

Round 4
Toss-Ups

1. A recent study of this theory by Rebecca Cann, Mark Stoneking, and Allen Wilson pinpointed human origin to Africa about 200,000 years ago. This theory can trace evolution through mitochondrial DNA because only mothers pass theirs on to children. FTP, identify the theory, named after the first woman, which states that humans share a common female ancestor.
A: Mitochondrial **Eve** Theory
2. Due to this factor, a bedroom will become messy if not periodically cleaned and a car will break if not serviced. Sometimes called arrow of time, a greater value of this force in chemistry in the products will induce a spontaneous reaction, explaining why ozone decomposes to molecular oxygen. FTP, name this the natural tendency for matter to become disordered.
A: **entropy**
3. To solve this paradox, Douglas Adams' Dirk Gently laid out a bowl of milk and called, "Bernice!" This test of a quantum concept on the macroscopic level really says that an animal in a box is both dead and alive because whether a particle decays, thus killing it, remains unknown until it is observed. FTP, name this quantum feline named after the creator of quantum numbers.
A: **Schrödinger's Cat**
4. Note to Reader: READ THIS QUESTION TWICE and allow 25 seconds for buzz.
Pencil and Paper Ready. WARNING: exact answer required. A spider stands on the vertical center line of a square wall 2 ft above the floor in a rectangular room 20 ft long, 10 ft wide, and 10 ft high. A fly rests on the center line of the other square wall across the room 2 ft from ceiling. FTP, assuming the fly stays stationary, determine the minimum distance the spider must traverse to reach the fly. You have 25 seconds.
A: **square root of 898 ft**
5. The protagonist of the story trips and finds an abyss in his dark cell. A nameless Frenchman is condemned by the Inquisition in Toledo and needs rats to untie and save him from one form of death only to be subjected to a second. FTP, name the Edgar Allen Poe short story in which the protagonist is caught at the last possible moment from falling into the first of the two title deaths.
A: **Pit and the Pendulum**
6. Originally over 50,000 couplets, this rhymed epic took 35 years to write and was completed in AD 1010. It starts with the creation of man and ends with the Arab conquest of the region in the 7th century. Of the many myths it recounts, perhaps the most famous is the tragic story of Rustam killing his son Surhab. FTP, name Firdawsi's Persian national epic, also known as The Book of Kings.
A: **Shah-nama** or The **Book of Kings** (on early buzz)
7. This group first met Europeans at a Spanish mission on the York River in 1570. With 12,000 people living in 9,000 square miles, the tribes had similar beliefs and protected themselves from other tribes and later the colonists. FTP, identify this group of tribes identified by John Smith's name for their leader Wahunsonacock (Wa - hun - sun - ah - cock).

A: **Powhatan Confederation**

8. Prior to this battle, the British captured the laid-back Captain Vergor, while the French general waited in vain for reinforcements. Instead of the planned British rout, the battle become close, Generals Wolfe and Montcalm were killed, and Vaudreuilian failed the French in negotiations. FTP, name this determining battle of the French and Indian Wars to defend Quebec.

A: **Plains of Abraham**

9. 1,200 years ago, people arrived on this island in a double-hulled canoe and remained isolated until Admiral Roggeveen found it. The Rapa Nui developed a culture with no written records that created the impressive Rano Raraku and the Birdman cult. FTP, identify this Pacific island known for its large statues, named after the Christian holiday of its discovery.

A: **Easter Island** (also accept **Rapa Nui** until it is mentioned)

10. The flaws of this moral principle are highlighted in Kurt Vonnegut's *Harrison Bergeron*. Since differences cause problems, this belief holds that the good and gifted should be handicapped to make them like everyone else. FTP, identify this principle, practiced by the Quakers, under which value should be evenly split and all people should be equal.

A: **egalitarianism**

11. German bombers attacked this Basque city on April 26, 1937, slaughtering a third of the residents. This painting of the same name contains a mother with dead baby kneeling under a bull, a dead man sprawling under a horse, and disjointed body parts. FTP, name this Picasso painting, first dismissed as a "collection of body parts any four year old could paint."

