

Tiebreaker Round 1

(1) **One character in this novel tells Governor Bellingham that she was plucked out of a rosebush near a prison. After spending two years in England, another character in this novel disguises himself as Roger (*) Chillingworth.** Pearl kisses her father, Reverend Arthur Dimmesdale, after he stands on a scaffold confessing committing adultery with the protagonist. For ten points, name this novel in which Hester Prynne wears a red “A” on her chest, written by Nathaniel Hawthorne.

ANSWER: The Scarlet Letter

(2) **In 2013, a council in this nation disqualified Akbar Rafsanjani and dozens of others from running for president. In 2008, this country’s president spoke at Columbia University two weeks after stating that Israel “should be wiped off the map.” In 2015, this country announced a Joint Comprehensive Plan of Action regarding its (*) nuclear program.** While its President is Hassan Rouhani, its head of state is officially the Supreme Leader, Ayatollah Khomeini. For ten points, name this Middle Eastern country with capital Tehran.

ANSWER: Islamic Republic of Iran

(3) **Cactus pads are flattened forms of these structures specialized for photosynthesis. Underground ones like rhizomes store starch and nutrients in ground tissue surrounded by dermal tissue. Vascular bundles contain xylem and phloem to transport water and nutrients through this structure, a main axis of (*) growth in vascular plants.** These structures have internodes between nodes that support fruit, buds, and leaves. For ten points, name this herbaceous or woody main structural support in plants.

ANSWER: stem

(4) **One of these objects was given to the dwarven king Hreidmar as a wergild by Loki because Loki had killed his son Ótr. A cursed one of these objects was stolen from the dwarf Andvari and causes Fafnir to turn into a dragon to guard it. Odin has a golden one of these objects, which drips eight new copies of itself every nine nights, named (*) Draupnir.** For ten points, name this type of jewelry that inspired a Richard Wagner [ree-card vog-ner] opera cycle and a J.R.R. Tolkien book series.

ANSWER: rings

(5) **This building features an atrium with a popular, gigantic skylight, though its operators complained about the curvature of the walls. The architectural design of this “Temple of the Spirit” intended for arriving visitors to ride an elevator to the top. The foundation that operates this museum also operates a Frank (*) Gehry-designed museum of the same name in Bilbao, Spain.** For ten points, name this New York City art museum whose iconic winding ramp gallery was designed by Frank Lloyd Wright.

ANSWER: Solomon R. Guggenheim Museum (in New York City, though accept descriptions of the Guggenheim Bilbao after “Frank Gehry” is read)

Backup Tossups 1

(1) **Transition metals may have these objects in an inner shell. Due to shielding effects, they experience the least effective nuclear charge and attraction. These objects' individual orbitals are denoted in noble gas configuration, and they are drawn in Lewis dot diagrams. Inert compounds have a full (*) octet of these objects, which are transferred between ions. Because these objects have the highest potential energy in an atom, they are involved in bonding. For ten points, name these outermost electrons of an atom.**

ANSWER: valence electrons (prompt on electron before it is said)

(2) **Functions that output this quantity for a graph may be found using the chain rule; those functions are called derivatives. The difference quotient of delta y over delta x calculates this value between two points; as a result, when delta x is zero, this value is undefined. If this quantity is (*) zero, then it describes horizontal motion. For ten points, name this quantity, often found by finding a line's rise over run, which describes the direction in which a line points.**

ANSWER: slope

(3) **Subranges of this mountain range include High, Middle, Tell, and Aures Mountains. Jebel Toubkal is the highest point in this mountain range. This range is inhabited by the Berbers. The Barbary Macaques, monkeys that are native to this mountain range, have been introduced to a nearby British territory on another continent, (*) Gibraltar. For ten points, name this mountain range of North Africa that separates the Mediterranean Sea from the Sahara Desert.**

ANSWER: Atlas Mountains

(4) **Lewis defined these compounds as electron donors, while Arrhenius defined them as producing hydroxide in water. Lye is a common example of these compounds, and the first two groups of the (*) periodic table are named for the fact that they form these compounds in solution. These bitter substances turn litmus paper blue and have pH values over 7. For ten points, name these compounds contrasted with acids.**

ANSWER: bases (or alkali)

(5) **Talmadge Hayer was among the group of gunmen who killed this man in the Audubon Ballroom in Manhattan. Alex Haley co-wrote this man's autobiography, finishing it after this man's murder. This husband of Betty Shabazz broke with Elijah (*) Muhammad, leading to death threats from Muhammad's followers that were realized in 1965. For ten points, name this prominent civil rights leader who was assassinated by members of his former movement, the Nation of Islam.**

ANSWER: Malcolm X (or Malcolm Little; accept el-Hajj Malik el-Shabazz before "Shabazz" is said)