

Tossups

1. The symmetric type may occur in ice at high pressure. In proteins, they determine whether an alpha helix is formed and participate in forming tertiary structures. They occur when the nucleus of a certain atom becomes unshielded, which allows an electrostatic interaction between a proton and electrons of neighboring molecules. Responsible for the high boiling point of ammonia and the unusual properties of water, they are found between the bases of chains of DNA. FTP, name these chemical bonds named for the lightest element.

Answer: hydrogen bonds

2. This author believed his best work was *Personal Recollections of Joan of Arc*, and he wrote about a journey through Europe and the Holy Land in *The Innocents Abroad*. He later wrote about the nephew of Satan, disguised as Philip Traum, in *The Mysterious Stranger*, while his first literary success was with an 1867 short story featuring Jim Smiley and Daniel Webster entitled "The Celebrated Jumping Frog of Calaveras County." FTP, name this American author best known for creating the character Tom Sawyer.

Answer: Mark Twain (also accept Samuel Clemens)

3. His sword was called Tizona, and his first combat experience was at the Battle of Graus. He distinguished himself under Ferdinand I and Sancho II, and served as ruler of Zaragoza. However, Alphonso VI had him banished, and his wife surrendered his kingdom after his death. This man, born with the name Rodrigo Diaz de Vivar, is most famous for conquering Valencia in the year 1094. FTP, name this Spanish hero and subject of various eponymous epics.

Answer: El Cid (also accept Rodrigo Diaz de Vivar before it is read)

4. In 2003, he missed several games due to pharyngitis, but was criticized by the media when he was seen in a bar with Enrique Wilson. In 2002, this active career leader in grand slams hit a soft ground ball against Tampa Bay, and instead of running to first base, he headed back to the dugout. This year, he has been replaced at times by Jacoby Ellsbury, and in 2005, he once disappeared into the "Green Monster" in between innings. The 2004 World Series MVP, FTP, name this current Boston Red Sox left fielder.

Answer: Manny Ramirez

5. The far right corner of this painting contains yellow cliffs at the edge of the sea. On the left side of this painting, a small tree grows on a brown platform. Set on the seashore of Catalonia, this work includes a vision the artist had after eating some soft cheese. It contains four timepieces, one of which has been devoured by ants, and another three which are melted. FTP, name this surrealist painting by Salvador Dali.

Answer: The Persistence of Memory

6. In Chapter 4 of Virginia Woolf's novel *To the Lighthouse*, Mr. Ramsey recites this poem. Composed of six stanzas, it makes use of anaphora by repeating the lines "cannon to right of them / cannon to left of them / cannon behind them." This poem begins with the line "Half a league, half a league, half a league onward," and it is based on an event during the Battle of Balaclava in 1854. FTP, name this Alfred, Lord Tennyson poem about an ill-advised cavalry charge of six hundred men into "the valley of Death."

Answer: The Charge of the Light Brigade

7. The namesake of this law was an early 17th-century Dutch scientist who discovered a new method of finding the radius of the earth. It can be used to find the critical angle needed for light to enter a fiber optic, and it explains the apparent bending of a stick as it enters the water. In other words, it describes the bending of light as it moves from one medium into another. FTP, name this law governing refraction that can be stated as: index of refraction one times the sine of theta one equals the index of refraction two times the sine of theta two.

Answer: **Snell's law**

8. This event resulted in Ferdinand II being replaced by Frederick V. It occurred when a crowd of nobles and knights marched on a castle and engaged in an argument with Counts Martinic and Slavata. It ended with the counts and their secretary landing in a pile of rubbish after being thrown from a window of the castle. FTP, name this 1618 act of rebellion by Czech Protestants, a cause of the Thirty Years War.

