

TOSSUP 1

Developed by such authors as Congreve, Etherege, Vanbrugh and Wycherly, it was generally written in prose, with romantic moments in verse, and it can be described as bawdy, cynical, and amoral. Its primary subject matter is romantic intrigue, and it featured such standard characters as scheming valets, young widows, country squires, and elderly ladies. It was named after the re-establishment of the English monarchy when Charles II returned to the throne in 1660, when theatres across the country re-opened. FTP name this dramatic genre of such plays as *The Country Wife*, *The Comical Revenge*, or *Love in a Tub*, and *The Old Bachelor*.

Restoration Comedy.

BONUS 1

FTPE name these other comedic genres.

- 10: This form of improvisational theatre originated in 16th century Italy. Its stock characters included the Harlequin, Pulcinella the hunchback, the fat and hungry Figaro, and the rogue Scaramouche.

Comedia dell Arte.

- 10: This puppet theatre comedy form evolved from Comedia dell Arte, featuring a hunch-backed puppet in a jester's motley and his wife.

Punch and Judy.

- 10: This American entertainment with strongly racist aspects consisted of comic skits, variety acts, dancing, and music performed either by white people in blackface or, after the Civil War, by African Americans in blackface.

Minstrel Show.

TOSSUP 2

The American authority on measurements and standards has declared this measurement obsolete, due to the fact that volume measurements are less precise than mass measurements. Despite this, it is still a more commonly used measurement than formal, volume-volume percentage, or normality. FTP, name this measure of concentration, defined as moles per liter of solution, and with symbol M.

Molarity

BONUS 2

FTPE, give the molarity of the following solutions. You will have 10 seconds per part.

- 10: 248 grams of nitrate ion in 4 liters of water. The molecular mass of nitrate is 62.

1 molar (moles per liter)

- 10: 207 grams of sodium ion in 3 liters of water. The atomic mass of sodium is 23.

3 molar

- 10: 1278 grams of chlorine in 2 liters of water. The atomic mass of chlorine is 35.5.
9 molar

TOSSUP 3

In short games like tic-tac-toe, the result can be known from the start if both players play perfectly. In most interesting games, however, the full game tree cannot be expanded, and AI players use techniques such as alpha-beta pruning to increase the number of states that can be checked in advance. FTP, identify this strategy in game theory in which each player assumes optimal play on the part of their opponent, and attempts to secure the best possible outcome.

Minimax

BONUS 3

Identify these related concepts from game theory FTPE.

- 10: In this classic two-player game, cooperation brings reward to both players, but a higher reward is on offer for the player that defects. If both players defect, both lose.

The Prisoner's Dilemma

- 10: When playing the Prisoner's game repeatedly, using this strategy, where you make the move your opponent just made, is optimal.

Tit for tat

- 10: When playing once, defecting is the optimal strategy, because any change in strategy could be worse for you, a state of affairs known as this.

Nash equilibrium (Prompt on equilibrium)

TOSSUP 4

He is a minor character in Pynchon's "Gravity's Rainbow", and Carlos Santana claims that he visits him during meditations and has a white beard. There are no references to him in the Old or New Testaments, or in any Islamic source, but the Talmud says that when Elisha entered Paradise he saw this angel sitting down. However, he is better known for appearing to abortion clinic worker Bethany and telling her that she is the last living relative of Jesus. FTP, name this angel, the voice of God, played by Alan Rickman in "Dogma".

Metatron

BONUS 4

In "Dogma", Rickman played Metatron alongside Chris Rock, who played Rufus, the thirteenth apostle who was excluded from the Bible because he was black. Name these other Apostles FTPE.

- 10: This son of Alphaeus was the tax-collector at Capernaum.

Matthew

- 10: This apostle betrayed Jesus for thirty pieces of silver.

Judas Iscariot

10: This apostle was selected to replace Judas Iscariot after the betrayal of Jesus.

Matthias

TOSSUP 5

Pencil and paper ready. Rosencrantz and Guildenstern are flipping coins and they want to know the probability of flipping tails at least once over the course of 5 flips. They realize that all they have to do is subtract the probability of flipping heads five times from one. FTP, what is the probability of getting at least one tails in five flips?

