



The Illinois Mathematics and Science Academy of Aurora, IL presents

IMSANITY 4

-ROUND 4-

Editors

Writers

Noah Prince
Sabrina Lato
Saieesh Rao

Waleed Ali
Willie Chang
Lael Costa
Siva Gangavarapu
Anton Karpovich
Sabrina Lato

Rajiv Patel-O'Connor
Dan Pechi
Noah Prince
Saieesh Rao
Andrew Salij

with special contributions from...

Jonah Greenthal
Eric Ordonez

Tossups

- (1) **This ruler defeated the Lycians and Shekelesh with the help of Sea People, whom he employed as bodyguards. In his second Syrian Campaign, he fought in the battle which saw his forces split into the Amun, Re Ptah, and Seth divisions to defeat the Hittites, and he signed the first peace treaty with King Hattusili III. He built the temple at(*) Luxor also constructed a monument to himself and his wife Nefertari at Abu Simbel. For ten points, name this Egyptian pharaoh who was victorious at the Battle of Kadesh and who was known in Greek as “Ozymandias”.**

ANSWER: Ramses II or Ramses the Great (prompt on “Ramses”, accept “Ramesses” in place of “Ramses”, accept Ozymandias before mention)

- (2) **This man painted a curtain for Erik Satie titled *Parade*. This artist was inspired by Goya’s *Third of May, 1808* in his depiction of a massacre of citizens by Americans during the Korean War. *The Frugal Repast* was one work this artist painted after the suicide of his friend Carlos Casagemas. This artist of(*) *Three Musicians* had a “rose period” in which he created *Le Demoiselles d’Avignon*. He depicted the aftermath of the bombing of the Basque town. For ten points, name this Spanish cubist artist of *Guernica*.**

ANSWER: Pablo Picasso

- (3) **The main character of this work sets out to Vulture Peak. Another character in this work is controlled by a gold ring that has been placed on his head, and that character had been born from a stone egg. A monk sees his body float under a bridge, and he had been sealed in a mountain when he could not escape from the Buddha’s palm. The disciples of the main character include the former(*) Marshal of the Heavenly Canopy and a son of the Dragon King of the West Sea. Xuanzang and Pigsy, Yulong, and the Monkey King travel to retrieve Buddhist scriptures in, for ten points, what sixteenth-century Chinese classic novel by Wu Cheng’en?**

ANSWER: Journey to the West (or Xi You Ji)

- (4) **Gelfond’s Theorem states that algebraic numbers to a power that is this type of number are transcendental. The fractional parts of the multiples of this type of number are dense in the unit interval. Theodorus used a spiral to show that the side lengths of certain triangles have this property. The n th root of a positive integer is either an integer or this type of number. Hippiasus legendarily discovered the first number of this type, leading to his(*) death by drowning, by considering the ratio of the diagonal of a square to its side length. For ten points, identify this type of number, exemplified by the square root of two, that cannot be written as a quotient of integers.**

ANSWER: irrational numbers

- (5) **Mueller and Jones calculus are used in the presence of this phenomenon. Ferroelectricity results from this effect, whose ionic form results in anions and cations shifting positions in a crystal. It comes in *s*-like and *p*-like forms, which are defined by its orientation to the electric field. The *D* field is equal to the permittivity of free space times the electric field plus this value, which equals the electric dipole moment per unit volume. This term also refers to the separation of(*) charges, and molecules exhibit this when affected by van der Waals forces. For ten points, name this term which describes both making light waves oscillate in a single plane and creating a separation of charge.**

ANSWER: polarization (do not prompt on or accept “polarity”)

- (6) **Mutations on the CRYM gene sometimes result in blindness because it transcribes a binding protein for a molecule that is produced by this organ, which has beta receptors in the cochlea. The drug methimazole is used to treat conditions that affect this organ. This organ, affected by papillary cancer, is the location of parafollicular cells. It is attacked by T-cells in Hashimoto and Graves’ diseases. This gland secretes(*) calcitonin and the hormones T3 and T4, and its function can be tested by measuring iodine uptake. Its enlargement is known as goiter. For ten points, name this gland on the neck that maintains body metabolism rates.**

