

Round 2

Tossups

(Tossup 1) In a story about this man, Badr al-Badur unknowingly gives away this man's most prized possession to an evil sorcerer who claims to be the brother of Mustapha the tailor. In a story told by Scheherazade, this man escapes a cave by rubbing a magic ring, and he marries the daughter of a sultan with the help of a powerful jin. For the point, name this fairy tale character who appears in *The Thousand and One Nights* in a story about his magic lamp.

ANSWER: *Aladdin* (accept *Ala* ud-Din or *Ala* ad-Din)

(Tossup 2) The summed squares of the reciprocals of the natural numbers converge to this number squared over six. Buffon developed a Monte Carlo technique for calculating this number by dropping toothpicks on a striped floor. Steradians on a sphere go from 0 to 4 times this number on a sphere. For the point, name this constant which relates the radius of a circle to its circumference – approximately equal to 3.14.

ANSWER: *pi* (accept *tau over two* or *one half tau*)

(Tossup 3) This country established a trading post on Dejima to trade with the Tokugawa Shogunate. A company based in this country operated out of Batavia, which later evolved into Jakarta. Settlers from this country established a colony on Manhattan Island that was led by Peter Stuyvesant. For the point, name this county where the Dutch East India Company operated in Amsterdam.

ANSWER: *Netherlands* (prompt on Holland)

(Tossup 4) A character in this play begs, “give me my sin again” and is told “palm to palm is holy palmers’ kiss” when he attends a party to meet Rosaline. Prince Escalus exiles one of this play’s title characters, who kills Count Paris outside a tomb and duels Tybalt over the death of Mercutio. For the point, name this tragic play by Shakespeare about a pair of “star-cross’d lovers” from the opposing houses of Montague and Capulet.

ANSWER: *Romeo and Juliet* (accept The Tragedy of *Romeo and Juliet*)

(Tossup 5) The period of one of these systems can be estimated with the small-angle approximation. A “double” example of this simple harmonic oscillator is an example of a chaotic system. An experiment to demonstrate Earth’s rotation, created by Leon Foucault [**foo-COH**], uses one of these devices. For the point, name these systems that consist of a weight on the end of a rod, used to power grandfather clocks.

ANSWER: *pendulum* (accept double *pendulums*; accept Foucault’s *pendulums*)

(Tossup 6) In this painting's background, a bright white stripe crosses the body of a bird whose beak opens directly up, and a woman holding a lantern leans through a doorway. At the bottom of this painting, a flower rises from a hand clutching a broken blade under a screaming horse. A bull stands over a mother cradling her dead child in this painting, whose top is dominated by an exploding, geometric lightbulb. For the point, name this black and white painting by Pablo Picasso that captures the chaos of a bombing in the title Spanish town.

ANSWER: *Guernica*

(Tossup 7) Ergot alkaloids produced by one of these organisms can cause hallucinations. The first antibiotics were discovered when one of these organisms was found to kill bacteria. *Neurospora crassa* is a type of this organism that can contaminate bread, and the "black" form of these organisms can infest water-damaged buildings. For the point, name these fungi that can appear on spoiled foods.

ANSWER: *molds* (prompt on "fungus" or "fungi" before mentioned)

(Tossup 8) In a novel by this author, Hepzibah, Clifford, and Phoebe leave the title property after the death of Judge Pyncheon. This author collected "The Minister's Black Veil" in *Twice-Told Tales*, and wrote a novel in which Reverend Arthur Dimmesdale commits adultery with Hester Prynne, who is forced to wear a red letter "A." For the point, name this author of the novels *The House of the Seven Gables* and *The Scarlet Letter*.

ANSWER: Nathaniel *Hawthorne*

(Tossup 9) Meltwater from this mountain fills the Spirit Lake. Streams on this mountain help fill the Toulte, Kalama, and Lews rivers. In the aftermath of an eruption on this volcano, Crater Glacier formed on its inner slope. For the point, name this volcano in Washington that violently erupted in 1980.

ANSWER: Mount *St. Helens* (accept *Lawetlat'la*; accept *Loowit*; accept *Louwala-Clough*)

(Tossup 10) A project dedicated to creating this technology was launched after Leo Szilard wrote a confidential letter to Franklin Roosevelt. Klaus Fuchs leaked information about this technology to the Soviet Union after successfully infiltrating the Los Alamos National Laboratory. The Trinity Test proved the viability of these weapons which were the focus of the Manhattan Project. For the point, name these extremely destructive weapons which were dropped on Hiroshima and Nagasaki during World War II.