$\frac{31}{32}$

BONUS 5

Rosencrantz and Guildenstern fail to flip tails, of course, but you might have a shot. FTPE:

10: What is the probability of flipping tails twice in a row?

$\frac{1}{4}$

10: What is the probability of flipping tails at least twice in five throws?

$\frac{15}{16}$

10: What is the probability of flipping tails exactly 3 times out of 4 flips?

$\frac{1}{4}$

TOSSUP 6

Created on the banks of the Vitava with the power of a secret ritual, it originally is benign and helpful to the Jews of the ghetto, fetching water and running errands. When it goes berserk, Rabbi Loew is forced to destroy it by changing the word on its forehead from "truth" to "death." FTP, identify this creature of Jewish legend, a man made of clay and brought to life by the power of God.

Golem

BONUS 6

Identify these elements of the golem legend FTPE.

10: The classic golem story takes place in this Czech city.

Prague

10: The rituals are derived from this system of Jewish mysticism that arose during the Middle Ages.

Kabbalah

10: The legend was retold by this Nobel Prize-winning Jewish American author of novels and short stories for children and adults.

Isaac Bashevis Singer

TOSSUP 7

It is losing some credibility in the face of archaeological evidence of human settlements appearing while it was still covered with glacial ice. Still, dating techniques have revealed that it had plants and animals living on it as recently as 11,000 years ago, making it feasible for migrating humans to have crossed it. FTP, identify this feature on which the first Americans crossed the Bering Sea after the end of the last Ice Age.

Land bridge

BONUS 7

Identify these early North American communities FTPE.

- 10: They are the first community to appear in the archaeological record of the Americas, and probably crossed the land bridge.

Clovis people

- 10: This culture had essentially disappeared by the time of European contact, but the Cahokia site reveals a fondness for mound-building.

Mississippian culture

- 10: This Central American civilization is best known for leaving behind a large number of giant stone heads.

Olmecs

TOSSUP 8

First inhabited by Native Americans of the Arawak and Carib tribes, this nation was the subject of several attempts by the Dutch and the English to colonize it. The Dutch finally gained control of it and set up a slave system which was abolished in 1863, making it the last country to do so. Sharing its southern border with Brazil and its northern border with the Atlantic Ocean and lying between French Guiana and Guyana, this is FTP what smallest South American country with capital at Paramaribo?

Suriname

BONUS 8

Identify these other South American countries from their capitals, FTPE.

- 10: Bogota

Colombia

- 10: Quito

Ecuador

- 10: Stanley

Falkland Islands

TOSSUP 9

First officially used by the US in 1992, it can be computed using compensation of employees, operating surplus, mixed income and taxless subsidies. This indicator, however, is more commonly divided into consumption, investment, net exports, and government spending. FTP give this economic term for the total market value of all goods and services produced within the borders of a nation during a specified period.

Gross Domestic Product or GDP

BONUS 9

Name these other economic indicators FTPE.

- 10: Often mistaken with GDP, it is not limited to the borders of the nation.

Gross National Product or GNP

- 10: The measurement is determined using samples of urban family purchases relative to a previous period.

Consumer Price Index or CPI

- 10: Since it is made almost identically around the world, international variations in the cost of this McDonald's product have been used to measure purchasing power parity.

Big Mac

TOSSUP 10

Numerous urban legends say that the acidity of this can dissolve a tooth or clean highways of blood. Many advertising campaigns have appeared throughout the years, including slogans like "Always the Real Thing", or "The pause that refreshes". A new version was introduced in the 1980s, but was quickly rejected by consumers. Its company, established in 1892, is now based in Atlanta, where the drink was invented by John Stith Pemberton in 1886. Now, it boasts many varieties, including a cherry and lemon flavor. FTP, name this most popular soft drink in the world, whose main competitor is Pepsi.

Coca-Cola (accept coke)

BONUS 10

FTPE, name these other Coca-Cola Company products.

- 10: This lemon-lime flavored soft drink is the company's second most popular product.

Sprite

- 10: This drink was created to compete against Dr. Pepper.

Pibb Xtra (accept Mr. Pibb)

- 10: This mango juice drink is popular in Bangladesh and India.