Answer: **Defenestration of Prague**

9. Robert Gray was the first to explore the region around this river's mouth, and named this river for his ship. Features along its path include the Selkirk Mountains and the Rocky Mountain Trench, and its tributaries include the Sandy, Lewis, and Willamette Rivers. Numerous dams, including the Rocky Reach, Chief Joseph, and Grand Coulee provide hydroelectric power to the residents of Oregon and Washington, much of whose border is formed by this river. FTP, name this longest river of the Pacific Northwest.

Answer: **Columbia River**

10. In chemistry, this term is used to designate an aliphatic hydrocarbon having a straight and unbranched chain of carbon atoms. It also refers to a solution having a concentration of one gram equivalent of solute per liter. In math, it can describe a matrix which commutes with its conjugate transpose, a curve that is consistent with the Gaussian distribution, or a line that is perpendicular to a surface. FTP, give this six-letter term that can also be defined as the usual or expected state.

Answer: **normal**

11. This literary character gives the advice "Don't ever tell anybody anything. If you do, you start missing everybody." His family includes Allie and D.B., who became a successful screenwriter in Hollywood. Robert Ackley and Ward Stradlater are some of his schoolmates at Pencey Prep, and he goes out on a date with Sally Hayes. Before going to a mental hospital in California, he visits his sister Phoebe. FTP, name this protagonist of the J.D. Salinger novel *Catcher in the Rye*.

Answer: **Holden Caulfield** (accept either name)

12. Daniel Freeman was the first person affected by this federal law, and Kenneth Deardorff was the last. This act was later copied by Canada in the form of the Dominion Lands Act, and Australia passed a similar law in the 1860s during colonization. In the United States, it was signed into law on May 20, 1862. FTP, name this act which gave any person at least 21 years old land for free, granted he built a house and lived there for five years.

Answer: **Homestead Act**

13. In this religion's initiation ceremony, an "armor of faith" is worn following a ritual bath. This religion believes cremation of a dead body pollutes the ground, so sky burials are done in Towers of Silence. Founded in 600 B.C., its sacred texts called the *Gathas*, which are part of the *Zend-Avesta*. FTP, name this religious system that believes the universe is a struggle between the forces of light and of darkness and teaches the worship of Ahura Mazda.

Answer: **Zoroastrianism**

14. This composer died from heart troubles at the age of thirty-six, and was unable to complete his opera about Ivan the Terrible. However, he did manage to complete his noted *Symphony in C*, as well as the operas *The Fair Maid of Perth* and *The Pearl Fishers*. His most famous opera, based on a Prosper Merimee story, includes the songs "Habanera" and the "Toreador Song," and features Don Jose's tragic love for the title gypsy girl. FTP, name this French composer of *Carmen*.

Answer: Georges **Bizet**

15. This man wrote *On the Jewish Question*, which explained the titular group's success in capitalist society. His other writings include an attack on the Paris Commune in *The Civil War in France*. An 1875 work by this philosopher, *Critique of the Gotha Program*, included the phrase "from each according to his ability, to each according to his needs." FTP, name this German author of *Das Kapital*, who co-authored *The Communist Manifesto* with Friedrich Engels.

Answer: Karl **Marx**

16. Characters in this work believe that special eyeglasses are responsible for a miraculous survival after a church is built in the Evil Forest. The protagonist, who is famed for winning a wrestling match with the Cat, fears of becoming like his father, and is exiled to Mbanta for accidentally killing a man. Followed by a sequel entitled *No Longer At Ease*, it was written as a response to Conrad's *Heart of Darkness*. FTP, name this novel about a Nigerian clan leader named Okonkwo, written by Chinua Achebe [ah-CHAY-bay].

Answer: **Things Fall Apart**

17. This Greek mythological figure once changed Abas into a lizard after commenting on how greedily she drank barley-water. Ashamed, she tried to do Celeus a favor by trying to burn away Demophon's immortality...but failed. At the feast of Tantalus, she ate the shoulder of Pelops, and this daughter of Rhea and Cronus had her own daughter abducted by Hades and forced to spend part of the year in Tartarus. FTP, name this Greek goddess of agriculture and mother of Persephone.

