

Round 3

Brad Fischer • Mike Laudermitth • Kristin Strey • Tyler Vaughan

Tossups

(1) **A character in this play scoffs, “cowards die many times before their deaths” after Calphurnia argues that comets are a sign of his impending death. In this play, Casca is terrified after seeing a lion in the capitol on his way to a meeting with (*) Cassius.** This play’s protagonist is killed near the Senate after he fails to obey a soothsayer’s warning to “beware the ides of March.” For ten points, name this Shakespeare play in which Brutus helps kill the title Roman statesman.

ANSWER: Julius Caesar (accept The Tragedy of Julius Caesar)

(2) **Rotating objects of this type are subject to the Kerr metric in their ergosphere, and are the subject of the no-hair theorem. The Schwarzschild radius determines the event horizons of these objects, which cause (*) spaghettification and can shrink due to the loss of Hawking radiation.** The center of the Milky Way is theorized to contain, for ten points, what kind of astronomical object whose gravitational pull is so great that nothing, not even light, can escape?

ANSWER: black holes

(3) **An augmented reality spin-off of this game, called this game’s *Earth*, will allow players to earn Rubies and “fish” in real bodies of water. Players control Jesse, who explores Sky City and meets the (*) Blazing Rods,** in Telltale Games’ *Story Mode* for this game. This game’s current development track includes Java and Bedrock editions, and its legacy *Classic* edition only has thirty-two types of blocks. For ten points, name this long-lived sandbox game developed by Mojang.

ANSWER: Minecraft (accept Minecraft Earth; accept Minecraft: Story Mode; accept Minecraft Java Edition or Minecraft Bedrock Edition; accept Minecraft Classic)

(4) **The shady history of this company was exposed by Ida Tarbell. In 1881, this company bought Cheesebrough Manufacturing, the inventors of Vaseline. This company gave away millions of lamps in China to encourage farmers to switch from using (*) vegetable oil.** After being broken up under the Sherman Antitrust Act, the remnants of this company evolved into companies like Exxon and Mobil. For ten points, name this company founded by John D. Rockefeller that controlled a majority of the US’s kerosene.

ANSWER: Standard Oil Company

(5) **Performing this operation on two logarithms creates one logarithm with a new base. Ruffini’s rule describes a “synthetic” form of this operation that is done on (*) polynomials.** This operation, like subtraction, is not associative, and it is undefined when its second input is zero. If two integers are not multiples of each other, then a remainder may result from performing, for ten points, what operation, the inverse of multiplication?

ANSWER: division (accept word forms like divide or dividing; do not accept answers like “ratio” or “fraction”)

(6) **A god in this religion was disgusted after traveling through Yomi, and by washing himself, he unintentionally created this religion's chief goddess, Amaterasu, who was venerated as the ancestor of the (*)** emperors of this religion's home nation. Miko [mee-koh] wear red hakama [hah-kah-mah] to clean and maintain jinja [jeen-jah], this religion's shrines, which are often fronted by red torii gates [toh-ree gates] and honor local kami [kah-mee], or spirits. For ten points, name this animistic religion that, in modern Japan, is practiced alongside Zen Buddhism.

ANSWER: Shintoism

(7) **The Thirty Tyrants were installed in this city after its defeat in the Peloponnesian War. A 429 BCE plague killed a leader of this city who ushered in a golden age and transformed the Delian League into an empire.** (*) Pericles was a leader of this city, which was also led by a man known for his harsh laws, Draco. In this city, the Parthenon was constructed to honor its namesake goddess of wisdom. For ten points, name this birthplace of democracy, a Greek city-state that rivaled Sparta.

ANSWER: Athens

(8) **This quantity is the ratio between the kinematic and dynamic viscosity, and is the inverse of specific volume. The ratio between this intensive quantity for a substance and for water is the specific gravity. Incompressible fluids have a (*)** constant value for this quantity. In Archimedes' principle, the buoyant force is equal to g times the displaced volume times this quantity, symbolized ρ . For ten points, name this quantity defined as mass per unit volume, which can be measured in kilograms per cubic meter.

ANSWER: density (accept mass density; accept fluid density; prompt on "rho" before it is read)

(9) **In a play about this character, he discovers that he is not the son of Polybus and Merope. This man's throne passes to Creon after this man blinds himself with his wife's dress-pins. At the end of his life, this character is guided to (*)** Colonus by his daughter Antigone, who is also his half-sister because of his marriage to the queen of Thebes, Jocasta. For ten points, name this legendary Greek hero who, in tragic plays by Sophocles, fulfills a prophecy that he will kill his father and marry his mother.

ANSWER: Oedipus (accept Oedipus Rex or Oedipus Tyrannus; accept Oedipus at Colonus)

(10) **A painting in this genre by Artemisia Gentileschi shows an artist wearing a mask pendant, and is titled for one of these works as *the Allegory of Painting*. Works in this genre include *The Broken Column*, in which a woman is held together with white straps, and one in which a woman in a European gown holds hands with herself in a (*)** Mexican dress, *The Two Fridas*. Frida Kahlo painted her damaged spine and bold eyebrows in, for ten points, what genre of painting in which an artist paints an image of herself?