ANSWER: thyroid gland

- (7) **One author from this country described a soft and gentle donkey in *Platero and I*, and another author from this country wrote about the title character falling in love with Dinardo, who is disguised as a man, in *Fenisa’s Hook*. The marriage of Laurencia and Frondoso is interrupted when the Commander arrests Frondoso in *The Sheep Well*, and this country is the setting of a play where the Groom and Leonardo Felix kill each other, (*) *Blood Wedding*. The home of Juan Ramon Jimenez, Lope de Vega, and Federico Garcia Lorca, for ten points, identify this country whose “Generation of 98” was named for a war in which this country lost the Philippines, Cuba, and Puerto Rico.**

ANSWER: Spain (or España)

- (8) **This group won a battle near the River Blackwater called the Battle of Maldon, and it founded the Rurik dynasty in Russia. This group was led by Rollo in the Battle of Chartres, and this group won the Battle of Assandun. Ethelred the Unready gave these people tribute. One member of this group who became King of England was Sweyn Forkbeard, and another succeeded Edmund Ironside and was named(*) Canute. This group discovered Vinland, becoming the first Europeans to land in North America. For ten points each, name this group of people including Leif Erikson and Erik the Red, Scandinavians who were famous for raiding in longships.**

ANSWER: Vikings (accept Danes or Nords or Icelandic people, accept Scandinavians before mention, prompt on “Normans”, do not prompt on or accept “Swedes” or “Slavs”)

- (9) This region is home to a race of giants described by Antonio Pigafetta. The Punta Tombo Peninsula in this region is a major gathering ground for Magellanic penguins. The Neuquen River runs through the province of Rio Negro in this region, which is the site of Viedma glacier in its Los Glaciares National Park. This region's north includes the drainage basin of the(*) Colorado River. The Valdes Peninsula is part of this mountainous region, whose south includes the Tierra del Fuego islands. For ten points, name this vast South American highland region that includes southern Argentina and Chile.

ANSWER: Patagonia

- (10) This god was protected by Matet, Mesetet, and five other scorpions during one journey, and one of the earliest centers of worship for this god was Sebennytos. This god once created a snake out of mud, which she later used to force Ra to tell her his real name. This god fashioned a wax and gold phallus to complete her lover when the original was swallowed by a crab. That lover had been sent downriver in a(*) coffin and chopped up into fourteen pieces. This first daughter of Nut and Geb was the mother of Horus and wife of Osiris. For ten points, name this Egyptian goddess of fertility.

ANSWER: Isis (accept Aset)

- (11) This philosopher discussed "releasement" in his work *Conversation on a Country Path about Thinking*. This philosopher asked "What is it to dwell?" in one essay. Another work uses Meyers poem *The Roman Fountain* and Van Gogh's painting *A Pair of Boots* to discuss aletheia and truth in *The Origin of the Work of Art*, which also introduced the hermeneutic circle. He underwent a shift in focus in the Kehre [READ: "CARE-uh"], during which he wrote *Contributions to Philosophy*. This man gave the condition of being a human the name(*) "dasein" [READ: "DAH-zine"]. For ten points, name this existentialist philosopher who wrote *Being and Time* and was discredited for being a Nazi sympathizer.

ANSWER: Martin Heidegger

- (12) A single triangle accompanies the strings in a mazurka from this work portraying the seductive dancing of a Bedouin girl. The melody in another movement of this work is meant to depict a desert scene at dawn and is played by the oboe and flute. This composition's movements include *Anitra's Dance* and another which makes use of cellos and bassoons to depict the central figure's footsteps. That movement, which is accompanied by(*) *Morning Mood* in *Suite No. 1*, ends with the title figure's escape from a pack of trolls and is titled *In the Hall of the Mountain King*. For ten points, identify this collection of incidental music by Edvard Grieg.

ANSWER: Peer Gynt Suites

- (13) **After peacefully ending Enrique Loynaz del Castillo’s revolt, this man became the Governor of Cuba. This man later noted that *Lochner v. New York* should not have been upheld in the dissenting opinion for *Adkins v. Children’s Hospital*. As president, this first civilian Governor-General of the Philippines passed the unsuccessful(*) Payne-Aldrich Tariff, and his moderate position led to opposition from Robert LaFollette. The 16th Amendment was passed, allowing federal income taxes, under this president, who succeeded Edward White as Chief Justice of the Supreme Court. For ten points, name this Republican president who succeeded Theodore Roosevelt.**

