

## Toss-ups

1. Raspbian, which is used on the Raspberry Pi, is a modification of a certain distribution of this operating system. The choice of a monolithic kernel for this operating system led to a dispute between Andrew Tanenbaum and its creators. This operating system is often used in the LAMP stack platform, and distributions of it include Debian, Fedora, and Redhat. Linus Torvalds created this open-source operating system which is based on Unix. For 10 points, name this operating system whose mascot is a penguin.

ANSWER: **Linux**

2. In one work by this author, a harpist named Arion, who created the dithyramb, is saved from drowning by a dolphin. Another work by this author tells of Gyges of Lydia, who is forced by the King of Sardes to witness his queen naked, after which the Queen demands that Gyges either kill the king or himself. In that most famous work, this man describes the expansion of the Achaemenid Empire and records battles like Salamis and Plataea. That work by this man is *The Histories*, which he named after the Greek word for inquiry. For 10 name this “father of history” who was born in Halicarnassus.

ANSWER: **Herodotus** of Halicarnassus

3. Giorgione depicted this figure on red pillows “Sleeping” in the wilderness, while in a Bronzino work, Folly and Time appear along with this figure’s son, while this figure holds a golden apple. In another work, a figure standing in front of olive trees hands this deity a pink cloak, while in Salvador Dalí’s *The Hallucinogenic Toreador* a limbless statue of her is replicated multiple times. For 10 points, identify this supposed subject of a statue from Milos, a goddess whose “Birth” on a shell was painted by Sandro Botticelli.

ANSWER: **Venus** [do not accept or prompt on “Aphrodite”]

4. Distressed by the removal of his furniture, this character attempts to save a framed photo of a woman who wears a fur muff. This character finds milk and fresh foods to be distasteful, instead preferring rotten vegetables brought by his sister, Grete. One man chases this character while throwing apples, one of which gets lodged in his back. This character fails to report to work after he “awoke one morning from uneasy dreams”. For 10 points, identify this character that wakes up transformed into a gigantic insect in Franz Kafka’s *The Metamorphosis*.

ANSWER: **Gregor Samsa** [accept either]

5. One filmmaker from this country adapted Ernest Hemingway’s story *The Killers* into a short film. *Departure of a Grand Old Man* was an early film from this country that depicted the final days of one of its most prolific authors. A 1925 silent comedy made in this country included a cameo from the then-reigning world chess champion. One director from this country depicted a scene in which a baby carriage rolls down the Odessa staircases in his *Battleship Potemkin*. For 10 points, name this country home to Sergei Eisenstein, the director of *Ivan the Terrible*.

ANSWER: **Russia** [accept “**Soviet Union**” or “**Union of Soviet Socialist Republics**”]

6. A disease that causes scarring of the kidney and destruction of small blood vessels is due to a mutation in the synthesis of this protein and is named Alport syndrome. Another condition caused by improper synthesis of this protein is Ehlers-Danlos syndrome. A lack of its cofactor, vitamin C, causes inhibition of its synthesis, which results in scurvy. This protein contains many occurrences of the amino acids glycine and proline, and it forms a triple-helix structure. For 10 points, name this protein that makes up connective tissue, the most abundant protein in humans.

ANSWER: collagen

7. In this culture's creation myth, humans were first created out of mud and wood, but were destroyed because they were not able to worship correctly. This culture's maize deity, whose gender is uncertain, wears a jade skirt. These people worshipped a rain god carrying a shield and axe whose name is Chaac, and they believe that Seven Macaw was defeated by two figures who won a sacred ball game in Xibalba. For 10 points, name this Mesoamerican culture whose myths about the Hero Twins were collected in the Popul Vuh.

ANSWER: Mayan mythology

8. One work by this man explains the origins of the Vestalia and Lupercalia, along with other festivals in the first six months of the calendar. Another work by him contains the stories of Ceyx and Alcyone, and of Philomela and Procne. One poem by this author of the *Fasti* contains advice on seduction, the *Ars Amatoria*. This poet, exiled to Tomis on the Black Sea for "carmen et error", is most famous for a poem that contains the tales of Pyramus and Thisbe, and Daphne, Io, and Arachne, who transformed. For 10 points, name this Roman poet of the *Metamorphoses*.