A: **Guernica**

12. In 1995, he formed Kenya's Prodemocracy Party, Safina, and became the head of the Kenyan civil service in 1999. Before entering politics, his findings at Lake Turkana energized scientists studying human evolution. FTP, name this man who spent most of his childhood in archeological sites in East Africa with his parents, Louis and Mary.

A: Richard **Leakey**

13. Built by an unknown designer between 1338 to 1390, this structure was begun under the rule of Ibn al-Ahmar (iben-al-ah-mar). From its namesake hill, the impressive palace fortress and masterpiece of Moorish architecture overlooks the winding allies of Albaicin (al-bye-e-seen). FTP, name this Palacio Arabe (pah la see oh - ah rah beh) at the foot of the Sierra Nevada in Granada, Spain, who's name translates as "Red One."

A: **Alhambra**

14. Once the youngest Coca-Cola president in Mexico, he planned to solve a rebel uprising in 15 minutes. Running with slogan, "We've already won," the Mexican made quick headway through the PAN, forged the Alliance for Change, and became governor of Guanajuato (Gwan - ah - hwah -toe) in 1995. FTP, name the current president of Mexico who defeated the 71 year control of the PRI in 2000.

A: Vicente (Vi- cen -tay) **Fox**

15. The holder of this position normally lives at Number 11 Downing St., but the current one moved to Number 10 because the Prime Minister needed a larger house. This official's duty is to raise revenue through taxation or borrowing and control government spending. FTP, name this post, the senior finance minister in Britain, which Gordon Brown now occupies and Charles Townshend once held.

A: **Chancellor of the Exchequer**

16. Chain, single, double, treble, filet mesh, ribbed afghan, pineapple, popcorn, and slipper are stitches of this art. The handicraft once used only fingers and thread to make lace, but now uses yarn to make garments and bed coverings. FTP, identify this art, French for "hook" which uses a slender rod to interlock loops of thread into a chain.

A: **crochet**

17. Lauren Weedman, Matt Walsh, Nancy Walls, Steve Carell, Stephen Colbert, and Mo Rocca all contribute stories to this show, which also features editorials by Lewis Black. Much attention was called to their coverage of Election 2000, or Indecision 2000, as they dubbed it. FTP, name this show hosted by Jon Stewart on Comedy Central.

A: The **Daily Show**

18. Naval battles near Valcour Island in the American Revolution and Plattsburgh in the War of 1812 were fought on this lake. Discovered by the namesake Frenchman in 1609, it connects to the Hudson and St. Lawrence Rivers via canals. FTP, name the fourth-largest freshwater lake in the US located between New York, Vermont, and Quebec that could be the sixth Great Lake.

A: Lake **Champlain**

19. Microsoft's proposition to Netscape to split the Internet-browser market between the two companies would have created this. These do not have to submit to regulations or be broken up as monopolies do, giving the involved companies freedom to manipulate their market. FTP, name this condition under which a few companies split up and control a market together.

A: **oligopoly**

20. There is no evidence that these musical works were ever performed in their namesake city. The scores, sold for only a few pennies, have prominent solo parts, though they were meant for an orchestra like the Cohen ensemble. FTP, name these six Bach works nicknamed after Margrave Christian Ludwig's hometown.

A: **Brandenburg Concertos**

Boni

1. Identify these natural cycles 5-10-15.

Name this hydrologic cycle which consists of transpiration, condensation, evaporation, and precipitation.

A: **water cycle**

This cycle represents the gas exchange primarily between respiration and photosynthesis.

A: **Carbon cycle**

This is the process by which this abundant gas is converted into a chemical form plants and bacteria can use and pass on to animals.

A: **nitrogen fixation**

2. FTPE, identify these groups by their number in the periodic table.

This group has the greatest electron affinity.

A: Group **17** (accept Column 17 or Family 17)

The group with the highest second ionization energy.

A: Group **1** (accept Column 1 or Family 1)

This group has the highest first ionization energy for transition metals.

A: Group **12** (accept Column 12 or Family 12)

3. Answer these questions about waves FTPE.

This is the term describing the rebounding of waves off of a surface at the same angle as it hits the surface.

A: **reflection**

This describes the phenomenon of waves traveling at different speeds through different media.

