## Round 4 - Elementary Division

## Tossups

(Tossup 1) This man was forced to perform his most famous act after he refused to bow to a hat placed on a pole. This man, whose story was popularized by a Friedrich Schiller play, drew two arrows to kill a nobleman if he failed his most famous task. For the point, name this semi-legendary Swiss folk-hero, who was forced to shoot an apple off his son's head.
ANSWER: William Tell (accept Wilhelm or Guillaume for "William")
(Tossup 2) The southwestern portion of this state is dominated by the Sonoran Desert, which contains the city of Yuma. In this state, the city of Flagstaff greatly benefits from its proximity to the Grand Canyon. For the point, name this state that contains cities like Tucson and Phoenix.

ANSWER: Arizona
(Tossup 3) Menander frequently won the Lenaia festival with plays in this genre, as did a playwright who satirized the politician Cleon and mocked the history of Athenian drama in works like The Wasps and The Frogs. Aristophanes wrote, for the point, what lighthearted genre of ancient Greek play, contrasted with tragedy?
ANSWER: comedy (accept Old Comedy accept New Comedy; accept word forms like comedic plays; accept komoidia; do not accept or prompt on "satyr plays")
(Tossup 4) In March of 2020, a six- to eleven-foot body called "2020 CD3" was discovered to be in a temporary orbit around this planet. This planet's only permanent natural satellite may have been formed from a collision with the planet Theia. This planet is orbited by the most "space junk" of any planet in the solar system. For the point, name this planet, from which NASA launches rockets.

## ANSWER: Earth

(Tossup 5) A book titled for this country's "Crisis" criticizes people who have shrunk from "the times that try men's souls." A pamphlet that supported this country's independence argued that it is absurd for an island to own a continent. Another document arguing for this country's independence begins with the line "When in the course of human events." For the point, name this country whose independence was advocated for by Thomas Paine and Thomas Jefferson.
ANSWER: United States of America (or USA; or America)
(Tossup 6) In a painting by this artist, a centurion's helmet perches atop an easel while this man looks at himself in the mirror. Triple Self-Portrait is by this artist, whose The Problem We All Live With shows Ruby Bridges being escorted to school by U.S. marshals against a backdrop scrawled with racial slurs. For the point, name this American painter whose The Four Freedoms appeared in The Saturday Evening Post.
ANSWER: Norman Rockwell (accept Norman Perceval Rockwell)
(Tossup 7) The failure of foam insulation on one of these vehicles led to the death of Rick Husband and 6 other people. High School teacher Christa McAuliffe died aboard one of these vehicles after it exploded 73 seconds into a mission. Sally Ride became the first American woman to ride in one of these vehicles as part of STS-7. For the point, name these NASA-operated vehicles, such as Columbia and Challenger, that took astronauts into space.
ANSWER: Space Shuttle (accept orbiter; prompt on rockets; prompt on spaceships)
(Tossup 8) The Battle of Krojanty led to the myth that cavalry forces from this country charged German tanks. In the prelude of an attack on this country, Germany repeatedly demanded to annex the free city of Danzig. For the point, name this country whose invasion on September 1st, 1939 sparked World War II.

ANSWER: Republic of Poland
(Tossup 9) A character created by this author works with Nippers and Ginger Nut, and dies when he "would prefer not to" eat while in debtor's prison. This author wrote the short story "Bartleby the Scrivener," as well as a novel whose protagonist sails with Queequeg and Starbuck aboard the Pequod and asks the reader to "call me Ishmael." For the point, name this American author who described Captain Ahab's quest for revenge against a white whale in Moby-Dick.
ANSWER: Herman Melville
(Tossup 10) This religious figure is shown the miracle of the birds and survives a fire that becomes cool for him when King Nimrod attempts to have him executed. This man cast out the Egyptian princess Hajar at the request of his other wife, Sarah, and received a pair of ram's horns when God stopped him from sacrificing his son, Ismail. For the point, name this religious patriarch who built the Kaaba in Mecca.
ANSWER: Ibrahim (accept Abraham; accept Abram)
(Tossup 11) The price of this product skyrocketed after Harvey Du Cros bought the rights to the most famous invention of John Dunlop. After ivory supplies were depleted, King Leopold II enacted cruel policies for producing this product in the Congo Free State. The invention of vulcanization allowed for a hardened form of this product to be made. For the point, name this product that was used by Charles Goodyear to make tires.
ANSWER: rubber (accept latex)
(Tossup 12) In one story by this man, Gerda's tears melt a splinter of a troll mirror and save Kai from the title evil witch, "The Snow Queen." A character created by this man turns into sea foam after trading her voice to leave the ocean and court a human prince. For the point, name this Danish author of fairy tales who wrote "The Little Mermaid."
ANSWER: Hans Christian Andersen
(Tossup 13) On this island, a luxury brand of coffee is cultivated in its Kona district. The Alenuihaha strait separates this island from its northwestern neighbor. The largest city on this island, Hilo, sits at the bases of Mauna Kea and Mauna Loa. For the point, name this island, which lends its name to the 50th U.S. state.

