

2015-16 PLATO: Perfectly Likeable Academic Tournament Offering

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Round 4

1. It's not desert, but this biome receives between fifteen and twenty-five centimeters of rain per year. Due to the short growing seasons and a layer of permafrost, this biome's vegetation is dominated by shrubs, mosses, and lichens. This environment has Antarctic, arctic, and alpine varieties and animals that live here include lemmings, caribou, and reindeer. For 10 points, name this coldest biome characterized by little to no tree growth.

ANSWER: **tundra**

2. This man's donation founded the University of Chicago, the alma mater of his only son. This man once owned the companies that became ExxonMobil and Chevron, and he clashed with Andrew Carnegie. This man integrated his company both vertically and horizontally, leading to criticism from the muckraker Ida Tarbell. For 10 points, name this "robber baron" who founded Standard Oil and whose grandson Nelson was vice president under Gerald Ford.

Answer: John D. **Rockefeller**

3. The second volume of this book is sometimes printed separately as *Good Wives* and begins, "in order that we may start afresh and go to Meg's wedding with free minds..." Laurie is rejected by one character in this novel after she meets Professor Bhaer, so Laurie marries Amy instead and they name their child after her sister Beth. For 10 points, name the novel by Louisa May Alcott where sisters Meg, Jo, Beth, and Amy March face life during the American Civil War.

ANSWER: **Little Women**

4. Paul Gauguin and this other painter briefly lived together in Arles in 1888, and Gauguin painted a portrait of this man he called "the Painter of Sunflowers." This Dutch artist's work includes *The Potato Eaters* and a *Self-Portrait with Straw Hat*. Plagued by bouts of mental illness, this artist is also known for cutting off his own ear and giving it to Gauguin. For 10 points, name this artist perhaps best known for his painting *The Starry Night*.

ANSWER: Vincent **Van Gogh** [*pronounced "van goff" or "van go"*]

5. Celebrations of this holiday include plays called spiels. In cities which had walls during ancient times, this holiday is celebrated a day later. Triangular cookies called hamantaschen are traditional desserts for this holiday. During the reading of the Megillah in synagogues on this holiday, Jews make noise to blur out Haman's name. For 10 points, name this Jewish holiday commemorating the deliverance of the Jewish people by Mordecai and Esther.

ANSWER: **Purim**

6. This character's neighbor Aldonza inspires him to attack a group of travelers who beat him; upon his return home, his library of books, many on chivalry, are burned. Often referred to as "the man of la Mancha," he is accompanied by his steed Rocinante and the squire Sancho Panza on his quests. For 10 points, name this Spanish literary character, created by Miguel de Cervantes, best known for fighting windmills he believed were giants.

ANSWER: **Don Quixote** [*pronounced "kee-hoe-tay"*]

7. In this state, preserved remains of woolly mammoths are found in the La Brea Tar Pits. This state is home to General Sherman, the largest tree in the world and one of many redwoods located in Sequoia National Park. Its Sierra Nevada mountain range runs through Yosemite National Park. For 10 points, name this state located directly south of Oregon which contains the Sacramento River and San Francisco Bay.

ANSWER: **California**

8. This word is used to describe chemical reactions in which two molecules combine together while releasing a smaller molecule, which is often water. As vapor pressure increases above a liquid's surface, the rate of this process increases as well. In distillation, substances are separated by first boiling them and then cooling the resulting vapor to cause this process. In the water cycle, clouds are formed by this process. For 10 points, name this change in phase of matter from gas to liquid.

ANSWER: **condensation**

9. This man and Ismael Zambada lead the Sinaloa Cartel. In 2013, the Chicago Crime Commission named this person "Public Enemy Number One," the first since Al Capone. This person escaped prison in July 2015 using tunnels, but was recaptured by Mexican Marines in January 2016. Sean Penn controversially interviewed this person while this person was in hiding in October 2015. For 10 points, name this powerful Mexican drug lord and trafficker.

ANSWER: Joaquín Archivaldo **Guzmán** Loera [accept **El Chapo**]

10. In preparation for this military event, George Patton led Operation Bodyguard, which successfully deceived one side in this battle to keep their troops at Calais. This battle was codenamed Operation Neptune, and Dwight D. Eisenhower was a general for the winning side. It consisted of amphibious landings by American and British troops. For 10 points, name this Allied invasion of Normandy that occurred on June 6, 1944.