ANSWER: William Howard Taft

- (14) **The Dewar-Chatt-Duncanson model explains bonding between alkenes and this class of substances. C-H activation uses an intermediate containing one of these materials, and Alfred Werner won the 1893 Nobel Prize for the study of complexes of them which follow an 18-electron rule. Lanthanide contraction explains small radii in heavier examples of them, and they are used as(*) catalysts because substrates adsorb onto them. The presence of these elements gives rise to colored salts because they have partially occupied *d* orbitals. Occupying groups 3 through 12 on the periodic table, for ten points, name this class of metals including cobalt, cadmium, and copper.**

ANSWER: transition metals (prompt on “metals” or “*d*-block metals”, do not prompt on or accept more specific classes of metals)

- (15) **One section of this poem describes the “Queen-Moon... on her throne / Cluster’d around by all her starry Fays” and the speaker of this poem says “Now more than ever seems it rich to die / To cease upon the midnight with no pain.” This poem describes the “sad heart of Ruth, when, sick for home / She stood in tears among the alien corn,” and it begins “My heart aches, and a drowsy numbness pains / My sense”. It concludes(*) “Was it a vision, or a waking dream / Fled is that music:— do I wake or sleep?” and says the title creature “wast not born for death.” For ten points, identify this John Keats poem addressed to an “Immortal Bird.”**

ANSWER: Ode to a Nightingale

- (16) **Along with his younger brother and father, this man was anointed with oil by Pope Stephen III in recognition of his kingdom. Once this man became sole king, he annulled his marriage to a daughter of King Desiderius. This man slaughtered a group led by Widukind in the Massacre of Verden and forced their survivors to convert to Christianity. He fought the Umayyads in his invasion of(*) Spain, which included the Battle of Roncevaux Pass, a venture immortalized in *The Song of Roland*. He also defeated the Lombards in order to aid the pope. For ten points, name this Frankish King whom Pope Leo III crowned Holy Roman Emperor on Christmas Day 800.**

ANSWER: Charlemagne or Carolus Magnus or Charles the Great or Karl der Grosse (prompt on “Charles”)

- (17) **In January 2010, nine Rohini rockets were launched to study this event. Unusual rotation of the plane of oscillation of pendulums during these events is called the Allais effect. Francis Baily is the namesake of certain “beads” that morph into a “diamond ring” during these events, except in its annular variety. Arthur Eddington used one of these events to(*) confirm predictions of the General Theory of Relativity. This phenomenon creates an umbra and penumbra upon Earth. For ten points, name this cosmic event in which the moon blocks out the light from the namesake body.**

ANSWER: solar eclipse (prompt on “eclipse”)

- (18) **This franchise was founded in the ABA as the Americans, and it won two ABA championships with Julius Erving. This franchise made the playoffs in three consecutive years under the leadership of Dražen Petrović and Derrick Coleman until the former died in a car accident. This team made consecutive NBA Finals, losing to the Lakers and Spurs, after acquiring(*) Jason Kidd. This team’s principal owner is Mikhail Prokhorov, although its logos were designed by minority owner Jay-Z. Playing its home games at the Barclays Center since its 2012 departure from New Jersey, for ten points, name this NBA team, the current crosstown rival of the Knicks.**

ANSWER: Brooklyn Nets (accept New Jersey Nets or New York Nets)

- (19) **In one scene of this novel, a man takes the only pearls his wife ever owned to give them as a gift to a prostitute. One character in this novel who “hates all young men” accepts poison from her lover, though she has no intention of killing his daughter, the poor fool. Besides Pear Blossom, other characters in this novel include one who is a member of the Redbeards. The protagonist of this novel saves enough money to buy the property, and eventually the house, of(*) Hwang, and when he marries Lotus, her servant Cuckoo doesn’t get along with his first wife, O-Lan. For ten points, identify this novel about the farmer Wang Lung, a work by Pearl S. Buck.**

ANSWER: The Good Earth

- (20) **This man had the children Zimram, Jokshan, and Ishbak with his wife Keturah. This man's servant Eliezer traveled to a well in Nahor in order to find his son a wife, who turned about to be the daughter of Bethuel. In Gerar, this man deceived King Abimelech by stating that his wife was his sister. This man questioned God about whether a city should be destroyed if righteous people lived in it. By(*) Hagar, he was the father of Ishmael, and he ultimately sacrificed a ram instead of his son, Isaac. For ten points, name this husband of Sarah and first patriarch of Islam, Christianity, and Judaism.**

ANSWER: Abraham (accept Abram or Ibrahim)