ANSWER: self portrait (accept descriptions of a portrait of the artist; prompt on "portrait;" prompt on a description of a "portrait of a woman" or "portraits of women")

(11) **This thinker described taking an umbrella in case of rain as an irrational caprice in *A Treatise on Probability*. This man asserted that a “Carthaginian peace” was insufficient in *The* (*) *Economic Consequences of the Peace*, which he published after attending the Paris Peace Conference in 1919. This man inspired a “revolution” toward demand-focused economics in another work. For ten points, name this British economist who wrote *The General Theory of Employment, Interest, and Money*.**

ANSWER: John Maynard Keynes

(12) **The Ziegler process uses organo-aluminum to make these substances from ethylene. The Jones reaction oxidizes carboxylic acids and ketones from these substances. The** (*) **isopropyl type of these substances is purified through distillation. These substances contain a hydroxyl group made of a molecule of oxygen bonded to one of hydrogen. For ten points, name these compounds, like methanol and ethanol, which can be made through fermentation.**

ANSWER: alcohols (accept isopropyl alcohol)

(13) **This novel’s protagonist fights traders from Toledo who insult a woman from Toboso, and fights with Samson Carrasco disguised as the Knight of the White Moon. A woman in this novel burns her uncle’s library of** (*) **chivalric novels to stop him from riding around on Rocinante with Sancho Panza, tilting at windmills that he thinks are giants. For ten points, name this novel by Miguel de Cervantes in which the title man believes he is a knight.**

ANSWER: Don Quijote (accept The Ingenious Gentleman Don Quijote of La Mancha; accept El Ingenioso hidalgo Don Quixote de la Mancha)

(14) **This man gave his “History Will Absolve Me” speech while on trial for leading an attack on the Moncada barracks. Under this man’s leadership, the 26th of July Movement succeeded in overthrowing his country’s government with the help of men like** (*) **Che Guevara. The CIA-backed Brigade 2506 attempted to remove this leader in the Bay of Pigs invasion. Before dying in 2016, this man transferred much of his power to his brother, Raúl. For ten points, name this longtime President of Cuba.**

ANSWER: Fidel Castro (accept Fidel Alejandro Castro Ruz; accept Fidel Castro after “Raúl” is read; prompt on “Castro” alone before “Raúl” is read; accept Castro after “Raúl” is read)

(15) **This park is the site of a former pluvial lake whose high point was determined by Eliot Blackwelder, Lake Manly. This park’s namesake region occupies a graben between the Amargosa and Panamint Ranges. The Racetrack Playa, a dry lake marked by ice- and wind-borne** (*) **“sailing stones,” is in this park. This park is served by the villages of Stovepipe Wells and Furnace Creek, where the highest ground temperature on Earth was recorded in 1972. For ten points, name this national park in California known for its brutal heat.**

ANSWER: Death Valley National Park

(16) **This composer’s final symphony quotes his own aria, “un bacio di mano” [oon bah-chee-oh dee mah-noh], and opens with a “C-D-F-E” motif. Franz Süßmyer completed the “Lacrymosa” section of a D minor unfinished work by this composer. A (*) Mannheim rocket opens a chamber piece by this composer of operas like *Così fan tutte* and *Don Giovanni*. For ten points, name this composer of the *Jupiter* symphony, an unfinished *Requiem*, and *Eine Kleine Nachtmusik* [“eye”-nah klye-nah nokt-moo-zeek].**

ANSWER: Wolfgang Amadeus Mozart (accept Johannes Chrysostomus Wolfgangus Theophilus Mozart)

(17) **One of these gods was given the first human woman as a gift, and was Iapetus’s son, Epimetheus. Hesiod and Homer disagreed over whether Oceanus and Tethys were the parents of the rest of these gods, or whether they were all the children of (*) Uranus and Gaia. One of these gods tricked her husband by feeding him a stone that she pretended was her son, Zeus. Rhea and Cronus were the leaders of, for ten points, what group of Greek gods who were overthrown by the Olympians?**

ANSWER: Titans (accept Titanes)

(18) **The rate of this process in bacteria was measured in the Luria-Delbrück experiment. Richard Goldschmidt’s “hopeful monster” theory of evolution relies on this process, whose “Missense” type swaps one (*) amino acid, making it a “point” type of this process. “Frameshift” versions of these events have multiple insertions or deletions that change multiple nucleotides. For ten points, name these changes to DNA that can alter an organism’s traits.**

ANSWER: genetic mutations

(19) **The sound of this event was masked by the reaction to the words “you sock-dolo-gizing old man-trap!” in the play *Our American Cousin*. Lewis Powell’s attack on William (*) Seward was coordinated with this event, which took place in a box at Ford’s Theater. Andrew Johnson was sworn in on the morning after, for ten points, what crime carried out by John Wilkes Booth just five days after the end of the Civil War?**

ANSWER: assassination of Abraham Lincoln (both underlined parts required; accept equivalent descriptions like murder, shooting, etc. of Abraham Lincoln; prompt on partial answers)

(20) **This author wrote about a “gala night” celebrating “the tragedy, ‘Man,’” in the poem “The Conqueror Worm,” which he included in his short story “Ligeia.” This author described angels who “went envying” a pair of lovers, ultimately killing the title woman “in a (*) kingdom by the sea.” This poet wrote about a creature who perches “upon a bust of Pallas” and repeatedly says “Nevermore.” For ten points, name this American author of Gothic poems like “Annabel Lee” and “The Raven.”**

ANSWER: Edgar Allan Poe