Answer: **Demeter**

18. This process begins with the heat-fixing of cells and concludes with the usage of safranin. A mixture of acetone and ethanol removes the lipid layer, and an iodine-potassium solution allows the formation of a water-insoluble complex. The first step uses a crystal-violet dye which can be retained by bacteria with a cell wall made of peptidoglycan. FTP, name this laboratory staining technique that distinguishes between two groups of bacteria, those that are positive and negative for it.

Answer: **Gram staining**

19. The Nashville Convention paved way for this historical measure, which was originally known as the Omnibus Bill. The political peace it achieved lasted for only four years, until the Kansas-Nebraska Act. This series of Congressional legislative actions passed the Fugitive Slave Act, admitted California as a free state, and abolished the slave trade in Washington D.C. Designed by Henry Clay, FTP, name this compromise of the mid 19th century.

Answer: **Compromise of 1850**

20. Diogenes answered this man's assertion that man is a "featherless biped" by presenting him with a plucked chicken. He discussed the ideal form of government in *The Statesman*, and argued his belief of inherent knowledge in the work *Meno*. The definition of piety is debated in the *Euthyphro*, and his most famous work contains *The Allegory of the Cave*. FTP, name this ancient Greek philosopher who wrote in dialogue form, the follower of Socrates and author of *The Republic*.

Answer: **Plato**

21. This city is home to the Mutter Medical Museum, which contains the thorax of John Wilkes Booth. Its current mayor is John F. Street, and this American city is also home to many art works by Auguste Rodin, including *The Thinker* and *The Gates of Hell*. Its sports teams play home games in sites known as the Wachovia Center, Lincoln Financial Field, and Citizens Bank Park, and colleges in this city include Drexel and Temple. FTP, name this Pennsylvania city home to the Franklin Institute, Independence Hall, and the Liberty Bell.

Answer: **Philadelphia**

Bonuses

1. FTPE, answer the following about a book.

Winston Smith works for the Ministry of Truth in this George Orwell dystopian novel.

Answer: 1984

1984 is set in this superstate which is always at war with Eurasia and Eastasia.

Answer: Oceania

This term is defined in 1984 as the power of holding two contradictory beliefs in one's mind simultaneously, and accepting both of them

Answer: doublethink

2. FTPE, answer the following about Douglas MacArthur.

In 1932, MacArthur was ordered by President Hoover to disperse this group, led by Walter Waters. They were demanding promised payments from the US government.

Answer: Bonus Army

When MacArthur famously said "I shall return", he was referring to this country.

Answer: Philippines

In September of 1950, MacArthur led an operation at this Korean port city near Seoul, which forced the North Koreans beyond the 38th parallel.

Answer: Incheon

3. FTPE, name these typical animal cell organelles.

This organelle, consisting of layers of flattened sacs and named for an Italian scientist, prepares and packages materials to be used in the cell.

Answer: Golgi apparatus or body or other various nouns

The Golgi apparatus often receives products from this other organelle, which transports various materials in the cell, and is lined with ribosomes in the rough variety.

Answer: endoplasmic reticulum (or ER)

These barrel shaped organelles are found in most eukaryotes and form the spindle fibers needed during cell division. Two of them make up a larger, similarly named structure.

Answer: centrioles

4. For the stated number of points, answer the following about an author and his works.

For 10 points, this 1844 novel chronicles the revenge of Edmond Dantes, who is wrongfully charged with treason on the day he is to marry Mercedes.

Answer: *The* Count of Monte Cristo (or *Le* Comte de Monte Cristo)

In addition to the Count of Monte Cristo, Dantes adopts three other personae in his plotting: an Englishman, a religious figure, and a wanderer. Name all three for 5 points each.

Answer: Lord Wilmore, Abbé Busoni, and Sinbad the Sailor

For the final five, this French author wrote *The Count of Monte Cristo*.