ANSWER: Publius Ovidius Naso

9. This man wrote a memoir describing his "longing for a bowl of soup" during a trans-continental journey he took on *La Poderosa II*. This man established Radio Rebelde and supervised hundreds of extrajudicial executions at La Cabaña Fortress. He limited the size of his country's farms to 1000 acres as head of INRA, appointed by Fidel Castro. This leader of the 26<sup>th</sup> of July Movement failed to incite communist revolution in Congo-Léopoldville, and was captured by the CIA in Bolivia and killed after shouting "Shoot, coward!" For 10 points, name this Cuban revolutionary whose likeness appears on "rebellious" T-shirts.

ANSWER: Ernesto "Che" Guevara [accept either]

10. In one episode of this show, a Commander carrying the President's nuclear "football" dies under suspicious circumstances, causing *Air Force One* to emergency land in Wichita, Kansas. Another episode of this show features a genetically engineered strain of *Y. pestis* mailed to the Navy Yard. After Ari Haswani shot and killed Special Agent Caitlin Todd, Officer Ziva David from the Mossad took her place in this series. For 10 points, name this police procedural drama centered on a team led by Special Agent Leroy Jethro Gibbs in the title naval organization.

ANSWER: Naval Criminal Investigative Service [do not accept or prompt on *NCIS: Los Angeles* or *NCIS: New Orleans*]

11. Characters in a novel by this author are caught performing the play *Lover's Vows* by a man unexpectedly returning from Antigua. After he saves her friend from a band of gypsies, a protagonist by this author realizes she does not like Frank, who is revealed to have sent the anonymous piano to Jane. This author wrote a novel in which one character, spurned by Mr. Willoughby for her wealth, marries Colonel Brandon, and another that ends with Mr. Darcy's marriage to Elizabeth Bennet. For 10 points, identify this author of such novels as *Mansfield Park*, *Emma*, *Sense and Sensibility*, and *Pride and Prejudice*.

ANSWER: Jane Austen

12. This man described a person carrying an umbrella in case of rain to exemplify his principle of "irreducible uncertainty." In addition to writing *A Treatise on Probability*, this man argued that deflation is worse for a country than a depreciation of its currency in *A Tract on Monetary Reform*. This economist criticized the Treaty of Versailles and argued that the best way to overcome economic depression is to increase governmental spending. For 10 points, name this British economist who wrote *The General Theory of Employment, Interest, and Money*.

ANSWER: John Maynard Keynes

13. The canonical form of this quantity for a system is equal to the partial derivative of its Lagrangian with respect to  $q\text{-dot}$ . By the canonical commutation relation, the commutator of position and this quantity is  $i$  times  $\hbar$ . The fact that that commutator is not equal to zero explains a famous result involving this quantity and position, which states that they cannot both be precisely determined. Impulse is equal to the change in this quantity, and its time derivative is equal to force. For 10 points, name this quantity that is equal to mass times velocity.

ANSWER: linear momentum [accept "p"]

14. This man's imprudence during a visit to Sultan Abdelaziz sparked the First Moroccan Crisis. This monarch opposed the *Kartell*, whose leader he replaced with Leo von Caprivi, and almost sparked war with Great Britain by sending the Kruger Telegram. His insecurities about his palsied left hand may have led to the *Daily Telegraph* affair. Prince Maximilian of Baden, his final Chancellor, oversaw his flight into exile in the Netherlands during the November Revolution, which ended the German monarchies. He had earlier dismissed Otto von Bismarck. For 10 points, name this final German Kaiser.

ANSWER: Wilhelm II [accept "William II"]

15. This work's section "Awake the Harp" contains a four-part choral fugue, and it portrays some mundane animals, including the Worm, with a *siciliana*. A tenor aria in this work depicts a couple "In native worth and honor clad", and its libretto was ineptly translated by Baron von Swieten. This oratorio's C minor overture uses unfinished cadences to represent Chaos, and its three soloists represent Gabriel, Uriel, and Raphael. A tremendous C major chord in this work is played as the chorus sings "And there was light". For 10 points, name this oratorio by Josef Haydn whose text is based on *Paradise Lost* and the book of Genesis.