ANSWER: **D-Day** invasion [accept **Operation Neptune** before read; accept any answer describing an **invasion** or **landing** at **Normandy** beaches before "Normandy" is read]

11. One ion of this element serves as a common secondary messenger in intracellular signaling. This element is absorbed in the intestinal tract by proteins synthesized by Vitamin D, and this element allows for muscle contraction. A deficiency of this element in the body can lead to osteoporosis or rickets. For 10 points, name this essential mineral found in dairy products that helps maintain teeth and bone health whose pure element is symbolized Ca.

ANSWER: **calcium** [accept **Ca** before mentioned]

12. This actor and musician played the superhero Hancock on screen. His Grammy-winning music includes “Parents Just Don’t Understand” and “Gettin’ Jiggy Wit It.” He has portrayed boxer Muhammad Ali, but he is best known for his role as Agent J in the *Men in Black* films. His daughter Willow released the single “Whip My Hair” in 2010. For 10 points, name this actor, star of *The Fresh Prince of Bel-Air*, and father of fellow actor Jaden.

ANSWER: Will **Smith**

13. After he was caught disguised as a salmon, this god causes earthquakes as he writhes in pain while being tortured with serpent venom. His children include the wolf Fenrir, the eight legged horse Sleipnir, and the world snake Jormungandr. Currently bound in chains, his release will signal the beginning of Ragnarok, a great world-ending battle in which this god kills Heimdall. For 10 points, name this Norse deity, best known as the shape-shifting trickster god.

ANSWER: **Loki**

14. Upon entering this land, the horse Strawberry became known as Fledge. Digory Kirke and Polly Plummer were two of the first humans to witness this land’s creation in *The Magician’s Nephew*. Made by the great lion Aslan, it was ruled for several years by The White Witch, who made it eternally winter but never Christmas. For 10 points, name the fictional land that the Pevensie siblings visit in *The Lion, the Witch, and The Wardrobe*.

ANSWER: **Narnia**

15. The magnitude of two vectors times this function of the angle between them is equal to their dot product. The law of this function uses two sides of a triangle and an angle to find the length of the third side and one divided by this function is equal to secant. For 10 points, name this trigonometric function, along with sine and tangent, that yields the ratio of a right triangle’s adjacent leg to its hypotenuse.

ANSWER: **cosine**

16. One former leader of this organization, Don Black, created the hate website Stormfront. Nathan Bedford Forrest was an early leader of this organization, glorified in D.W. Griffith’s *Birth of a Nation*, which opposed carpetbaggers and scalawags. Members of this group sometimes burned crosses and lynched blacks, following the instructions of their “Grand Wizard.” For 10 points, name this white supremacist group famous for its white hooded costumes.

ANSWER: **Ku Klux Klan** [or **KKK**]

17. This country contains Ballarat, whose population exploded after a gold rush that led to the Eureka Rebellion. Jorn Utzon [*yorn OOT-zon*] claimed that peeling an orange inspired his design for an opera house in this country’s most populous city. This country’s state of New South Wales is located west of the Tasman Sea, and its natives are called Aborigines. For 10 points, Melbourne and Sydney are cities in what country, the only one to be called a continent?

ANSWER: **Australia**

18. Cells in members of this kingdom undergo cytokinesis by cell plate formation. The process of photophosphorylation takes place in the thylakoid membranes of an organelle that is nearly unique to this kingdom. Phloem and xylem are two types of vascular tissue found in this kingdom, whose members have cell walls made from cellulose. For 10 points, name this autotrophic kingdom whose members often use chloroplasts in photosynthesis.

ANSWER: **plants** [or **Plantae**]

19. Demo Slam is a website featuring demonstrations of this company's new technology products. This company's Cardboard virtual reality technology was used to help promote *The Force Awakens*. Its homepage features illustrations called "doodles." In 2015, this company published a letter on www.abc.xyz announcing its reorganization into Alphabet Inc. For 10 points, name this popular technology company and developer of Chrome with a namesake search engine.

ANSWER: **Google** [accept **Alphabet** Inc. before mentioned]

20. Under the name Robert Galbraith, this author writes a series of popular detective novels, the *Cormoran Strike* series. She co-wrote a play about the son of her most famous character called (*That Character*) and *the Cursed Child*. She also wrote a screenplay based on her work about Newt Scamander's travels to the Magical Congress of the USA. For 10 points, name this author who is said to have begun drafting the Harry Potter series during a train ride.