## ANSWER: Hawaii (accept Big Island)

(Tossup 14) This god married a princess who was abandoned on Naxos by Theseus, Ariadne. When this god's pregnant mother, Semele (SEM-a-lee), asked to see his father in full glory, she was killed. This god was then sewn into Zeus's thigh. For the point, name this "twice-born" Greek god of divine inspiration and wine.
ANSWER: Dionysus (do not accept or prompt on "Bacchus")
(Tossup 15) These molecules are broken into Okazaki fragments by a ligase enzyme. Mitochondria and chloroplasts contain their own circular form of this molecule. The replication of this molecule is semiconservative. Rosalind Franklin, Watson, and Crick discovered the double helix structure of this molecule. For the point, nucleotides compose what molecule that carries genetic information?
ANSWER: DNA (or Deoxyribonucleic acid)
(Tossup 16) This holiday can include the singing of a song about the "days of the Hasmonians," titled Ma'oz Tzur. This holiday commemorates a revolt against Antiochus IV by Judah Maccabeus, who rededicated the Second Temple in Jerusalem. Modern celebrations of this holiday include eating fried foods like latke and spinning a dreidel. For the point, name this Jewish holiday celebrated by lighting a special, nine-branched menorah.
ANSWER: Hanukkah
(Tossup 17) During one battle, this man commented "It is well that war is so terrible, otherwise we should grow too fond of it." This man took his most famous command after Joseph Johnston was wounded at the Battle of Seven Pines. This man failed to defend Richmond in the Siege of Petersburg, deciding instead to retreat to Appomattox Courthouse. For the point, name this Confederate general whose 1865 surrender to Ulysses S. Grant ended the Civil War.
ANSWER: Robert Edward Lee
(Tossup 18) The first rulers of this fictional land, Frank and Helen, are the ancestors of the hereditary rulers of this nation's southern neighbor, Archenland. Jadis, the White Witch, works to destroy this literary nation, which is ruled by the Pevensie children with the blessing of this land's creator, Aslan, in The Lion, the Witch, and the Wardrobe. For the point, name this fictional land described in a series of Chronicles by C.S. Lewis.
ANSWER: Narnia (accept The Chronicles of Narnia)
(Tossup 19) Conventionally, the $x$-axis of an Argand diagram represents this set. When the discriminant is positive, both roots of a quadratic equation lie in this set. This set can be considered as an extension of the rational numbers, since it also includes irrational numbers like pi and e. For the point, name this set, usually denoted by boldface R.
ANSWER: the real numbers [accept $\boldsymbol{R}$ before mentioned]
(Tossup 20) Marram grass can be used to stabilize hills made out of this material. A black form of this material can be formed by volcanoes, and a pink form is derived from coral fragments. This material is defined as having a grain size smaller than pebbles but larger than silt. For the point, name this rocky material that covers many beaches and deserts.
ANSWER: sand (prompt on "sediment")
(Tossup 21) This author wrote about Nina Gordon and an escaped slave who lives in the Great Dismal Swamp in the novel Dred. In another novel, this author characterized racist Northerners like Miss Ophelia and Simon Legree, who had a slave beaten to death. Legendarily, this author "made this big war" in a quote attributed to Abraham Lincoln. For the point, name this author of the abolitionist novel Uncle Tom's Cabin.

ANSWER: Harriet Beecher Stowe (accept Harriet Elisabeth Beecher Stowe)
(Tossup 22) Mahler's Das Lied (LEED) von der Erde (AIR-deh) was named to avoid a curse with this number, though he still failed to complete a final symphony that would have broken the curse. A symphony with this number includes a 6/8 [six-eight] scherzo "Turkish march," and includes a setting of Friedrich Schiller's poem "Ode to Joy." For the point, give the number of Beethoven's Choral symphony, the last he wrote before his death.
ANSWER: nine (accept the Curse of the Nine or Curse of the Ninth; accept Beethoven's ninth symphony or Beethoven's Symphony Number Nine in D minor)
(Tossup 23) A highly treatable form of childhood cancer in this organ is named for the German surgeon Max Wilms. The innermost parts of this organ are called its "pyramids" and are separated from each other by the columns of Bertin. This organ is made up of nephrons and sits directly below the adrenal glands. For the point, name these bean-shaped, blood-filtering organs that come in pairs.
ANSWER: kidneys
(Tossup 24) The son of this nation's leader, Flavio, has been accused of running a rachadinha, a kickback given by aides to an elected official for appointing the. The president of this nation, Jair Bolsonaro, contracted COVID this past July. For the point, name this country with the third highest number of Coronavirus cases of any country in the world to date, and the greatest number of any country in South America
ANSWER: Republic of Brazil
(Tossup 25) With James Madison and John Jay, this man supported the United States' Constitution in The Federalist Papers. This man supported his political rival Thomas Jefferson in the Election of 1800, a move that contributed to his death at the hands of Aaron Burr. For the point, name this first Secretary of the Treasury.
ANSWER: Alexander Hamilton

## Tiebreaker or Replacement

(Tossup 31) This function is considered "standard" when mu is 0 and sigma is 1 , though the man it is sometimes named for defined standard as having variance equals one-half. In a simple type of hypothesis test, a result's modified z-score is compared to tabulated values of this common distribution. For the point, the symmetrical shape of which distribution is often called a 'bell curve'?

ANSWER: normal distribution [or Gaussian distribution]