ANSWER: *The* Creation [accept "*Die* Schöpfung"]

16. The William-Landel-Ferry equation is a modification of this equation, which is better at describing viscosity at high temperatures. When a form of this equation is plotted as the inverse of temperature against the natural logarithm of the rate constant, a straight line is achieved. In this equation,  $e$  is raised to the power of  $E_{\text{sub-a}} \text{ over } RT$ , and that factor is multiplied by the pre-exponential factor,  $A$ . For 10 points, name this equation that relates the rate constant to activation energy, named after a Swedish chemist.

ANSWER: Arrhenius equation [accept "Arrhenius's law"]

17. He's not Athena, but this figure was revered by the Palladists and by the Order of Nine Angles. In Islam, this figure whispers to mortals to fulfil a vow he made after Allah promised him respite from Jahannam. In the Old Testament, this figure's urging convinced God to torment Job, and he was later worshiped by a society founded by Anton LaVey. Justin Martyr associated this "son of the morning" with the serpent in Eden. For 10 points, name this "accuser" who tempted Jesus in the wilderness and will be cast into the lake of fire on Yawm al-Qiyāmah, the Day of Judgment.

ANSWER: ha-Satan [accept "Shaytān", "Iblīs", "the Devil", or "Lucifer"]

18. This organization's first president argued for the plaintiff of the Supreme Court case *Buchanan v. Warley*. Harry T. Moore, a member of this organization, was killed when his house was bombed in 1951. As a field secretary for this organization, Medgar Evers supported desegregation of beaches along the Mississippi Gulf Coast. This organization began with the Niagara movement, and its newspaper, *The Crisis*, was edited by W. E. B. Du Bois. For 10 points, name this early civil rights organization founded in 1909.

ANSWER: National Association for the Advancement of Colored People

19. In this play's third act, a character attempts to convince a woman he caught in the bathroom peeling labels off wine bottles that she heard the doorbell ring, and he later throws snapdragons towards a man mistaken to be in the Math department. In this play's second act, "Walpurgisnacht", that character, actually a biologist, reveals he married a woman due to a hysterical pregnancy. At the end of this play, the revelation of her imaginary son's death causes one woman to answer "I am" to the title question. For 10 points, name this play in which Nick and Honey are invited for a night of drinks by George and Martha, a work of Edward Albee.

ANSWER: Who's Afraid of Virginia Woolf?

20. An active stratovolcano in this mountain range is the Tungurahua, which means "throat of fire" in an indigenous language of this range. A retreating ice sheet that covered this mountain range in the Llanquihue glaciation contains a mountain near El Chaltén village, known as Fitz Roy. A mountain in this range contains large deposits of salt that in its lagoons, which appear like eyes and contribute to its name, Ojos del Salado. Lithium deposits are found in the Atacama Desert of this range, which contains Lake Titicaca and Chimborazo. For 10 points, name this South American mountain range.

ANSWER: Andes Mountains

TB. In one of this author's poems, the speaker tells his daughter to not weep, since Jupiter and the Pleiades will eventually emerge from the clouds. In another of his poems, the speaker becomes sick listening to a lecture on the stars and goes out to "look up in perfect silence" at them instead. Another poem by this author of "When I Heard the Learn'd Astronomer" states that "the great star early droop'd in the western sky in the night." For 10 points, name this poet of "When Lilacs Last in the Dooryard Bloom'd" and "Song of Myself," both of which appear in *Leaves of Grass*.

ANSWER: Walt **Whitman**

## Bonuses

1. For 10 points each, answer some questions about fictional spacecraft.

[10] Lando Calrissian lost this starship in a game of sabacc. This ship can make the Kessel Run is less than twelve parsecs, according to its pilot.

ANSWER: Millennium Falcon [prompt on “the Falcon”]

[10] In the TV series *Doctor Who*, the Doctor travels through time and space in this Gallifreyan spacecraft, which appears as a blue police box from the 1960s.

ANSWER: Time And Relative Dimension In Space [or “TARDIS”]

[10] Fox McCloud flies this type of ship in the video game series *Star Fox*. By executing a barrel roll, this type of ship can deflect laser beams.

ANSWER: Arwing

2. Boron is the first element to have electrons in these atomic subshells. For 10 points each:

[10] Name these atomic orbitals oriented perpendicularly to each other on the x, y, and z axis that can hold a maximum of 6 electrons.

