

Round 10

First Half

(Tossup 1) **Friedrich Rochlitz claimed that this work’s composer fainted several times while working on it. This work was commissioned after the death of the young wife of Count Franz von Walsegg, which contradicts the popular myth that Antonio (*) Salieri asked for it. The third movement of this piece features a famous, unfinished “Lacrimosa” section and a terrifying Dies Irae [dee-ace ee-ray].** For ten points, name this religious musical composition that was being worked on at the time of Mozart’s death.

ANSWER: Wolfgang Amadeus Mozart’s Requiem Mass in D minor, K. 626

(Bonus 1) One work by this artist depicts the souls of martyrs calling for vengeance against their persecutors. For ten points each,

[Part A] Name this artist, born Doménikos Theotokópoulos, who painted *The Opening of the Fifth Seal*.

ANSWER: El Greco

[Part B] El Greco painted a dark and stormy sky over a “View of” this Spanish city, where he died in 1614.

ANSWER: Toledo

[Part C] El Greco also painted Saints Stephen and Augustine lifting the body of this nobleman from Toledo.

ANSWER: Count Orgaz (accept The Burial of the Count of Orgaz; accept El Entierro del Conde de Orgaz; accept Don Golzalo Ruiz)

(Tossup 2) **This process is performed every day by the organisms that make up the deep scattering layer of oceans. Cryptochromes are magnetoreceptors which help in this process, and another theory of how this process can occur is through knowing the position of the (*) stars. The record for doing this is held by the arctic tern, and this process is also performed twice a year by the monarch butterfly. For ten points, name this regular mass movement of animal populations, such as salmon swimming upstream in order to lay their eggs and geese flying south for the winter.**

ANSWER: migration

(Bonus 2) This type of reaction involves one molecule or functional group swapping places with another. For ten points each,

[Part A] Name this type of reaction. An example would be if atom A and molecule B-C react to form molecule A-C and atom B.

ANSWER: single-displacement reaction (accept single-replacement reaction; accept single-substitution reaction)

[Part B] Another type of reaction, double-displacement, can be useful to pair up ions, like pairing the positively charged sodium with the negatively charged chlorine to make table salt. This is the name given to the positively charged ion, contrasted with an anion.

ANSWER: cation

[Part C] Electrophilic aromatic substitution is a useful pharmaceutical method for creating derivatives of this highly stable cyclic molecule, whose chemical formula is C₆H₆.

ANSWER: benzene

(Tossup 3) **In one story, this figure’s knowledge of two dragons that were fighting underground explained why Vortigern’s tower kept falling down. In one of his several accounts of this figure, Geoffrey of Monmouth claims that this man created a burial place for the father of (*) Uther Pendragon at Stonehenge. This figure, who mentored Morgan le Fay, was trapped in a cave after teaching his secrets to the Lady of the Lake. For ten points, name this wizard from Arthurian lore.**

ANSWER: Merlin

(Bonus 3) According to legend, several religious traditions were brought to these islands by the outsider priest Pa’ao. For ten points each,

[Part A] Name this island chain, whose ancient religion venerates the fertility goddess Haumea.

ANSWER: Hawaiian Islands

[Part B] This daughter of Haumea is the Hawaiian goddess of fire, wind, and volcanoes. She is often revered in her role as the creator of the Hawaiian archipelago.

ANSWER: Pele

[Part C] This Polynesian trickster god possessed a magic hook for catching fish and lends his name to the second-largest Hawaiian island.

ANSWER: Maui

(Tossup 4) **In a French work titled for this movement “and Humanism,” the central concept is said to “precede essence.” A father of this movement analyzed Abraham’s planned sacrifice of Isaac in the work (*) *Fear and Trembling*. The Danish philosopher Soren Kierkegaard and the French thinker Jean-Paul Sartre were leading members of, for ten points, what movement that claims individuals must give life authentic meaning, generally to avoid the dread of an absurd world?**

ANSWER: existentialism (accept word forms)

(Bonus 4) Answer the following about American tax law for ten points each.

[Part A] The 16th Amendment allows Congress to levy this type of tax. Individuals pay this tax on their yearly earnings and the top bracket of this tax in the U.S. currently is 39.6 percent.

ANSWER: income tax

[Part B] The US income tax is progressive, as the tax rate increases as taxable income increases. This opposite term describes sales taxes and other taxes that have a disproportionate impact on the poor relative to the rich.

ANSWER: regressive tax

[Part C] This type of tax is levied on profits from the long-term sales of financial assets, such as stocks, bonds, and real estate. The highest tax rate on this class of taxes is 20%, lower than the top income tax rate.

