeated Robert E. Lee at the battle of Gettysburg.

Answer: George Gordon **Meade**

8. He has seen someone wearing all of his clothes at the same time. once claimed to be moving to Yemen to avoid his on and off again girlfriend Janice, and stated that he does not wish to spend his entire adult life worrying about the WENUS. He almost had an affair while being stuck in Tulsa over Christmas, but he later quit that job to go into advertising at the behest of his wife, who he began seeing at the London wedding of Emily and Ross. FTP, identify this former roommate of Joey and husband of Monica on *Friends*, played by Matthew Perry.

Answer: **Chandler** Bing

9. Some of his early works include *Madonna Solly* and a *Marriage of the Virgin* inspired by a work of his teacher, Pietro Perugino. He painted a notable depiction of Galatea for a home of Pope Leo X, whom this artist also created a portrait of with cardinals. The influence of Leonardo is clear in his *Madonna of the Meadows*, and two of his best known works were commissioned for the Stanza della Segnatura. FTP, name this Renaissance artist of the *Disputa* who also created a work featuring the likes of Euclid, Plato, and Aristotle – *The School of Athens*.

Answer: **Raphael** Sanzio or **Rafaello** da Urbino

10. Pencil and paper ready, 15 seconds. Using the Old Testament value of 3 as the value of pi, FTP, determine how many square cubits of paint are needed to paint 2 coats onto a right cylinder 3 cubits high with a radius of two cubits.

Answer: **120** square cubits of blood paint

11. It was opposed by Edwin Montagu, then Secretary of State for India, as well as Hussein bin Ali. Incorporated into the Treaty of Sévres, it was later clarified by a famous White Paper. Actually drafted by Alfred Milner, it was first expressed in a letter to Lord Walter Rothschild regarding the dissolution of the Ottoman Empire. Associated with the efforts of Nahum Sokolow and Chaim Weizmann, FTP, name this document from the namesake British Foreign Secretary that supported “the establishment in Palestine of a national home for the Jewish people.”

Answer: **Balfour** Declaration or Letter

12. At one point, the vagabond Champmathieu is mistaken for this character, who had been going by the name of Father Madeleine in the town of Montreuil-sur-Mer (mon-TROY sir mare). Bishop Myriel shows him kindness after he was released from 19 years in prison, where his number was 24601. He was later imprisoned again but escaped by jumping into the sea, after which he purchased Fantine's daughter Cosette from Thenardier. Constantly chased by Inspector Javert, FTP, name this protagonist of Victor Hugo's *Les Misérables*.

Answer: Jean **Valjean**

13. It is the older of the two main sects of its religion, and is most popular in Sri Lanka and Southeast Asia. It emerged from Vibhajjavāda, which in turn emerged from Sthavira around the time of the Third Buddhist Council. It accepts the Pali canon, and its ideal is the arhat, a perfected saint who finds enlightenment on his own. Meaning 'The Way of the Elders,' FTP name this branch of Buddhism that is not Mahayana.

Answer: **Theravada** or **Sthaviravāda**

14. This is the name of a 650-mile long river that flows from Brazil into the Paraná River, and the Mississippi River was originally called this. The best known river with this name begins in the San Juan Mountains and runs near White Sands National Monument. The distinction that this river is best known for was once held by the Nueces River. Cities along it include Socorro, Truth or Consequences, Las Cruces, Albuquerque, and El Paso. FTP, name this 1,800 mile long river that serves as the boundary between Texas and Mexico.

Answer: **Rio Grande**

15. Its name comes from the Latin for 'title' or 'inscription', and was in large part developed and improved during the 18th and 19th centuries by Gay-Lussac and Mohr. Eriochrome Black T is often used in the complexometric type, while the acid-base type of this procedure makes use of the Henderson-Hasselbalch equation. Its endpoint is called the equivalence point, usually found with a visual indicator after adding a known amount of reagent to the reactant from a buret. FTP, name this process of determining the concentration of a solution.