ANSWER: Jo(anne) **Rowling** [accept J.K. **Rowling**]

TB. One site of ruins from this empire was brought to world attention by Hiram Bingham and includes the Inti Watana. The last ruler of this empire was executed after satisfying a gold ransom; that ruler was Atahualpa. This empire believed in the sun god Inti, was centered at Cuzco, and was conquered by Francisco Pizarro. For 10 points, name this empire that was located in Peru, and created Machu Picchu.

Answer: **Incan** empire

Bonuses

1. The protagonist of this book is sent to Camp Green Lake after being accused of stealing a baseball player's shoes. For 10 points each:

[10] Name this novel by Louis Sachar. In it, Stanley Yelnats helps Zero learn how to read.

ANSWER: Holes

[10] Zero eventually admits to stealing the shoes from this baseball player, nicknamed for his terrible foot odor which by the end of the novel is cured by Stanley's father.

ANSWER: Clyde Livingston [accept Sweet Feet Livingston]

[10] In *Holes*, this schoolteacher became an outlaw after the death of Sam the Onion Man. She gained her nickname by leaving lipstick marks on the people she killed.

ANSWER: Kissin' Kate Barlow [accept either underlined answer; also accept Katherine Barlow]

2. For 10 points each, name these amendments from the Bill of Rights.

[10] This amendment guarantees rights like freedom of religion, freedom to peacefully assemble, and freedom of speech.

ANSWER: First Amendment [accept one]

[10] The Supreme Court's decision in *District of Columbia v. Heller* applied this amendment to 'federal enclaves' like military bases and removed a restriction requiring trigger locks.

ANSWER: Second Amendment [accept two]

[10] This amendment forbids the imposition of excessive bail. Its prohibition of "cruel and unusual punishment" has influenced Supreme Court cases about the death penalty.

ANSWER: Eighth Amendment [accept eight]

3. When these numbers are added to real numbers, they make up complex numbers. For 10 points each:

[10] Identify these numbers that, when squared, yield negative numbers.

ANSWER: imaginary numbers

[10] To get rid of the imaginary part of a complex number, one can multiply by this type of number. It can be found by flipping the sign of the imaginary part of the complex number.

ANSWER: complex conjugate

[10] The square root of negative one is the most basic imaginary number and is denoted by this letter.

ANSWER: i [accept j]

4. Identify these billboard-worthy topics from science, for 10 points each.

[10] The solidified saliva of these birds, among the fastest known flyers, makes up their nests which are often harvested for bird's nest soup, a delicacy in China.

ANSWER: **swifts**

[10] The linguist Noam Chomsky believes there is a hard-wired human capability to learn the structure and rules of a language, which he called his Universal *this*.

ANSWER: **grammar**

[10] The first two humans to do this activity left the Lunar Module on July 21, 1969; Neil Armstrong did this just before Buzz Aldrin.

ANSWER: **walk** on the **moon** [accept equivalent answers]

5. This capital city's geographic center is said to be Charing Cross, the meeting place of three roads just south of Trafalgar Square. For 10 points each:

[10] Name this city, where Whitehall runs near Scotland Yard and meets Downing Street at its southern end.

ANSWER: **London**, England

[10] About 40 members of the Parliament in the UK represent this country, home to the cities of Gwynedd and Swansea.

ANSWER: **Wales** [accept **Cymru**]

[10] This capital city of Wales is home to the Welsh Millennium Centre and a namesake bay.

ANSWER: **Cardiff**

6. This man composed "Water Music" after King George I requested a concert on the River Thames. For 10 points each:

[10] Identify this German-born English composer. Other works by him include "Music for the Royal Fireworks" and "Zadok the Priest."

ANSWER: George Frideric **Handel**

[10] Handel is best known for this oratorio, which includes sections such as "For unto us a child is born" and "I know that my Redeemer liveth."

ANSWER: **Messiah**

[10] During this famous section of "Messiah," King George II was so moved that he stood up, initiating the trend that everyone stands when this movement is played.

ANSWER: **Hallelujah** chorus

7. This 1937 novel follows the adventures of Bilbo Baggins on his way to the Lonely Mountain to regain a dwarf treasure hidden deep inside. For 10 points each:

[10] Name this novel, the first in a long series on the adventures of dwarves, elves, and the sprawling landscapes of Middle Earth.

ANSWER: *The **Hobbit**; or There and Back Again*

[10] This British author wrote *The Hobbit* and the *Lord of the Rings* trilogy in which he created the Elvish language.

ANSWER: J(ohn) R(onald) R(euel) **Tolkien**

[10] This other author, whom Tolkien helped to convert to Christianity, created the professor Elwin Ransom in his "Space" series, a character possibly based on Tolkien.