ANSWER: capital gains tax

(Tossup 5) **The narrator of this short story meets the title character in a “den of more than infamy,” where he sees an animal on a wooden cask. A gallows shape appears on the chest of this story’s title character, who reminds the protagonist of (*) Pluto.** In this story, a strange screaming sound provokes the police to knock down a basement wall, where they find the body of the protagonist’s wife and the title animal. For ten points, name this short story by Edgar Allan Poe about a dark-furred pet.

ANSWER: The Black Cat

(Bonus 5) This novel’s protagonist becomes a professional mourner for Mr Sowerberry after being sent away from Mr Bumble’s workhouse. For ten points each,

[Part A] Name this Charles Dickens novel about an orphan boy who becomes a pickpocket with the Artful Dodger after he is sent away from the workhouse for asking for more gruel.

ANSWER: Oliver Twist

[Part B] Oliver Twist joins a gang of pickpockets led by this man, the criminal associate of Bill Sikes and Nancy.

ANSWER: Fagin

[Part C] At the end of the novel, Oliver is adopted by this kind man, who takes Oliver away from Fagin after Oliver’s friends pick his po

ANSWER: Mr Brownlow

(Tossup 6) **In 2009, an infrared space telescope discovered a new, massive one of these features that was named Phoebe. A prominent break in these structures is known as the Cassini Division. Shepherd moons such as Pan and Atlas are found in gaps within these objects. In 1610, (*) Galileo, who first discovered these objects, called them “ears” that were seemingly “devoured” by its host two years later. For ten points, name these massive structures that surround the sixth planet.**

ANSWER: rings of Saturn

(Bonus 6) Name some things about diffusion, or the flow of molecules from a high concentration to a low concentration, for ten points each.

[Part A] Diffusion in cells primarily occurs in this universal solvent. The cytoplasm is 80% this substance with formula H-2-O.

ANSWER: water

[Part B] This is the specific term for the movement of a solvent, often water, through a semi-permeable membrane. Its namesake colligative property is the pressure differential across the membrane.

ANSWER: osmosis or osmotic pressure

[Part C] Facilitated diffusion occurs when ions move down a concentration gradient through these objects in the lipid bilayer. These things can use energy to move molecules against a gradient in active transport.

ANSWER: membrane transport proteins

(Tossup 7) **Jean d’Alençon died at this battle after charging through and cutting a piece off the crown of the enemy king; Jean may have killed Edward, Duke of York in the process. This battle was caused by an attempt to retreat to Calais. The losing side, led by Charles (*) d’Albret, had their cavalry charge stopped by sharpened spikes and longbowmen. For ten points, name this 1415 battle during the Hundred Years’ War in which English forces under Henry V defeated a numerically superior French force.**

ANSWER: Battle of Agincourt

(Bonus 7) For ten points each, give the following about the JFK assassination.

[Part A] Kennedy’s motorcade was driving through Dealey Plaza in this Texas city when Lee Harvey Oswald opened fire.

ANSWER: Dallas

[Part B] This dress manufacturer recorded the clearest video footage of the assassination, which he sold to *Life* magazine.

ANSWER: Abraham Zapruder

[Part C] This Texas Governor was sitting in front of Kennedy and was wounded by one of the bullets that struck him.

ANSWER: John Connally

(Tossup 8) **This man sits on a stone in a grove sacred to the Erinyes and asks Theseus for permission to bless Athens by being buried there after this man dies in (*)** Colonus, where he is guided by Ismene. This killer of Laius curses Eteocles and Polynices to kill each other, and chides Creon for his behavior toward Antigone, this man's daughter with Jocasta. For ten points, name this legendary King of Thebes who, in plays by Sophocles, kills his father and marries his mother.

ANSWER: Oedipus

(Bonus 8) One of this author's novels opens with a hijacked plane exploding over the English Channel. For ten points each,

[Part A] Name this author of *The Satanic Verses*, which was so controversial it caused Ayatollah Khomeini to issue a fatwa against him.

ANSWER: Sir (Ahmed) Salman Rushdie

[Part B] This Salman Rushdie novel is narrated by the telepathic Saleem Sinai, who was born precisely at midnight on August 15, 1947.

ANSWER: Midnight's Children

[Part C] Sinai was born at the moment that this home country of Rushdie was formed. This country and Pakistan were the two largest countries that were part of the former British Raj.

ANSWER: India

Sixty-Second Rounds

The categories are ...