ANSWER: *nuclear* weapons (accept *atomic* bombs; accept *nukes*)

(Tossup 11) This author instructed, "leave not the bridegroom quiet" while trying to inspire Northern recruitment in the poem "Beat! Beat! Drums!" This poet said "our fearful trip is done" and described a leader who has "fallen cold and dead" in a poem memorializing Abraham Lincoln, and wrote "I celebrate myself and sing myself" in another work. For the point, name this American poet who collected poems like "O Captain! My Captain!" and "Song of Myself" in *Leaves of Grass*.

ANSWER: Walt *Whitman* (accept Walter *Whitman*)

(Tossup 12) Mozart dedicated a Quintet and a Concerto for this instrument to the virtuoso player Anton Stadler. A Ross Gorman improvisation using this instrument standardized a “wailing” opening to a George Gershwin piece orchestrated by Ferde Grofé (**grow-FAY**). Benny Goodman played this instrument, which plays a famous glissando at the beginning of Rhapsody in Blue. For the point, name this single-reed woodwind instrument usually pitched in B-flat.

ANSWER: **clarinet** (accept Anton **Stadler** until “instrument” is read)

(Tossup 13) This dynasty’s defeat at the Battle of Talas may have spread the secret of paper-making to the Middle East. Empress Wu Zetian temporarily seized power from this dynasty which also briefly co-existed with the Yan dynasty during the An Lushan Rebellion. This dynasty continued the use of civil service exams which had been restored by its predecessor, the Sui dynasty. A “golden age” was ushered in during, for the point, what dynasty that was succeeded by the Song?

ANSWER: **Tang** Dynasty

(Tossup 14) Economist William Jevons ludicrously claimed that these phenomena were connected to economic crises. It’s not eclipses, but the variation in latitude of these phenomena is predicted by Sporer’s Law. These phenomena, which consist of an umbra and penumbra, occur in eleven-year cycles linked to a certain body’s magnetic field flipping orientation. For the point, name these dark, cool areas in the sun.

ANSWER: **sunspots**

(Tossup 15) This religious figure ordained Mahapajapati as the first *bhikkhuni*, and was the son of Maya. This religious leader was understood only by Mahakasyapa when he gave the wordless Flower Sermon, and in the Sarnath Deer Park, this religious figure preached the Four Noble Truths. Practicing the Middle Way and meditating under the Bodhi tree led to the enlightenment of, for the point, what Indian prince who became the leader of a namesake religion?

ANSWER: **Buddha** (accept **Gautama Buddha** or **Siddhartha** Gautama)

(Tossup 16) The Haldane effect describes a decrease in the affinity of hemoglobin for this compound near the lungs. Hyperventilation can cause a depletion of this compound in the lungs. Buffer solutions in the blood turn this compound into carbonic acid. Along with water vapor, this compound is produced by animal respiration. For the point, name this gas, which is used by plants to perform photosynthesis.

ANSWER: **carbon dioxide** (accept **CO₂**)

(Tossup 17) The Heaviside step function of five returns this number. For calculations on the Collatz conjecture, odd numbers are tripled and have this number added to them. This number is the tangent of pi over four. This number is the determinant of an identity matrix. Zero factorial is defined to be this number. This positive number is equal to its own reciprocal. For the point, name this number which gives two when doubled.

ANSWER: **one** (or **unity**)

(Tossup 18) This author wrote a poem in which a group of Oysters wear shoes that are “clean and neat” even though “they hadn’t any feet,” and are eventually eaten by “The Walrus and the Carpenter.” This author created a character who asks Humpty-Dumpty about the poem “Jabberwocky” after following a White Rabbit with a pocket-watch into a magical land. For the point, name this English author of *Through the Looking Glass* and *Alice’s Adventures in Wonderland*.

ANSWER: Lewis **Carroll** (accept Charles Lutwidge **Dodgson**)

(Tossup 19) The Pigovian form of these policies are used against market activity that generates negative externalities. Types of these policies involving increases in value of real estate and precious metals are called capital gains. In the build-up to the American Revolution, colonists rejected this type of policy without representation. For the point, name these policies, such as property and income variants, by which a government collects revenue.

ANSWER: **taxes**

(Tossup 20) In this modern-day state, Garcon, along with fugitive slaves and Choctaw refugees, were massacred in the Battle of African Fort. The United States gained control of what would become this state in the Adams-Onis treaty. In this state, Osceola (**OSS-ee-OH-lah**) resisted government attempts to move his people to a reservation in Mississippi. For the point, name this state where Andrew Jackson fought the Seminole Wars and where St. Augustine was founded on the Atlantic coast.