A: **refraction**

This occurs when waves bend around an obstacle.

A: **diffraction**

4. Identify the following aliases of Bill Watterson's Calvin FTPE.

Calvin goes into or gets locked into a closet when donning a cape and facemask to transform himself into this superhero who scoffs in the face of schoolwork.

A: **Stupendous Man**

This private eye takes cases from dames like Susie Derkins and his mom, as well as tackles train collision math problems for his first grader teacher Mrs. Wormwood.

A: **Tracer Bullet**

Time and time again, this astronaut finds his ship being shot down and crashing on strange planets where he is often accosted by vile aliens such as Zorgs, Zargs, and Yucbarfs.

A: **Spaceman Spiff**

5. Given the first few terms of the common Taylor Series, name the functions FTPE.

$1 + x + \frac{x^2}{2} + \frac{x^3}{6} + \dots$

(1 plus x plus x squared divided by 2 plus x cubed divided by 6)

A: **e^x**

$x - \frac{x^3}{6} + \frac{x^5}{120} - \frac{x^7}{5040} + \dots$

(x minus x cubed divided by 6 plus x to the fifth divided by 120 minus x to the seventh minus

5040)

A: **sin(x)**

$x - x^3/3 + x^5/5 - x^7/7 + \dots$

(x minus x cubed divided by 3 plus x to the fifth divided by 5 minus x to the seventh minus 7)

A: **arctan(x)** (also **inverse tangent (x)**)

6. Answer these questions about Langston Hughes FTPE.

Hughes wrote during this flowering of black culture in New York in the 1920s.

A: **Harlem Renaissance**

Hughes wrote a series of books based on this work, whose main character was named Jess B. Simple.

A: **My Simple Minded Friend**

This jazz-inspired poetry collection won Hughes his first poetry Prize. The titular poem starts off, "Droning a drowsy syncopated tune, Rocking back and forth to a mellow croon, I heard a Negro play."

A: **The Weary Blues**

7. Answer the following questions about the characters of J.R.R. Tolkien for the stated number of points.

For 5, this tall and foolish hobbit looks into the Stone of Orthanc without permission before becoming a Knight of Gondor.

A: **Pippen**

For 5, she chooses marriage to a mortal and consequently death over Elvish immortality, offering Frodo her place in the Grey Havens.

A: **Arwen**

For 10, this elf finds Frodo on the road to Rivendell and gives his horse to Frodo to escape the Dark Riders at the Fords of Isen.

A: **Glorfindel**

For 10, this former gardener known as the gaffer describes Mr. Bilbo's upcoming party to the townsfolk and much later loses his home because of Sharky until his son Sam returns.

A: **Hamfast** Gamgee (prompt on **Gamgee**, accept **Ham**)

8. Identify the following numbers FTPE.

The first perfect number, this is the number of feet in a fathom.

A: **6**

The number of points on the star in Carl Gauss's grave, this number is stock response of the humbug in Phantom Tollbooth.

A: **17**

The answer to life, the universe, and everything, this is the number of orcs Gimli killed at Helms Deep and the number of gallons in a barrel.

A: **42**

9. Identify these figures from the Watergate Scandal for five points each.

These two journalists first broke the story in the Washington Post.

A: Carl **Bernstein** and Bob **Woodward**

Their information came from this source, which to this day remains anonymous.

A: **Deep Throat**

For the final 15 pts, name any three of the five burglars arrested for the Watergate Break-in.

A: Bernard L. **Barker**, Virgilio R. **Gonzalez**, Eugenio R. **Martinez**, James W. **Mccord Jr.**, Frank A. **Sturgis**

10. Identify the code of law FTPE.

Created in 621 BC, this Athenian code of laws punished every crime with the death penalty until Solon altered it.

A: **Draco's Code**

Part of the Corpus Iuris Civilis, this Byzantine code issued in 529 AD compiled the constitution of Hadrian, the Codex Theodosianus, the Codex Gregorianus, and the Codex Hermogenianus.

A: **Justinian's Code** (accept **Codex Justinianus**)

The most important Dharma Sutra, it has 12 chapters of 2,694 stanzas and was written in Sanskrit. It is titled after its author, the first man in Indian mythology.