1. Gulliver's Travels
2. Foreign Territory in China
3. Dinosaurs

GULLIVER'S TRAVELS

In relation to the adventure novel *Gulliver's Travels*, who or what is...

(1) The novel's author?

ANSWER: Jonathan **Swift**

(2) The island country inhabited by six-inch-tall people who are at war with Blefuscu?

ANSWER: **Lilliput**

(3) The nation of 72-foot-tall people who keep Gulliver as a pet?

ANSWER: **Brobdingnag**

(4) The animal that the civilized Houyhnhnms [WIN-hums] look like?

ANSWER: **horses**

(5) The humanoid creatures that the Houyhnhnms [WIN-hums] use as slaves?

ANSWER: **Yahoo**

(6) The flying island inhabited by philosophers who rule the laborers in Balnibarbi [ball-nee-bar-bee]?

ANSWER: **Laputa**

FOREIGN TERRITORY IN CHINA

Name the...

(1) European country that controlled Macau until 1999 and has capital Lisbon.

ANSWER: Portugal

(2) Island in the Pearl River Delta near Macau that the British controlled until 1997.

ANSWER: Hong Kong

(3) Country that built the Chinese Eastern Railway through Harbin to reach its city of Vladivostok.

ANSWER: Russian Empire

(4) City where the Legation Quarter was besieged during the Boxer Rebellion.

ANSWER: Beijing (accept Peking)

(5) Chinese dynasty that issued the original lease on Macau in 1557.

ANSWER: Ming Dynasty

(6) First “unequal” treaty between China and the UK, signed in 1842, giving them control of the aforementioned island in the Pearl River Delta.

ANSWER: Treaty of Nanjing (accept Nanking)

DINOSAURS

What dinosaur is named...

(1) For its three horns on its face?

ANSWER: Triceratops

(2) For its speed, being able to tackle and disembowel prey with sickle-shaped claws on each hindfoot?

ANSWER: Velociraptor

(3) For its distinctive double-row kite-shaped plating that forms a “roof” on its back?

ANSWER: Stegosaurus

(4) “Arm Lizard” due to the ratio of its forelegs to hindlegs, but is better known for disproportionately long neck?

ANSWER: Brachiosaurus

(5) “Fused lizard” due to its armor plating, which is fused to its skull and skin while two plates form a club on its tail?

ANSWER: Ankylosaurus

(6) For the “terrible claw” on the second toe of each hindfoot, and are equipped with 70 blade-like teeth to finish prey off?

ANSWER: Deinonychus

Second Half

(Tossup 9) Nations affected by this war passed the Khartoum Resolution, which established the “Three Nos.” A side in this war destroyed the majority of an enemy’s aircraft before they could take off in Operation Focus. Syria lost the (*) Golan Heights in this war which also resulted in the seizure of the West Bank. A pre-emptive strike on Egypt started, for ten points, what 1967 conflict in which Israel defeated its enemies in less than a week?

ANSWER: Six-Day War (accept June War; accept the 1967 Arab-Israeli War; accept Third Arab-Israeli War)

(Bonus 9) This man allegedly visited a palace where ten thousand white horses were kept to provide milk for the royal family. For ten points each,

[Part A] Name this Venetian merchant and explorer who visited China in the 13th century. Rustichello da Pisa took those experiences and created *The Travels of* this man.

ANSWER: Marco Polo

[Part B] Marco Polo claimed to have visited the court of this mongol leader who founded the Yuan dynasty.

ANSWER: Kublai Khan (prompt on Khan)

[Part C] This Moroccan explorer described his journeys to China and the Islamic world in his travelogue *Rihla*.

ANSWER: Abu Abdallah Muhammad Ibn Battuta

(Tossup 10) On this holiday, a long sound called a Teki’ah and nine short sounds called Teru’ah are blown on a particular instrument. Foods traditionally served on this day include round (*) challah bread and apples dipped in honey, and a common greeting used on this day is “Shanah Tovah.” The blowing of the shofar is a traditional part of this holiday, which falls on the first day of Tishrei. For ten points, name this holiday that commemorates the Jewish New Year.

ANSWER: Rosh Hashanah (accept Yom Teruah)

(Bonus 10) This religion originated from Yoruban beliefs brought to the New World by African slaves and Christian beliefs popular among Spanish colonials. For 10 points each:

[Part A] Name this religion whose name literally translates as “Way of the Saints.”