Maaza

TOSSUP 11

These were originally discovered in the E. coli cell, but were found to be in most organisms. They are shorter in prokaryotes, as long as 2000 base pairs in length, while they are only about 400 base pairs in eukaryotes. They are created because DNA polymerase can only synthesize DNA from the 5' prime end to the 3' prime end. FTP name these short segments of DNA that are created on the lagging strand during DNA replication.

Okazaki fragments

BONUS 11

Name these other things from DNA replication, FTPE.

10: This enzyme seals DNA.

DNA ligase

10: This enzyme unzips the DNA.

helicase

10: DNA polymerase 3 can synthesize both the leading and lagging strands of DNA because it is this type of molecule.

dimer

TOSSUP 12

This man once said "There are three side effects of acid: enhanced long-term memory, decreased short-term memory, and I forget the third." In 1966, he founded the "League For Spiritual Discovery," which was an attempt to provide constitutional protection for the right to take LSD as a sacramental substance. He administered acid to hundreds of people at Harvard in the name of research. FTP, name this drug enthusiast who coined the phrase "Tune in, turn on, drop out."

Timothy Leary

BONUS 12

BONUS FTPE identify these hippie movement icons.

10: The followers of this founder of Transcendental Meditation at one point included the Beatles.

Maharishi Mahesh Yogi

10: This outdoor festival was held on a farm in Bethel, New York in 1969; it featured such performers as the Grateful Dead and Jimi Hendrix

Woodstock

10: A giant wooden sculpture of a human figure is set alight every year at this festival in the Nevada desert.

Burning Man

TOSSUP 13

His talent for composing may have been influenced by synaesthesia [sin-ess-THEE-zhia], a neurological mixing of senses. He became professor of composition and orchestration at the St. Petersburg Conservatory in 1871, but was fired after expressing anti-czar political views. He continued to criticize the monarchy in Russia in his opera The Golden Cockerel. FTP, name this Russian musician who composed such works as "Scheherazade" [sheh-heh-reh-ZAHD] and "Flight of the Bumblebee."

Nikolai Rimsky-Korsakov

BONUS 13

FTPE, identify these pieces from Modest Mussorgsky's "Pictures at an Exhibition."

- 10: This recurring theme is used as a transition between paintings and describes the composer walking through the exhibition.

Promenade

- 10: This work is based on the Russian legend of an old witch who lives in the forest.

The Hut on Chickens' Legs (also accept
The Hut of Baba Yaga or equivalents)

- 10: Viktor Hartmann's painting of this titular structure commemorated Tsar Alexander II's escape from an assassination attempt in the capital of the Ukraine.

The Great Gate of Kiev

TOSSUP 14

Despite not really believing in Catholicism, he was appointed Bishop of Autun in 1789 and shortly thereafter represented the First Estate at the Estates General of that year. He was briefly exiled by the National Convention, and stayed at Aaron Burr's house to wait it out. Napoleon made him his Foreign Minister for the Consulate and up to 1807, when he resigned to protest the Treaty of Tilsit. FTP name this French statesman, who represented France at the Congress of Vienna.

Charles Maurice de Talleyrand-Perigord

BONUS 14

Robert Benchley once said, "The surest way to make a monkey of a man is to quote him." We get to do that with this other great statesman of history. 30-20-10, given the quote, name the speaker.

- 30: "A Bavarian is halfway between an Austrian and a human being."

- 20: "If the British Army landed in Europe, I'd get the Belgian police to arrest them."

- 10: "Not by speeches and votes of the majority are the great questions of the time decided, but by iron and blood."

Otto von Bismarck

TOSSUP 15

After recovering from a year-long sickness, the protagonist is about to return home when he learns that his youngest brother has been murdered. Before arriving he sees a familiar shadow and immediately knows who the killer was. However, when he gets home he finds that the family's maid, Justine Moritz, has been accused of the crime and made a false confession. The murderer strikes twice more, but the death of Elizabeth Lavenza drives the protagonist over the edge and makes him determined to destroy his creation. FTP, name this novel by Mary Shelley about a man and the creature that he creates.

Frankenstein; or, The Modern Prometheus

BONUS 15

Name these characters from Frankenstein FTPE.