Answer: Alexandre Dumas

5. FTPE, answer the following about an artist and his works.

This Italian Renaissance artist is best known for *The Birth of Venus*.

Answer: Sandro **Botticelli**

Mercury, the Graces, Cupid, Venus, Flora, Chloris, and Zephyr all appear in this 1482 painting of Sandro Botticelli depicting the spring-time.

Answer: **Primavera**

Primavera and *The Birth of Venus* can be found in this Italian art museum, designed by noted art critic Giorgio Vasari.

Answer: **Uffizi** Gallery

6. FTPE, name these Greek schools of philosophy, which all end in -ism.

This philosophy of choice for its founder, Zeno of Citium, and Epictetus tried to avoid pain by restraining passion, and avoided showing excessive emotion.

Answer: **Stoicism**

This philosophical movement was centered in a "Garden" outside the walls of Athens, and its adherents were sort of hedonist in that they felt the absence of pain was the greatest pleasure and ultimate goal.

Answer: **Epicureanism**

Diogenes of Sinope was a follower of this philosophy, founded by Antisthenes, which hated civilization, and took its name from the Greek word for "dog."

Answer: **Cynicism**

7. FTPE, name these people involved in the exploration of south Asia.

Manuel I sponsored this Portuguese explorer, who became the first person to sail directly from Europe to India.

Answer: Vasco **da Gama**

Manuel I also sponsored this other Portuguese explorer, who was once sent to India, but accidentally discovered Brazil.

Answer: Pedro Álvares **Cabral**

This seven-foot tall Chinese eunuch admiral commanded the Treasure Fleet on seven voyages throughout the Indian Ocean.

Answer: **Zheng He** [or **Cheng Ho**] (accept a combination of the sounds, like "Cheng He")

8. FTPE, answer the following questions about Charlton Heston.

Heston played Moses in this 1956 epic Biblical movie directed by Cecil B DeMille.

Answer: The **Ten Commandments**

Heston also starred in this 1968 science fiction dystopia epic in which he famously excoriates humanity after finding the Statue of Liberty poking out of some desolate sand.

Answer: **Planet of the Apes**

Heston also won a Golden Raspberry award for Worst Actor in this Michael Moore documentary about an infamous school shooting.

Answer: **Bowling for Columbine**

9. FTPE, name these female world authors.

The Edible Woman was the first novel by this Canadian author, who wrote about a futuristic world in which women are just property in a novel entitled *The Handmaid's Tale*.

Answer: Margaret **Atwood**

This Indian author of *The Namesake* may be best known for her collection *Interpreter of Maladies*.

Answer: Jhumpa **Lahiri**

Hullabaloo in the Guava Orchard received critical praise, but it was this Indian author's second novel, *The Inheritance of Loss*, that won the Booker Prize in 2006.

Answer: Kiran **Desai**

10. Pencil and paper ready, 15 seconds per part. Find the least common multiples of these sets of numbers FTPE.

17 and 4

Answer: **68**

3, 8, and 5

Answer: **120**

5, 6, and 14

Answer: **210**

11. FTPE, name these religious texts.

Published in 1830 by Joseph Smith, this sacred text was originally inscribed on thin gold plates and documents the history of a group of Hebrews who migrated to America around 600 B.C.

Answer: **Book of Mormon**

Written in an archaic form of Sanskrit, each of these Hindu sacred texts contain Samhitas, Brahmanas, Aranyakas [AR-ah-nya-kahs], and Upanishads [oo-PAN-ih-shads].

Answer: **Veda(s)**

Found in book six of the Mahabharata, this "song of God" is a dialogue in which Krishna instructs Arjuna in ethical matters and the nature of God.

Answer: **Bhagavad-Gita**

12. FTPE, answer the following about an English king.

Son of Robert the Magnificent, he led the Norman Conquest and won at the Battle of Hastings.

Answer: **William I** or **William the Conqueror**

William was influential in the building of this structure, where Lady Jane Grey was beheaded and Rudolf Hess imprisoned.