ANSWER: Santeria (accept Regla de Ocha; accept Lucumi)

[Part B] Some practitioners of Santeria sacrifice these animals so their blood can be consumed by Orishas, which sparked a 1993 Supreme Court case about their sacrifice. Jesus once told Peter that he would deny knowing him three times before a male one of these animals will crow.

ANSWER: chicken (accept rooster; prompt on bird)

[Part C] This term describes religious or philosophical traditions that blend together two or more existing beliefs, such as how Santeria combined Caribbean and West African elements with Roman Catholicism.

ANSWER: syncretic religion (accept word forms like syncretism)

(Tossup 11) **The city of Barrydale is found in a dry region of this country that is divided into “Little” and “Great” portions. The Karoo is located in this country, where Gauteng Province can be found in the Highveld. (*)** Kruger National Park is in this country which the Drakensberg Mountains pass through. The Orange River extends northwest from this country into Namibia. Lesotho is found within, for ten points, what country containing Cape Town and Johannesburg?

ANSWER: South Africa

(Bonus 11) Major cities located on the shores of this body of water include Bordeaux, La Rochelle, and Bilbao. For ten points each,

[Part A] Name this gulf located off the western shore of France. This region is home to some of the fiercest waves in the Atlantic Ocean.

ANSWER: Bay of Biscay

[Part B] The Bay of Biscay runs along the northern shore of this other European country, which is home to cities like Barcelona and Madrid.

ANSWER: Spain

[Part C] Between the border of France and Spain runs this mountain range. The country of Andorra is located in this range, whose highest point is Aneto.

ANSWER: Pyrenees Mountains

(Tossup 12) **The rotation of part of this function's graph is the usual construction of Gabriel's horn. The derivative of this function is negative one over x squared. This equation produces the parent graph of a hyperbola in quadrants 1 and 3, passing through points like (1,1) [one comma one], (*) (2, one-half), and (one-half, 2). The x- and y-axes are asymptotes for the graph of this equation, the simplest rational function. For ten points, name this equation which outputs the reciprocal of the input.**

ANSWER: y equals 1 over x (accept f of x equals 1 over x; accept x to the negative 1st power; accept **reciprocal** of x before mentioned; until "quadrants" is read, accept additional information related to adding a real number on as well, like y equals 1 over x plus 2)

(Bonus 12) If one of these numbers existed, it would have to have over 1500 digits and over 10 different prime factors; most mathematicians expect that these numbers don't exist, but haven't proved that yet. For ten points each,

[Part A] Name this type of number, none of which have been found. This type of number would be equal to the sum of all of its proper positive divisors, a list that would not include 2.

ANSWER: odd perfect number (do not accept or prompt on "odd" or "perfect" alone)

[Part B] All known perfect numbers are even; this one-digit number is the smallest perfect number.

ANSWER: 6

[Part C] All even perfect numbers follow a pattern, proven by Euclid [yoo-klid] and Euler [oy-ler]: take an example of this type of prime number and add one to it; multiply that by the original prime number; finally, divide that by 2. This type of prime number is one less than a power of 2.

ANSWER: Mersenne prime

(Tossup 13) **In a painting by this artist, a man with a goatee and top hat is reflected in a mirror behind a bartender wearing a cameo necklace and a corsage. A black cat stands near the feet of a reclining nude woman, who stares at the viewer as she is brought flowers. This creator of A (*) *Bar at the Folies Bergère* [foh-LEE bayr-JAYR] painted a woman bathing in a stream behind two clothed men and a nude woman eating lunch. For ten points, name this French painter of *Olympia* and *A Luncheon on the Grass*.**

ANSWER: Edouard Manet

(Bonus 13) Answer the following about objects depicted in music for ten points each.

[Part A] Haydn's 101st symphony is named for these objects, whose sound opens Saint-Saëns' *Danse Macabre* at the stroke of midnight.

ANSWER: clock (accept additional information)

[Part B] The executioner's axe is depicted with a loud chord played by the entire orchestra in the fourth movement of this composer's *Symphonie Fantastique*. This composer also wrote *Harold in Italy*.

ANSWER: Hector Berlioz

[Part C] *Pacific 231* by Arthur Honegger depicts one of these vehicles, which also title a work for string quartet and tape recorder by Steve Reich.