- 10: Victor Frankenstein's youngest brother who is killed by The Creature.
William Frankenstein

- 10: The captain of the ship who saves Victor and recounts the story in a letter to his sister.
Robert Walton

- 10: Victor's best friend who is killed while the two are in Scotland.
Henry Clerval

TOSSUP 16

Capacitors create a difference in it across the dielectric. It drops across resistors, producing a current. Its negative gradient gives the electric field that defines in. FTP, identify this measure of energy per unit of charge, measured in volts.

Electric potential (accept Electromotive force Prompt on potential, accept voltage before "measured")

BONUS 16

Identify these physical quantities FTPE.

- 10: The strength of the electric field between two charges depends partly on this constant, symbolized epsilon naught.
Permittivity of free space

- 10: Measured in webers, a change in this quantity through a loop of wire can induce a current.
Magnetic flux (Do not accept magnetic field)

- 10: It is the rate of change of charge with respect to time.
Electric current

TOSSUP 17

The title refers to successive shots from a double-barreled shotgun. A plume of smoke is the only evidence the weapon exists, with its owner barely visible in a boat being tossed on a stormy sea. The shots are aimed at the painting's central subjects, a pair of waterfowl. FTP, name this painting by Winslow Homer of two dying ducks.

Right and Left

BONUS 17

Identify these 19th century American artists FTPE.

10: She worked with the Impressionists in Paris for over a decade.

Mary Cassat

10: This Philadelphian is best known for medical paintings like The Gross Clinic

Thomas Eakins

10: His concern for the arrangement of color over the depiction of the natural world is made apparent by titles such as Symphony in White and Arrangement in Grey and Black

James MacNeill Whistler

TOSSUP 18

It was first recorded in 1054 and called a "guest star by Chinese and Arabastronomers. Soon after its formation it had an apparent magnitude between -7and -4.5, meaning that it was brighter than everything in the night sky exceptfor the Moon. The mass of progenitor stars, stars that form nebulas, must be atleast eight solar masses, but the mass of it and its pulsar add up to much less,but investigation has failed to determine what happened to the "missing mass."FTP, name this nebula in the constellation Taurus named for a crustacean.

Crab Nebula

BONUS 18

Name these constellations, FTPE.

10: This other crab is one of the Zodiac constellations.

Cancer

10: South of Cancer lies this many-headed serpent defeated by Heracles.

Hydra

10: This constellation represents many different swans of legend.

Cygnus

TOSSUP 19

His book *Seven Pillars of Wisdom* weaves his experiences in with possible fabrication, and it is in fact difficult to know what exactly he did or didn't do while fighting the Ottomans in the desert alongside Prince Faisal and his camel-mounted army. It is clear, however, that he had the respect of the Arabs he spent time with and even wore Arab clothing. FTP, name this British Army officer who led and fought with Arab rebels during the Arab Revolt of 1916-1918, portrayed on film by Peter O'Toole.

T.E. Lawrence “of Arabia”

BONUS 19

Answer these questions about Lawrence of Arabia, the man and the film, FTPE.

- 10: Lawrence died in a crash while driving one of these vehicles, seen in the opening sequence of the film.

Motorcycle

- 10: The film was directed by this man, who also directed *Doctor Zhivago* and *Bridge over the River Kwai*.

David Lean

- 10: The film focuses much of its attention on Lawrence's attack on this Syrian capital.

Damascus

TOSSUP 20

The main character carries on an affair with Sabina, his long-time lover and a talented painter. After his wife Tereza finds out, she becomes friends with Sabina but still harbors feelings of jealousy towards Tomas, the main character. After Soviet occupation ends the Prague Spring, both Tereza and Tomas, who have finally forgiven each other, die in a car crash, and Sabina continues her erotic adventures with another professor. This describes the plot of, FTP, what most famous novel of Milan Kundera?

The Unbearable Lightness of Being

BONUS 20

Identify these other famous Czech works FTPE.

- 10: This play by Karel Capek introduced the word “robot” to the English language.

R.U.R. (accept Rossum's Universal Robots)

- 10: This play by former Czech president Vaclav Havel was inspired by a type of outdoor celebration thrown by Karel Capek.

The Garden Party

- 10: This unfinished novel by Jaroslav Hasek tells the story of a Czech veteran's adventures in the army.

The Good Soldier Svejk