- (21) **One of these devices rotating in a plane perpendicular to an attached driven arm is also known as its single rotary inverted variety, and was invented by Furuta. Persoz and Konig used these devices to measure material hardness. Rott's type of these devices are used to illustrate(*) chaotic behavior. The restoring torque equals negative kappa times theta for the torsion variety of these devices, and their periods are given as 2 pi times the square root of their length over g. The rotation of the Earth was demonstrated by Foucault using, for ten points, these simple harmonic oscillators consisting of a weight swinging on a pivot.**

ANSWER: pendulum

Bonuses

- (1) This work is located above *The Raising of the Son of Theophilus*. For ten points each:
 [10] Identify this work in which the apostles surrounding Jesus in a semi-circle while an orange-robed St. Peter pulls the title object out of a fish on the left and pays a tax collector on the right.
ANSWER: The Tribute Money
 [10] This artist of *The Tribute Money* depicted a weeping Adam and Eve being chased by an armed angel in *The Expulsion* and worked with Masolino on a series of frescoes in the Brancacci Chapel.
ANSWER: Masaccio (or Tommaso di Ser Giovanni di Simone Cassai)
 [10] This Baroque artist also painted *The Tribute Money*, showing Jesus holding his hand up in a crowd of questioning Pharisees. His best-known religious work is *Descent from the Cross*, but his mythological depictions exemplified his style of fleshy nudes.
ANSWER: Peter Paul Rubens
- (2) His words “Order and Progress” can be found on the Brazilian flag. For ten points each:
 [10] Name this philosopher credited with founding sociology. He described the progression from theological to metaphysical to positivist in his Law of Three Stages in his work *The Course in Positive Philosophy*.
ANSWER: Auguste Comte
 [10] Comte coined this term for behavior in which one helps another even at the harm of their own well-being. Durkheim described suicides based on this phenomenon along with egoistic, anomic, and fatalistic ones.
ANSWER: altruism or altruistic
 [10] Comte called “the predominance of altruism over egoism” the “great problem of man” in his *Positivist Catechism*. This philosopher argued the opposite point in the book *The Virtue of Selfishness*.
ANSWER: Ayn Rand
- (3) In order to use these weapons in battle, an operator named a mahout is positioned in a howdah. For ten points each:
 [10] Name these weapons which allowed King Pyrrhus of Epirus to barely win the Battle of Heraclea. Hannibal lost many of these animals while crossing the Alps, and they were used in combat for their size and tusks.
ANSWER: war elephants
 [10] Hannibal’s war elephants were rendered inefficient after the Romans scared them with trumpets at this battle. This 202 B.C. battle which was the last of the Second Punic War.
ANSWER: Battle of Zama
 [10] The winner at the Battle of Zama was this Roman general who previously served at the Battle of Utica and Ilipa.
ANSWER: Publius Cornelius Scipio Africanus (accept Scipio the African, Scipio the Elder, or Scipio the Great)

- (4) Identify the following about harmony in mathematics for ten points each.
- [10] A harmonic sequence is one whose terms' reciprocals form this type of sequence. Consecutive terms in this type of sequence have a common difference.
ANSWER: arithmetic sequence (do not prompt on or accept "arithmetic series")
- [10] The sum of the reciprocals of the positive integers is known as the harmonic series and has this value.
ANSWER: infinity (accept divergent or does not exist or undefined or equivalents)
- [10] A multi-variable function is called harmonic if this operation applied twice produces the zero vector. This operation computes a vector of partial derivatives of a function and is symbolized with a nabla.
ANSWER: gradient (prompt on "del")
- (5) His father helps win a battle between Grangousier's grape-growers and Picrochole's bakers, which helps Friar John establish the Abbey of Thélème. For ten points each:
- [10] Identify this character, the friend of Panurge, who is mistaken for Shrovetide while consulting the Oracle of Bacbac.
ANSWER: Pantagruel
- [10] Pantagruel appeared in the majority of the volumes of this author's five-volume *The Life of Gargantua and Pantagruel*.
ANSWER: François Rabelais
- [10] Gargantua and Pantagruel are both these types of creatures. In *Gulliver's Travels*, the inhabitants of Brobdingnag are these kinds of creatures because they're as tall as church steeples.
ANSWER: Giants
- (6) This man's presidency saw a strike by air traffic controllers. For ten points each:
- [10] Name this United States president who had previously served as the president of the Screen Actors Guild. In a speech in Berlin, he urged Gorbachev to "tear down this wall."
ANSWER: Ronald Wilson Reagan
- [10] Controversy arose during Reagan's presidency when information about this scandal was leaked by *Al-Shiraa*. Violating the Boland Amendment, this scandal involved selling arms to the Middle East to raise money for Nicaraguan rebels.
ANSWER: Iran-Contra Affair
- [10] Reagan authorized the invasion of Grenada after the death of Maurice Bishop in this operation, which was followed by a restructuring of the armed forces in the Goldwater-Nichols Act.
ANSWER: Operation Just Cause