ANSWER: train (accept locomotive, etc.; accept Different Trains)

(Tossup 14) **The J.R.R. Tolkien essay "The Monster and the Critics" frames this text as a literary rather than historical work. The "gold-adorned" Wulfing Queen Wealhtheow [WELL-thay-oh] offers a necklace to this work's title character. This work begins by describing the life of Scyld Scefing [sheld sheh-fing], and describes a swimming match against (*) Breca. In this poem, the hall Heorot [HAY-oh-roht] is attacked by a "descendant of Cain." Hrothgar [h-ROTH-gar] calls upon the title character to defeat Grendel in, for ten points, what longest surviving Old English epic poem about a title Geatish [GATE-ish] warrior?**

ANSWER: Beowulf

(Bonus 14) One of this author's novels is subtitled *The Children's Crusade: A Duty-Dance with Death*. For ten points each,

[Part A] Name this American science fiction author of *Cat's Cradle* and *Breakfast of Champions*, who wrote about a man who becomes "unstuck in time" in *Slaughterhouse-Five*.

ANSWER: Kurt Vonnegut, Jr

[Part B] This man survives the firebombing of Dresden while a prisoner of war in *Slaughterhouse-Five*, and experiences an alien abduction with Montana Wildhack while he is "unstuck in time."

ANSWER: William "Billy" Pilgrim (accept either underlined name)

[Part C] Billy Pilgrom and Montana Wildhack are abducted and placed in a zoo on this fictional planet, whose inhabitants occupy all points in time simultaneously.

ANSWER: Tralfamadore (accept Tralfamadorians)

(Tossup 15) **This man's Secretary of State, Hamilton Fish, successfully resolved the *Alabama* claims. In one election, this man defeated Horace Greeley who died before the Electoral College finished voting. This man's personal secretary (*) Orville Babcock was indicted as a member of the Whiskey Ring. In 1872, this man campaigned on not re-fighting the Civil War. For ten points, name this former general who became the 18th President of the United States.**

ANSWER: Ulysses S. Grant

(Bonus 15) For ten points each, answer the following about “Fathers of” world nations.

[Part A] Ahmad Shah Durrani founded this central Asian country in 1747. Its modern capital is Kabul.

ANSWER: Afghanistan

[Part B] This figure is both the Father of Argentina and of Peru, even though he received help from fellow freedom fighter Simon Bolivar to free Peru.

ANSWER: José Francisco de San Martín y Matorras

[Part C] Kwame Nkrumah agitated for the independence of this country as part of the Convention People’s Party, and later served as its first prime minister and president.

ANSWER: Ghana

(Tossup 16) **Iodine, sulfur dioxide, and an alcohol are used in a version of this method named for Karl Fischer that analyzes water levels. The curve produced with this method can have multiple inflection points when done using a polyprotic solution. The basic form of this technique involves slowly (*) dripping solution onto an analyte until the equivalence point is reached, often denoted by a change in color. For ten points, name this type of procedure which determines the concentration of an unknown substance in a sample.**

ANSWER: titration (accept acid/base titration; accept Karl Fischer titration)

(Bonus 16) The Vine-Matthews-Morley Hypothesis tests this theory, which was first proposed by Harry Hess. For ten points each,

[Part A] Name this theory of plate tectonics that describes the formation of new oceanic crust at mid-ocean ridges.

ANSWER: seafloor spreading

[Part B] The theory of seafloor spreading was supported by evidence showing that this phenomenon had undergone occasional reversals.

ANSWER: Earth’s magnetic field (accept geomagnetic reversal; accept anything related to the magnetic North and South poles switching)

[Part C] These structures, which may form “black smokers,” release heated water near seafloor spreading centers and support many archaea and diverse organisms like giant tube worms.

ANSWER: hydrothermal vents

Tiebreakers

(Tossup 17) **During this war, Seymour Hersh came to prominence for interviewing soldiers under Willam Calley and reporting on a massacre he had ordered. The Strategic Hamlet Program was ordered as part of this war, which included the Battle of (*) Khe Sahn. Henry Kissinger was given a Nobel Peace Prize for a brief ceasefire in this war, which included the My Lai [mee lie] massacre. Agent Orange and napalm were used against civilians during, for ten points, what 1960s and 70s war in Southeast Asia?**

ANSWER: Vietnam War

(Bonus 17) This disease is caused by mutations leading to uncontrollable cell growth. For ten points each, [Part A] Name this class of diseases that often forms tumors and can sometimes be treated with chemotherapy.

ANSWER: cancer

[Part B] Unlike harmless benign tumors, these tumors are cancerous and can undergo metastasis to invade other tissues in the body.

ANSWER: malignant tumors

[Part C] Mutations in these genes significantly increase the risk of breast and ovarian cancer. One of these tumor suppressor genes is linked to faulty X chromosome inactivation.

ANSWER: BRCA1 and/or 2