ANSWER: p orbitals

[10] Unhybridized P orbitals form these bonds above and below the nucleus when double or triple bonded in a molecule.

ANSWER: pi bonds

[10] Pi bonds are weaker than sigma bonds because they form in this orientation. Rotating molecules around pi bonds is impossible because the p orbitals bond in this orientation.

ANSWER: parallel

3. The Humming Chorus plays as this opera’s title character stays up awaiting her lover. For 10 points each:

[10] Name this opera whose title character converts to Christianity to win Pinkerton’s love.

ANSWER: Madama Butterfly [accept “Madame Butterfly”]

[10] *Madama Butterfly* is an opera by this Italian composer of *La Bohème* and *Tosca*.

ANSWER: Giacomo Antonio Domenico Michele Secondo Maria Puccini

[10] This servant of Pinkerton and Cio-Cio San falls asleep with Dolore, her mistress’s child, during the Humming Chorus. She prays to Buddha and her *kami*, to Cio-Cio San’s disapproval.

ANSWER: Suzuki

4. Abbé Sièyes wrote a pamphlet whose title asked “What is [this entity]?” For 10 points each:

[10] Name this group composed of the bourgeoisie and peasantry, who swore the Tennis Court Oath after forming the National Assembly.

ANSWER: Third Estate [prompt on general answers like “commoners of France”]

[10] This unfortunate French king tried to prevent the formation of the National Assembly. He was tried and executed by its successor, the National Convention, during the French Revolution.

ANSWER: Louis XVI

[10] Abbé Sièyes’ pamphlet “What is the Third Estate?” responded to the title question with this single word, immediately before asking “What has it been until now?” and “What does it ask?”

ANSWER: “Everything” [accept “Tout”]

5. This man kills his adopted son, and, as a result, doesn't taste food for two days afterward. For 10 points each:

[10] Name this man known throughout Umuofia for wrestling Amalinze the Cat.

ANSWER: Okonkwo

[10] This Nigerian author wrote about Okonkwo and his family during the introduction of Christianity to Umuofia in his novel *Things Fall Apart*.

ANSWER: Chinua Achebe

[10] In this Achebe novel, Colonel T.K. Winterbottom tries to establish indirect rule over Igbo villages. Ezeulu, a native priest, is blamed for the arrival of white people and Christianity.

ANSWER: Arrow of God

6. This book describes how the waters turn bitter when the star Wormwood falls into them. For 10 points each:

[10] Name this final book of the Bible, written by John of Patmos. It describes the events of the end time, including the coming of the Four Horsemen and the arrival of Christ.

ANSWER: Book of Revelation [do not accept "Book of Revelations"]

[10] Revelation is addressed to this number of "churches of Asia". This is also the number of bowls poured by the angels onto the earth and the number of heads that the beast possesses.

ANSWER: seven

[10] Revelation describes how Jesus will return to Earth to lead the faithful to victory against Gog and Magog at this battle, after which Satan will be thrown into a lake of fire.

ANSWER: Armageddon [accept "Har-Megiddo"]

7. This man created the secret Yassa law code. For 10 points each:

[10] Name this husband of Börte who sent Subutai to conquer Khwarezm and founded an empire.

ANSWER: Genghis Khan [accept "Temüjin"]

[10] Genghis Khan founded the empire of this steppe people, nomadic herders and horsemen who lived in yurts.

ANSWER: Mongols

[10] Genghis Khan was succeeded by this third son of his, whose death caused the withdrawal of Batu Khan's forces from Eastern Europe. He destroyed the Jin Dynasty of the Jurchens.

ANSWER: Ögedei Khan [accept "Yuan Taizong"]

8. Its duck bill and flat tail convinced Europeans that it was a hoax. For 10 points each,

[10] Name this wonderful Australian mammal whose male has poison spurs on his heels.

ANSWER: duck-billed platypus [accept "Ornithorhynchus anatinus"]

[10] The platypus is a member of this order, the only extant mammals that lay eggs.

ANSWER: Monotremata [accept "monotremes"]

[10] Platypodes share their order with these long-snouted creatures divided into four species, one of which is named for Sir David Attenborough.