Answer: **Tower of London**

Completed during William the Conqueror's reign, this general census of England listed the economic resources of individuals, to be used for more accurate taxation.

Answer: **Domesday** Book (accept Book of **Winchester**)

13. FTPE, answer the following about an isotope of hydrogen.

Currently feasible fusion reactors would require this isotope of hydrogen with two neutrons.

Answer: **tritium**

Reactors might make their own tritium by bombarding this light metal with neutrons.

Answer: **lithium**

Tritium is radioactive, and it decays by beta emission to form this atom.

Answer: **helium-3**

14. FTPE, answer the following about a work of literature.

Subtitled "Life in the Woods", this series of eighteen essays was published in 1854 and chronicles the two years its author spent at the title location.

Answer: **Walden**

This American author of *Walden* also wrote the essay "Civil Disobedience."

Answer: Henry David **Thoreau**

This psychologist and namesake of an experimental "box" wrote a fictional work entitled *Walden Two*, in which operant conditioning is used in raising children.

Answer: B.F. **Skinner**

15. FTPE, answer the following about a composer's love for the works of William Shakespeare.

This French composer was under the influence of opium when he wrote the five-movement work, *Symphonie Fantastique*.

Answer: Hector **Berlioz** [BER-li-oats]

Berlioz wrote this "symphonie dramatique" named after a Shakespeare play, whose sections include the Queen Mab Scherzo and Friar Lawrence's recitative and aria.

Answer: **Romeo and Juliet** or **Roméo et Juliette**

The Berlioz opera *Beatrice and Benedict* was based on this comedy of Shakespeare, which also features characters like Don John, Don Pedro, and the inept sheriff Dogberry.

Answer: **Much Ado About Nothing**

16. Answer the following about some Norse deities dying at Ragnarok FTPE:

This trickster god will kill Heimdall, although he will also die from his wounds.

Answer: **Loki**

Thor will both kill and be killed by this offspring of Loki and Angrboda, a snake that can wrap around the world.

Answer: The **Midgard Serpent** or **Jormungandr**

This other child of Loki and Angrboda will kill Odin, but Odin's son Vidar will tear apart this creature's jaws.

Answer: **Fenrir** or **Fenris Wolf**

17. FTPE, name these Australian cities.

Located on an inlet of the Tasman Sea, this city is the capital of New South Wales.

Answer: **Sydney**

This city takes its name from Queen Victoria's first Prime Minister, and was the capital of Australia from 1901 to 1927.

Answer: **Melbourne**

Formerly known as Stuart, this town near Ayers Rock is the largest in the Outback.

Answer: **Alice Springs**

18. FTPE, answer the following about earthquakes.

This is the process by which collision of the earth's crustal plates results in one plate being drawn down or overridden by another.

Answer: **subduction**

Shock waves from an earthquake radiate from this point directly above the focus point.

Answer: **epicenter**

During an earthquake, this type of wave moves as a transverse wave, so motion is perpendicular to the direction of wave propagation. It is also slower than the P wave.

Answer: **S** wave (also accept **secondary** or **shearing** wave)

19. FTPE, answer the following about a military prison.

Nearly 13,000 people died at this Confederate military prison located at Camp Sumter.

Answer: Andersonville

The only Confederate soldier executed in the aftermath of the Civil War for war crimes was this commandant of the Andersonville prison.

Answer: Henry Wirz

Andersonville was located in this state, which was also the setting of Sherman's March to the Sea in 1864.

Answer: Georgia

20. FTPE name these psychologists.

He devised ten inkblots to try to probe the unconscious mind of his patients.

Answer: Hermann Rorschach

Considered the founder of cognitive psychology, this man set up the first experimental psychology lab in Leipzig in 1875.

Answer: Wilhelm Wundt

He devised a nonjudgmental, nondirective approach to psychology called client-centered therapy.

Answer: Carl Rogers