- (7) This ion binds to troponin complexes and is released from the sarcoplasmic reticulum. For ten points each:
 [10] Name this divalent ion that plays a crucial role in muscle fiber contractions as well as fertilization.
ANSWER: calcium
 [10] Buildup of calcium in this cell occurs after the sperm cell enters the egg to form this diploid cell.
ANSWER: zygote
 [10] The sperm cell contains this vesicle of hydrolytic enzymes at its tip that and is released when the cell comes in contact with the egg. This term also refers to the reaction that occurs when the egg jelly coat contacts the sperm cell.
ANSWER: acrosome
- (8) This shape cannot tile two-dimensional space but can tile three-dimensional space. For ten points each:
 [10] Identify this closed curve consisting of all points in a plane whose distance to the center is a fixed radius.
ANSWER: circle
 [10] This term describes an embedding of a circle in three-dimensional space. The circle itself is the simplest example, and more complicated ones include the trefoil and figure-eight.
ANSWER: knot
 [10] The knot complement of a circle is topologically equivalent to this shape, which can also be obtained by rotating a circle around a line outside of it or by gluing opposite sides of a rectangle together.
ANSWER: torus
- (9) Last names of the title character include Meeber, Drouet, Wheeler, and Madenza, in part due to her affairs with Charles Drouet and George Hurstwood. For ten points each:
 [10] Identify this novel in which the title character struggles briefly in Chicago, performs in *Under the Gaslight*, runs away, and, after a stay in Montreal and a struggle with poverty in New York, becomes an actress.
ANSWER: Sister Carrie
 [10] *Sister Carrie* is a work by this author, who wrote about Frank Cowperwood and Aileen Butler in *The Financier* and *The Titan*.
ANSWER: Theodore Herman Albert Dreiser
 [10] Dreiser also wrote this novel in which Clyde Griffiths wishes to marry Sondra Finchley, a dream complicated by the pregnancy and later drowning of Roberta Alden.
ANSWER: An American Tragedy

- (10) Priests and Priestesses in this religion and are known as Bokors or Houngans and Mambos respectively. For ten points each:
 [10] Name this syncretic religion with traits from the Yoruba people which is centered in Haiti. It is often associated with zombies and its namesake doll.
ANSWER: Voodoo (Also accept Vodun, Vodou, or Vaudou)
 [10] Since the god Bondye is unreachable, practitioners of Voodoo worship these spirits, which may reside in the Petro or Rada families. They are represented by symbols called Veves.
ANSWER: Loas or Lwas
 [10] This important loa of the dead married the protector of gravestones, Mama Brigitte. This psychopomp is often depicted in a black tuxedo with dark glasses, usually smoking a cigar.
ANSWER: Baron Samedi
- (11) This company is being sued because one of its employees in a rabbit costume refused to hug two black children. For ten points each:
 [10] That rabbit appeared in this company's 1951 animated film *Alice in Wonderland*. Other racist characters created by this company are the monkeys, all voiced by African-Americans, in *The Jungle Book* and Sebastian the lazy Jamaican crab in *The Little Mermaid*.
ANSWER: Walt Disney Company
 [10] This Disney film, the origin of the song *Zip-a-Dee-Do-Dah*, was criticized by the NAACP for being "a glorified picture of slavery". The Disney ride Splash Mountain is based on this film, which sees Uncle Remus tell tales about Br'er Rabbit and his friends.
ANSWER: Song of the South
 [10] The song *What Makes the Red Man Red* is sung by Tiger Lily in this other Disney film which chronicles the adventures of the Darling children in Neverland.
ANSWER: Peter Pan
- (12) This country was the home of the Rexist political movement led by Leon Dragelle. For ten points each:
 [10] Name this country whose colonies included the Free Congo and which was promptly invaded by Germany in the Schlieffen Plan. Along with the Netherlands and Luxembourg, it forms the Benelux Economic Union.
ANSWER: Kingdom of Belgium (accept België, Belgique, or Belgien)
 [10] This Belgian ruler was satirized as a snake strangling a native in one of its oversea colonies. He employed the Force Publique and his actions were criticised in the Casement Report. He sent Henry Morgan Stanley to negotiate the takeover of land from tribal chiefs.
ANSWER: Leopold II of Belgium
 [10] Belgium's independence was sparked in part by a riot after a performance of Daniel Auber's opera *The Dumb Girl of Portici*, which broke out due to the similarity of the opera's story to this historical 1830 event, which took place on Three Glorious Days.
ANSWER: July Revolution (accept French revolution of 1830 or Second French Revolution)