ANSWER: echidnas [accept "spiny anteaters"]

9. Its artist's portrait of Thomas Carlyle reuses the pose of this painting's subject. For 10 points each:

[10] Name this painting that features two framed pictures and a gray flower-print curtain behind this work's title figure, who wears a severe black dress and has the title relation with the artist.

ANSWER: **Arrangement in Grey and Black No. 1** [do not reveal answer, but accept "**Whistler's Mother**"]

[10] This artist, who painted *Arrangement in Grey and Black No. 1*, was accused by John Ruskin of "flinging a pot of paint in the public's face" for his work *Nocturne in Black and Gold*.

ANSWER: James Abbott McNeill **Whistler**

[10] Whistler painted the gold-leaf murals on the teal walls of this room currently located in the Freer Gallery. His *The Princess from the Land of Porcelain* hangs over this place's mantle.

ANSWER: **Harmony in Blue and Gold** [accept "**The Peacock Room**"]

10. This castaway was lost at sea on a voyage to gather African slaves. For 10 points each:

[10] Name this character who converts Friday to Christianity and escapes from the Island of Despair after 28 years.

ANSWER: **Robinson Crusoe** [accept either]

[10] This man was the author of *Robinson Crusoe*.

ANSWER: Daniel **Defoe**

[10] In this novel by Defoe, the title woman marries five men, including the banker Callum Murray. She moves to the American colonies but retires back to England after a fast life.

ANSWER: *The Fortunes and Misfortunes of the Famous* **Moll Flanders**

11. This nation suffered a drought from 2000 to 2010, the worst in a millennium. For 10 points each:

[10] Name this Central Asian nation, whose Minister of Defense gave US Secretary of Defense Chuck Hagel a horse as a gift in his April 2014 visit to this nation.

ANSWER: **Mongolia**

[10] This nontheistic religion's Tibetan form, which combines Vajrayana and Mahayana, is widely practiced throughout Mongolia, combined with a native form of shamanism.

ANSWER: **Buddhism**

[10] Genghis Khan insisted that his military victories could be attributed to this god, the native Mongolian spirit of the Eternal Blue Sky.

ANSWER: **Tengri**

12. This work claims that tribal and modern sciences are similar because they both fulfill a "thirst for objective knowledge". For 10 points each:

[10] Name this work whose author theorized that the title entity was "logical in the same sense and fashion as ours".

ANSWER: *The* **Savage Mind** [Accept *La* **Pensée Sauvage**]

[10] Along with *The Savage Mind*, this French anthropologist penned *The Way of the Masks* and *Structural Anthropology*.

ANSWER: Claude **Lévi-Strauss**

[10] This four volume collection by Lévi-Strauss includes *The Raw and the Cooked* and *The Origin of Table Manners*.

ANSWER: **Mythologiques**



13. In this novel, the protagonist learns of his mother's death by telegram and seems oddly indifferent about it. For ten points each:

[10] Name this novel in which Raymond Sintes and Meursault testify on each other's behalf, and the typist Marie Cardona asks Meursault to marry her after he says that he doesn't love her.

ANSWER: *The Stranger* [accept "*L'Étranger*"]

[10] This author wrote *The Stranger* but rejected the existentialist label that was applied to it.

ANSWER: Albert Camus

[10] In this novel by Camus, Dr. Bernard Rieux recognizes the title event because of the death of his doorman Monsieur Michel, and he confides in a journalist named Raymond Rambert.

ANSWER: *The Plague* [accept "*La Peste*"]

14. This law states that induced current always flows so as to oppose the charge inducing it. For 10 points each:

[10] Name this electromagnetic analogue of Newton's third law.

ANSWER: Lenz's law

[10] Lenz's law is expressed quantitatively by the negative sign in this man's law of induction, which is Maxwell's third law. He names a "cage" that has no electromagnetic field inside of it.

ANSWER: Michael Faraday

[10] The Maxwell-Faraday equation states that applying this operation to the electric field is equal to the negative partial derivative of the magnetic field with respect to time.

ANSWER: curl [accept "del cross"]

15. After witnessing a solar eclipse, this leader launched an uprising that resulted in the death of the Travis family, and his "Confessions" were published by Thomas R. Gray. For 10 points each:

[10] Name this leader of a 1831 slave revolt who killed Margaret Whitehead with a fence post.