ANSWER: C.S. **Lewis**

8. Answer these well “ed”-ited questions about some intelligent men, for 10 points each:

[10] While in office, he may have been called the “Ed Secretary;” name this man, the former U.S. Secretary of Education until 2016, who led Chicago Public Schools before his appointment.

ANSWER: Arne **Duncan**

[10] Though he once starred in the sitcom *Ed*, Tom Cavanagh may be better known to today’s audiences for playing this director of S.T.A.R. Labs on the CW’s *The Flash*.

ANSWER: Dr. Harrison **Wells** [accept Eobard **Thawne**]

[10] The abbreviation “ED” is the stock ticker symbol for an electrical utility company in the New York City area, named after this scientist who worked out of Menlo Park, New Jersey.

ANSWER: Thomas Alva **Edison**

9. These irrational fears may cause anything from mild anxiety to panic attacks. For 10 points each:

[10] Name these fears which people will go to great lengths to avoid. Their name comes from the name of a Greek god of fear and horror.

ANSWER: **phobias**

[10] Some specific phobias are listed in this psychiatric reference book commonly used in the United States. The fifth edition was released in 2013.

ANSWER: **DSM-V** [accept Diagnostic and Statistical Manual of Mental Disorders]

[10] In the 1970s, protesters fought to have this condition removed as a mental disorder from the DSM. Scientists like Alfred Kinsey presented data supporting that proposal.

ANSWER: **homosexuality** [accept equivalent answers such as “being **gay**”]

10. This man described a hypothetical pin factory in his best-known work. For 10 points each:

[10] Name this Scottish economist who built on the ideas of the French physiocrats in his *The Wealth of Nations*.

ANSWER: Adam **Smith**

[10] Smith used this two-word phrase to describe the tendency of markets to self-correct. In *The Wealth of Nations*, he says that *this* leads one to “promote an end which was no part of his intention”.

ANSWER: “**invisible hand**”

[10] Smith’s works laid the foundation for this kind of economy, especially its laissez-faire kind. It is based on private ownership, in contrast to communism.

ANSWER: **capitalism**

11. The Parthenon is dedicated to this goddess and located in her namesake city. For 10 points each:

[10] Name this Greek goddess of wisdom and war, the Roman equivalent of Minerva.

ANSWER: **Athena**

[10] When this Theban prophet saw Athena as she was bathing, the goddess struck him blind. Later, Athena also gave him the ability to understand birdsong.

ANSWER: **Tiresias**

[10] Tiresias was also cursed by this other Greek goddess. When he settled a bet in Zeus's favor, this goddess and wife of Zeus turned the prophet into a woman.

ANSWER: **Hera**

12. The Cartesian coordinate system defines points by their vertical and horizontal distance from the axes. For 10 points each:

[10] The two axes meet at this point on the coordinate plane, defined by the coordinates (0,0) [*zero comma zero*].

ANSWER: **origin** [prompt on **(0,0)** before given]

[10] When a line on the coordinate plane crosses an axis, the point at which it crosses is given this name.

ANSWER: **intercept**

[10] COMPUTATION: Calculate the slope of a line that passes through the origin and the point (3,5).

ANSWER: **5/3** [accept **1 and 2/3**]

13. This man attempted to damage Britain's economy by creating a blockade known as the Continental System. For 10 points each:

[10] Name this man, born on Corsica, who rose to become Emperor of the French after the French Revolution.

ANSWER: **Napoleon** Bonaparte [prompt on **Bonaparte**]

[10] Napoleon met his final defeat at this 1815 battle, where enemy forces were led by the Duke of Wellington.

ANSWER: Battle of **Waterloo**

[10] Napoleon's downfall led to the restoration of this dynasty of French monarchs, which included Louis XVI.

ANSWER: **Bourbon** dynasty

14. This character searches for Injun Joe's treasure and is trapped in a cave with Becky Thatcher. For 10 points each:

[10] Name this character who tricks his friend Huckleberry Finn and many other neighborhood children into whitewashing a fence for him.

ANSWER: Tom **Sawyer** [prompt on **Tom**]

[10] This American author and humorist created the characters of Tom Sawyer and Huckleberry Finn and went by a nickname said to have derived from riverboat operations.

ANSWER: Mark **Twain** [accept Samuel Langhorne **Clemens**]

[10] In this book by Twain, Prince Edward switches places with Tom Canty.