Answer: **titration**

16. She wrote the novels *Lodore* and *Falkner*, and her most critically acclaimed work described a plague wiping out the human race in *The Last Man*. Her *History of a Six Week's Tour* was a record of her travels after eloping with her husband, whose *Posthumous Poems* she published. Her best known work, subtitled "The Modern Prometheus," was famously inspired by a ghost-story writing contest. FTP, identify the author of *Frankenstein*.

Answer: **Mary** Wollstonecraft **Shelley**

17. He was known for his psychohistory works *Gandhi's Truth* and *Young Man Luther*. In his primary system of belief, espoused in works like *Childhood and Society*, he believed that humans went through several stages between birth and death, of which the first is hope and the last is wisdom. Each of the eight stages is marked by a personality conflict, such as initiative vs. guilt and integrity vs. despair. Known for coining the term 'identity crisis,' FTP name this German developmental psychologist, easily remembered since his first name is contained in his last name.

Answer: Erik **Erikson**

18. The Rev. Chasuble and Miss Prism carry somewhat hidden romantic feelings for each other in this work. Cecily Cardew thinks she has fallen in love with the made-up brother of one of the main characters, who is himself in love with Gwendolen, daughter of the snobbish Lady Bracknell, whose nephew Algernon describes his practice of 'Bunburying' to avoid certain situations. Eventually it is discovered that both Algernon and Jack Worthing were pretending to have the same titular first name, which belonged to neither of them in, FTP, this play by Oscar Wilde.

Answer: The **Importance of Being Earnest**

19. This work was inspired by a ballad by Goethe, which in turn was inspired by a Greek poem called *Philopseudes*. Written 100 years after Goethe's ballad, this symphonic poem was already well-known when inclusion in a certain 1940 Disney film pushed it to the height of its popularity. FTP, name this work by Paul Dukas (doo-KAH), best known from a scene in *Fantasia* in which Mickey Mouse makes magical mistakes in the title role.

Answer: The Sorcerer's Apprentice

20. Born in Vermont, he moved to Massachusetts, where he eventually worked his way up to governor. He became nationally known after intervening in the 1919 Boston Police Strike, and shortly thereafter became the 29th vice president of the United States. He famously responded to a bet made by a woman: "You lose." FTP name this man who defeated John Davis in the 1924 Presidential election, a 'Silent' man who had become the 30th US President after the death of Warren Harding.

Answer: John Calvin Coolidge, Jr.

21. He wrote all of the instrumentals for Probot, a group of 80's heavy metal vocalists whose CD was released in 2004, but this group is less well-known than either his second band, for whom he wrote the song "Scentless Apprentice," or his third band, for whom he wrote such songs as "For All the Cows," "Everlong," and "Learn to Fly." FTP name this erstwhile drummer for Nirvana and lead singer for the Foo Fighters.

Answer: Dave Grohl

Bonuses

1. Identify the author from plays 30-20-10 [Moderator: in case you have never encountered a 30-20-10, do not reveal the answer unless the team fails to answer correctly after the 10-point clue.]

[30] *Captain Brassbound's Conversion, You Never Can Tell, Androcles and the Lion*

[20] *John Bull's Other Island, Mrs. Warren's Profession, Arms and the Man*

[10] *Major Barbara, Man and Superman, Pygmalion*

Answer: George Bernard **Shaw**

2. Identify these "current" (make sure they know you just gave a really bad pun) physicists FTPE:
This Frenchman with a namesake law has the SI unit of electric current named for him.

Answer: Andre-Marie **Ampere**

This Italian is best known for developing the electric battery.

Answer: Alessandro **Volta**

This Serbian gave his name to the SI unit for magnetic flux density and developed the basis for AC motors.

Answer: Nikola **Tesla**

3. Identify these saints FTPE.

Best known for his escapades with a certain fire-breathing monster, this is the patron saint of England and Ethiopia.

Answer: Saint **George**

The patron saint of travelers, this man had his feast day eliminated in 1969 due to a lack of evidence that he actually existed.

Answer: Saint **Christopher**

One of the twelve apostles, this man was flayed alive in Armenia and then crucified upside-down.