ANSWER: **Florida**

(Tossup 21) This company sued the Department of Defense for awarding the JEDI contract to one of its rivals. This company opened cashierless stores in Seattle after purchasing Whole Foods. This company, which owns the audiobook company Audible, developed the Echo and Alexa smart speakers. Jeff Bezos founded, for the point, what online retailer that offers free 2-day shipping with its “Prime” service?

ANSWER: **Amazon**

(Tossup 22) One of Zeno’s paradoxes replaces one of this story’s title characters with Achilles, who cannot catch up with a slow animal. This story concludes that a victory is “not always to the swift” when a fast animal takes a nap and is beaten in a footrace by a diligent but slow animal. For the point, name this fable attributed to Aesop that teaches “slow but steady wins the race.”

ANSWER: “The **Tortoise and the Hare**” (accept “The **Hare and the Tortoise**”; do not accept or prompt on “Achilles and the Tortoise”)

(Tossup 23) A ruler with this name ordered the executions of Thomas Cranmer and the Oxford Martyrs. A woman with this name was executed after the discovery of the Babington Plot which aimed to overthrow Elizabeth I. A Catholic queen of this name carried out the Marian persecutions, killing hundreds of protestants. For the point, give this shared name of a “Queen of Scots” as well as a “Bloody” Queen of England.

ANSWER: **Mary** (accept more specific answers like **Mary**, Queen of Scots or **Mary I**)

(Tossup 24) This country's control of the Tamar Gas field was briefly contested by Lebanon in 2009. Tourists in this country flock to the Timna Valley which is located just 20 miles north of Eilat. The Sea of Galilee is located in this country which is also home to the western shore of the Dead Sea. For the point, name this Middle Eastern country that is led from Jerusalem.

ANSWER: State of *Israel*

(Tossup 25) Golgi's black reaction uses this element's nitrate as a stain. In a common lab experiment, this element forms a namesake mirror from an ammonia solution of this element's oxide. When combined with gold, this element can form the alloy electrum. This element has the highest electrical and thermal conductivity. For the point, name this precious metal, whose atomic symbol is Ag.

ANSWER: *silver* (accept *Ag* before mentioned)

(Tossup 26) The theologian Theophan described one of these rituals reaching the mind and the heart when believers perform one of these rituals named for Jesus. This observance can be performed with the help of a knotted rope, or with a string of beads called a "rosary" using texts like the "Pater Noster" and the "Hail Mary." For the point, name this religious ritual in which people speak to a god.

ANSWER: *prayer* (accept word forms like *praying*; prompt on "worshipping;" prompt on "rosary" before mentioned)

(Tossup 27) A symphony by this composer includes a movement based on his ballet *The Creatures of Prometheus*, and was dedicated "to the memory of a great man" after this composer crossed out a dedication to Napoleon. This composer created a third symphony nicknamed *Eroica* and a piano sonata that evokes the night sky reflecting on Lake Lucerne. For the point, name this composer who wrote the *Moonlight Sonata* and the bagatelle "Für Elise."

ANSWER: Ludwig van *Beethoven*

(Tossup 28) During a raid on Combahee Ferry, this activist helped guide forces under the command of James Montgomery. Though not participating herself, this activist helped recruit participants for John Brown's raid on Harpers Ferry. For the point, name this escaped slave who was labeled "Moses" for returning to the South and personally freeing over 100 slaves.

ANSWER: Harriet *Tubman*

(Tossup 29) The nacreous type of these objects appears iridescent and may be related to global warming. Silver iodide can be used to "seed" these objects. High altitude types of these objects can be composed of ice crystals and are called cirrus, and types of these objects associated with thunderstorms are called cumulonimbus. For the point, name these collections of condensed water that can produce rain.

ANSWER: *clouds* (accept cirrus or cumulonimbus *clouds*)

(Tossup 30) Theophrastus was the second leader of the Peripatetic School in this city, where Xenocrates also led the Academy. Epicurus moved from Samos to this city to set up his school, called The Garden. In this city, a philosopher put on trial corrupting the youth was forced to drink hemlock; his fate is recorded in *The Apology*. For the point, name this Greek city, the home of Socrates, Plato, and Aristotle.

ANSWER: *Athens*

Tiebreaker or Replacement

(Tossup 31) Two of these creatures served a deity nickname Hrafnaguth in honor of these creatures. According to Snorri Sturluson, a pair of these birds believed to represent thought and memory departed every day at dawn and returned before breakfast to Valhalla. Hugin and Munin are, for the point, what kind of black birds that act as spies for Odin in Norse myth?

ANSWER: *ravens* (accept *Hugin and Munin* before mentioned; prompt on “bird” before mentioned)