ANSWER: *The **Prince and the Pauper***

15. Proteins are synthesized at these sites, which are made up of rRNA molecules. For 10 points each:

[10] Name these molecular machines which translate mRNA.

ANSWER: **ribosomes**

[10] Ribosomes can be free floating in the cytosol or bound to the rough variety of this organelle. This organelle is continuous with the nuclear envelope.

ANSWER: **endoplasmic reticulum** [or **ER**]

[10] After proteins are synthesized, they are processed and packaged in the cisternae of this organelle, which is named for an Italian scientist.

ANSWER: **Golgi** apparatus [or **Golgi** body]

16. A magnitude 5.1 “seismic disturbance” was detected in this country in January 2016. For 10 points each:

[10] Name this country led by president Kim Jong-un where the quake was detected at the Punggye-ri nuclear test site.

ANSWER: **North Korea** [accept **Democratic People’s Republic of Korea** or **DPRK**; prompt on **Korea**]

[10] North Korean media claims that the quake was caused by one of these devices, which uses a fission reaction to start fusion of the namesake element.

ANSWER: **hydrogen bomb** [or **H-bomb**]

[10] Most other countries instead believe the device was probably a boosted fission bomb which contains some of this heavy isotope of hydrogen with two neutrons.

ANSWER: **tritium** [accept **³H** or **hydrogen-3**]

17. The Rapa Nui people were among the many Polynesian groups to settle islands in this ocean. For 10 points each:

[10] Name this ocean whose island countries include Fiji, Tonga and Kiribati [*kir-a-boss*].

ANSWER: **Pacific** Ocean

[10] The Rapa Nui primarily settled this Pacific island, where they built statues called mo’ai with extremely large heads.

ANSWER: **Easter** Island

[10] Easter Island is politically part of this country’s Valparaiso region, although the mainland of this country is over 2,000 miles east of Easter Island.

ANSWER: **Chile**

18. This undersea adventure follows a concerned father on the search for his missing son, who was captured by a deep-sea diving dentist. For 10 points each:

[10] Name this film released in 2003 in which Marlin sets out to save his child from the human who took him.

ANSWER: ***Finding Nemo***

[10] Marlin, Nemo and Coral are all fish of this type, which are commonly orange or black and which share symbiotic relationships with anemones.

ANSWER: ocellaris **clownfish** [accept *Amphiprion ocellaris*]

[10] The sharks in the movie are trying to be nicer to the fish rather than eat them, inspiring them to repeat this five-word phrase to remind themselves how to interact with fish.

ANSWER: “**fish are friends, not food**”

19. This man denied the validity of the Act of Supremacy and refused to take the Oath of Supremacy. For 10 points each:

[10] Name this man who described a world without lawyers in *Utopia*.

ANSWER: Sir Thomas **More** [accept Saint Thomas **More**]

[10] More was a councilor to this man before being executed by him. This monarch ordered the dissolution of the monasteries and created the Anglican Church after divorcing the first of his six wives.

ANSWER: **Henry VIII** [prompt on **Henry**]

[10] Henry VIII's second wife was this woman, whom he beheaded. Her daughter with Henry, Elizabeth I, later served as queen as well.

ANSWER: Anne **Boleyn** [prompt on **Anne**]

20. Volcanoes are formed on top of large underground chambers of this substance. For 10 points each:

[10] Name this mixture of molten rock that lies under the surface of the earth. When it emerges through volcanic vents, it is called lava.

ANSWER: **magma**

[10] This type of volcano has a very gentle slope as a result of low-viscosity lava flows. Mauna Loa is an example of this type of volcano.

ANSWER: **shield** volcano

[10] This national park lies on top of the largest supervolcano on the continent. It is famous for geysers such as Old Faithful.

ANSWER: **Yellowstone** National Park

TB. Charlie Bucket buys a chocolate bar, only to discover a golden ticket inside which will allow him and four other children to enter a mysterious candy factory. For 10 points each:

[10] Name the eccentric owner of the factory which Charlie and his fellow contest winners visit.

ANSWER: Willy **Wonka**

[10] Charlie is accompanied to the Wonka factory by this ninety-six-and-a-half-year-old relative of his who can miraculously walk when he hears Charlie's good news.

ANSWER: Grandpa **Joe** [prompt on **grandpa** or **grandfather**]

[10] This rival candymaker once stole Wonka's recipe for expanding candy balloons, which caused Wonka to become more secretive and use Oompa-Loompa labor in his factory.

ANSWER: Arthur **Slugworth**