Answer: Saint **Bartholomew**

4. Answer these questions about a naughty thing Japan did in the mid-20th century FTSNOP.

[10] This Japanese strategist planned the bombing of Pearl Harbor in late 1940.

Answer: Isoroku **Yamamoto**

[10] This man was emperor of Japan when Pearl Harbor was bombed.

Answer: **Hirohito** or **Showa**

[5-5] Name both Japanese cities on which atomic bombs were dropped for five each.

Answer: **Hiroshima** and **Nagasaki**

5. FTPE, name these Netherlandish painters.

This really famous guy is remembered for works like *Polish Rider* and the misnamed portrait of the militia company of Frans Banning Cocq, *The Night Watch*.

Answer: **Rembrandt** van Rijn

This 16th century 'Elder' is known for works like *Landscape with the fall of Icarus*, *The Triumph of Death*, and *The Peasant Wedding*

Answer: Pieter **Bruegel** the Elder

This Flemish artist was highly renowned in his day for works like *The Raising of the Cross*, *The Garden of Love*, and a series of works about Henry IV and Maria de Medici. He is also known for his depiction of plump women.

Answer: Peter Paul **Rubens**

6. FTPE, answer the following about a recent work of literature.

Its plot follows a 14th-century novice monk named Adso as he works with William of Baskerville to solve a murder mystery involving monks, books, and sex.

Answer: The **Name of the Rose**

This University of Bologna professor wrote *The Name of the Rose*, as well as *Foucault's Pendulum*.

Answer: Umberto **Eco**

At Bologna, Eco is a professor of this subject, which consists of the study of signs and symbols.

Answer: **semiotics** or **semiology**

7. Name these revolutionary war battles FTPE.

This American victory occurred directly after Washington's crossing of the Delaware.

Answer: The First battle of **Trenton**

This was the second battle of the war, and took place on the same day as the battle of Lexington.

Answer: The Battle of **Concord**

This battle saw General Cornwallis defeated by Washington and Greene and forced to retreat to New Brunswick, losing control of most of New Jersey for the Brits.

Answer: The Battle of **Princeton**

8. Pencil and paper ready, 15 seconds per part. Given two lines, compute their point of intersection FTPE.

$$y = 3x - 6 \text{ and } x = 3y - 6$$

Answer : (**3, 3**) or **x=3** and **y=3**

$$(y-4) = 3(x+2) \text{ [y minus 4 equals 3 times the quantity x plus 2] and } 3x + 2y = 2$$

Answer : (**-2, 4**) or **x=-2** and **y=4**

$$y = 2x - 3 \text{ and } 4x - 2y = 6$$

Answer: (**2,1**) or **x=2** and **y=1**

9. Identify these bands with something in common FTPE.

The members of this band, whose hit singles included "What's My Age Again," "All the Small Things," and "Adam's Song," recently split. One formed Angels & Airwaves and the other two formed +44.

Answer: **Blink-182**

This band's 1999 debut *Europop* featured their hilariously awful hit song "Blue."

Answer: **Eiffel 65**

This name can refer to an aircraft or this band who wrote "Rock Lobster" and 1989's "Love Shack."

Answer: The **B-52's**

10. Identify these economists FTPE.

This 1976 Nobel Prize winner was a contributor to the fields of consumption analysis and monetary theory, and is known for works like *Capitalism and Freedom* and *A Monetary History of the United States*.

Answer: Milton **Friedman**

This Princeton professor and 1994 Nobel laureate developed his namesake equilibrium applied to game theory.

Answer: John **Nash**

This British economist, whose most notable work is *General Theory of Employment, Interest, and Money*, has a subfield of macroeconomics named for him.

Answer: John Maynard **Keynes**

11. Name these elements from their atomic number and a property FTPE.

Number 29, this element turns green when burned.

Answer: Copper

Number 80, this is one of the few metals that are liquid at room temperature.

Answer: Mercury

Number 74, this element with an alternate German name has the second-highest melting point after copper.

Answer: Tungsten or Wolfram

12. Answer these questions about a recent work of American fiction FTSNOP.

[10] This book spawned a musical featuring Idina Menzel and chronicles the life of Elphaba from birth to watery death.