A: **Code of Manu**

11. Given a European capital, name the major river that flows through it FTPE.

London

A: **Thames** (pronounced Tems)

Paris

A: **Seine**

Budapest

A: **Danube**

12. Name this number, 30-20-10.

For 30, if you subtract one from this number, you get its reciprocal.

For 20, the builders of the Paestum used it to create a feeling of order in their work.

For 10, it is equal to one plus the square root of five over two, or 1.618...

A: The **Golden Ratio** (also accept **Golden Mean**, **Golden Section**, **Golden Number**)

13. FTPE, name these Norse threesomes.

These daughters of Erda were born before the earth came into being and spin the rope of fate.

A: **Norns**

Three times three is nine, the number of these daughters born to Wotan by Erda the earth goddess and lead by Brunhilde (Broon - hild-uh).

A: the **Valkyries** (Val - kir - rees)

These three, Woglinde (Woge - lind-uh), Wellgunde (Well - gund-uh), and Flosshilde (Floss - hild-uh), have been charged with guarding gold.

A: **Rhine daughters**

14. FTPE, name these prominent members of Congress who recently erred.

This Mississippi Senator was made to resign from his post as Senate Majority Leader after praising Senator Strom Thurmond and his 1948 platform at his 100th Birthday.

A: Trent **Lott**

This Texas Republican has recently come under fire for his remarks about labor unions being un-American. He is House Majority Whip.

A: Thomas **DeLay**

Lambasted by fellow Virginia Congressman Eric Cantor for stating that the American Jewish community is behind the impending war, this Virginia Democrat was also removed from his position as regional whip by House Minority Leader Nancy Pelosi.

A: James Patrick **Moran**

15. Identify this Islamic terms FTPE.

Literally the struggle, this is often the spreading of Islam through all-out holy war.

A: **jihad**

Akin to fate, this is the inescapable force of Allah governing people's lives. Reacting to it governs one's moral standing.

A: **kismet**

These local individuals summon faithful Muslims to prayer at the appointed times each day.

A: **muezzins**

16. Identify the following relating to Rome and Christianity.

In 312 AD, he had a holy vision, and, because it won him a battle, he legalized Christianity in the Empire.

A: **Constantine**

This is location over the Tiber River where Constantine defeated Maxentius.

A: **Milvian Bridge**

In 390 AD, this man massacred 7000 insurgent citizens of Thessalonica and was excommunicated for eight months. He made Christianity the official religion of the Roman Empire.

A: **Theodosius**

17. FTPE, answer these questions about the Broadway musical, Cats.

"Was there ever a cat so clever" as this magical feline, "the original conjuring cat?"

A: Magical **Mister Mephistopheles** (Mr. Mistoffolees)

This cat is "a curious cat," and always wants the opposite of what his master offers him.

A: The **Rum Tum Tigger**

This Jellicle cat was selected to visit the Heaviside Layer at the end of the musical.

A: **Grizabella** the Glamour Cat

18. For the state number of points, answer the following questions about the body.

Name the four body humors for five points each.

A: **blood** (Latin: **sanguis**), **black bile** (Latin: **melan coln**), yellow **bile** (Latin: **coln**), and **phlegm** (Latin: **felgma**)

For ten, name the man who coined these terms.

A: **Hippocrates**

19. FTPE, identify the type of contract.

According to this theory developed by Locke and Rousseau, people have a duty to work for the government and the government has the duty to work for the people.

A: **social** contract

This contract consists of two parties both promising to do something at a future time.

A: **Bilateral** contract

This type comprises of an obligation to do something imposed by law but bearing the force of a contract.

A: **Quasi** contract

20. Given the country, name the two branches of its legislative body, for five points each. Either the English or actual name will be accepted.

Canada

A: **House of Commons** (also accept **Chambre des Communes**), **Senate** (also accept **Senat**)

Mexico

A: **Senate** (also accept **Camara de Senadores**), **Federal Chamber of Deputies** (also accept **Camara Federal de Diputados**)

Germany

A: **Federal Assembly** (also accept **Bundestag**), **Federal Council** (also accept **Bundesrat**)