ANSWER: Nat Turner

[10] Nat Turner's Rebellion occurred in this state, where John Brown raided a federal armory at Harper's Ferry in the prelude to the American Civil War.

ANSWER: Virginia

[10] A slave revolt on this Spanish ship led to a Supreme Court case which held that the capture of this ship's passengers was illegal and ordered that they be returned to their homelands.

ANSWER: *La Amistad*

16. This character reluctantly agrees to let another partake in a performance of the play "The Enchanted Hunters" written by Clare Quilty, whom this character later kills. For 10 points each:

[10] Name this character who marries Charlotte after she tells him to leave unless he marries her. She gets run over by a car after reading this character's diary.

ANSWER: Humbert Humbert [accept either]

[10] Humbert appears in this novel by Vladimir Nabokov that tells of his fascination with young girls he calls "nymphets", including Dolores, whom he gives the title nickname.

ANSWER: Lolita

[10] Nabokov also wrote this novel that includes Charles Kinbote's commentary on the title 999-line poem written by John Shade.

ANSWER: Pale Fire

17. This base two number system is often used in computer science. For 10 points each:

[10] Name this number system that only uses zeroes and ones.

ANSWER: binary

[10] This base 16 number system represents the numbers 0 through 9 as usual and the numbers 10 through 16 with the letters A through F.

ANSWER: hexadecimal

[10] The Bailey-Borwein-Plouffe algorithm uses the hexadecimal number system to compute the nth digit of this constant.

ANSWER: pi

18. For 10 points each, name some piano sonatas by Ludwig van Beethoven.

[10] This “sonata quasi una fantasia” derives its nickname from supposedly evoking the title nocturnal phenomenon glittering on Lake Lucerne.

ANSWER: Moonlight Sonata [accept “Piano Sonata No. 14 in C-sharp minor”]

[10] This stormy sonata is frequently nicknamed for a certain Shakespeare play that Beethoven’s secretary claimed inspired it.

ANSWER: Tempest Sonata [accept “Piano Sonata No. 17 in D minor”]

[10] This long and difficult sonata opens with several loud chords in B-flat major. Its first movement ends with a triple-f dynamic marking.

ANSWER: Hammerklavier Sonata [accept “Piano Sonata No. 29 in B-flat major”]

19. This deity sleeps on the king of serpents while drifting across the cosmic ocean. For 10 points each:

[10] Name this Hindu deity who has avatars like Kurma and Ram. He is the preserver of the universe in the Hindu *trimurti*.

ANSWER: Vishnu

[10] Vasuki only agreed to help Vishnu churn the ocean of milk if this figure left. This mount of Vishnu is half man and half bird.

ANSWER: Garuda

[10] Vishnu’s avatar Varaha took this form to rescue the Earth, personified as Bhūmi, from the seafloor. Artemis sent one of these creatures to ravage a city, but Atalanta killed it.

ANSWER: boar

20. This Vice Premier came to power after the Gang of Four was purged. For 10 points each,

[10] Name this man who never led the Chinese Communist Party but instituted economic reforms, following his precept “to get rich is glorious.”

ANSWER: Deng Xiaoping

[10] Deng’s policies reversed the Great Leap Forward of this Chairman and founder of the People’s Republic of China, during whose tenure tens of millions of people died.

ANSWER: Mao Zedong [accept “Mao Tse-tung”]

[10] Deng created these areas in cities like Shenzhen and Shantou. The liberalization of economic policies in these areas attracts more foreign investment than most of the rest of China.

ANSWER: Special Economic Zones

TB. In this work, the title character and Cacambo reach Eldorado, a utopian society, but the title character's love for Cunégonde convinces him to leave. For 10 points each:

[10] Name this work in which Dr. Pangloss teaches the title character that "all is for the best in the best of all possible worlds."

ANSWER: *Candide*, *ou l'Optimisme*

[10] This French philosopher wrote *Candide* as well as many other satires.

ANSWER: Voltaire [accept "François-Marie Arouet"]

[10] This kindly Dutch Anabaptist takes care of Candide and Pangloss. He later dies in a shipwreck in Lisbon while saving an ungrateful sailor.

ANSWER: Jacques the Anabaptist