Answer: Wicked

[10] This New Yorker wrote *Wicked*.

Answer: Gregory Maguire

[5-5] For five points each, name any two of Maguire's other four novels, all but one of which have fairy-tale themes.

Answers: Mirror, Mirror; Lost; Confessions of an Ugly Stepsister; and Son of a Witch. [If The Watermark is guessed, observe that that novel has not yet been published and permit the team to guess another.]

13. Identify these people associated with the French Revolution by how they died FTPE.

He was beheaded on 10 Thermidor with 16 of his followers, ending his Reign of Terror.

Answer: Maximilien Robespierre

He was stabbed to death in the bathtub by Charlotte Corday.

Answer: Jean-Paul Marat

Her beheading in 1793 ensured that she would no longer eat cake.

Answer: Marie Antoinette

14. Identify these bad boys of Greek Myth FTPE.

This mortal tried to rape Hera but accidentally raped a cloud instead, giving birth to the centaurs.

Answer: Ixion

The Greek bandit Procrustes had an iron bed that he would make passersby fit to through various torturous means, until this hero reversed the roles and killed him.

Answer: Theseus

The satyr Marsyas challenged this god to a musical contest. This god obviously won and had Marsyas flayed alive and his skin nailed to a tree.

Answer: Apollo

15. Identify these things about Edvard Grieg FTPE.

A Norwegian, Grieg's most famous composition was written as incidental music for this play by Henrik Ibsen, another Norwegian.

Answer: Peer Gynt

This piece of incidental music by Grieg was written for the scene in *Peer Gynt* when Peer enters the castle of the king of the trolls. It famously increases in tempo and volume throughout its duration.

Answer: In The Hall of the Mountain King

Grieg's only completed concerto, the opening of which is included in sources as different as *Milo and Otis*, *How to Succeed in Business Without Really Trying*, and a 2004 Nike commercial, was written in A minor for this instrument.

Answer: Piano

16. Identify these very large or very small bones FTPE.

This is the largest bone in the body, and it connects the hip to the knee.

Answer: **femur**

This ear bone is the smallest in the body. Its Latin name is *stapes*.

Answer: **stirrup**

This second largest bone is the shin bone, and it touches the femur.

Answer: **tibia**

17. Identify these men from an illustrious American family FTPE.

This creator of the Standard Oil Company was worth \$1.4 billion when he died.

Answer: **John D. Rockefeller**

This grandson of John Rockefeller became the wealthiest ever vice president under Gerald Ford.

Answer: **Nelson** Rockefeller

This current West Virginia senator is a great-grandson of John Rockefeller, and the only remaining Rockefeller politician.

Answer: **Jay** Rockefeller [or **John D. Rockefeller IV**]

18. Identify these mountains, each the tallest in their respective countries.

Word on the street is that Zeus lives on this tallest mountain in Greece.

Answer: Mount **Olympus**

This second-highest mountain on Earth is shared between China, where it is not the highest mountain, and Pakistan, where it is.

Answer: **K2** or **Qogir** or Mt. **Godwin-Austen**

This highest mountain in Turkey is where Noah is supposed to have landed after the flood.

Answer: Mount **Ararat**

19. Identify these Japanese authors from a list of works FTPE.

Snow Country, The Master of Go, A Thousand Cranes

Answer: Yasunari **Kawabata** (for all parts, names can be given in either order)

Some Prefer Nettles, The Makioka Sisters, In Praise of Shadows

Answer: Jun'ichiro **Tanizaki**

In a Grove, The Spider's Thread, Rashomon

Answer: Ryunosuke **Akutagawa**

20. Name these philosophers who philosophized about education FTPE.

This man espouses many ideas on education to the titular boy in his book *Emile*.

Answer: Jean-Jacques **Rousseau**

This poet, better known for other writings such as his *Areopagitica*, also wrote a tract called *On Education*.

Answer: John **Milton**

This pragmatist wrote a lot of works about education, including *The School and Society*, *Experience and Education*, and *Democracy and Education*.

Answer: John **Dewey**