- (13) These particles' velocity approaches infinity as their energy approaches zero. For ten points each:
 [10] Identify these hypothetical particles that travel faster than the speed of light. Gerald Feinberg postulated their existence after studying imaginary negative squared masses.
ANSWER: tachyonic particle
 [10] Tachyons would lose energy as they move in this form of radiation. The blue color in nuclear reactors is caused by this radiation being released from charged particles moving faster than the phase velocity of light.
ANSWER: Cherenkov radiation
 [10] This thought experiment, also known as Tolman's paradox, posited that tachyons cannot carry signals because their properties would allow sending a message backwards in time, resulting in a paradox of causality.
ANSWER: tachyonic antitelephone (or telegraphing into the past)
- (14) The protagonist plays a game in which he is shown a tray of jewels, and then the tray is covered, and he must make a list of all of the jewels that appeared on it. For ten points each:
 [10] Identify this novel about the title spy who works for the horse trader Mahbub Ali and befriends a Lama. When that Lama reaches enlightenment, the title character says "I am not a Sahib. I am thy chela."
ANSWER: Kim
 [10] *Kim* is a novel by this author, who wrote about Mowgli, a boy raised by wolves, in *The Jungle Book*.
ANSWER: (Joseph) Rudyard Kipling
 [10] Kipling wrote this collection of short stories to explain the natural world to children. It described Taffimai Metallumai drawing a picture to her mother in *How the First Letter was Written*.
ANSWER: Just So Stories for Little Children
- (15) The twenty-fourth piece of this work is sometimes called the "Creme de Menthe variation", while the eighteenth inverts this work's A minor melody. For ten points each:
 [10] Identify this work for solo piano and symphony orchestra, a series of twenty-four variations on the last Caprice written by the titular violin virtuoso.
ANSWER: Rhapsody on a Theme of Paganini
 [10] The aforementioned work was composed by this Russian, whose other works include *Symphonic Dances* and a notable *Piano Concerto No. 2*.
ANSWER: Sergei Rachmaninoff
 [10] Another Rachmaninoff work is this choral symphony based off of a translation of an Edgar Allan Poe poem. The first of its four movements is *Allegro ma non tanto*.
ANSWER: The Bells

- (16) The name for these works may come from the word “grandmother.” For ten points each:
 [10] Name these texts written in Iceland, the source of almost all Norse Mythology. There are both Poetic and Prose versions of this text.
ANSWER: Eddas
 [10] The Prose Edda was written by this historian, who also wrote a compendium of Norwegian Kings, the *Heimskringla*, and a saga based on the titular viking, the *Egils Saga*.
ANSWER: Snorri Sturluson (accept either underlined part)
 [10] Another Scandinavian work of mythology, the Elias Lonrot’s *Kalevala*, features this shaman. He departs at the end after sentencing the virgin Marjatta’s baby to death.
ANSWER: Väinämöinen
- (17) This duo wrote a musical that featured songs such as *Younger Than Springtime* and *Bali Ha’i*. For ten points each:
 [10] Name this pair who wrote *South Pacific* as well as *Oklahoma!* and another work in which Anna is a British governess to the Siamese King, *The King and I*.
ANSWER: Richard Rodgers and Oscar Hammerstein II (accept in either order)
 [10] Rodgers and Hammerstein also wrote this musical that included songs such as *Climb Ev’ry Mountain* and *Edelweiss*, which is sung by the patriarch of the Austrian von Trapp family.
ANSWER: The Sound of Music
 [10] This protagonist of *The Sound of Music* leads songs such as *Do-Re-Mi* and *My Favorite Things*. She left the nunnery, whose members sang “How Do You Solve a Problem Like [this character]”, and acts as governess to the von Trapp children.
ANSWER: Maria Rainer (accept either underlined part)
- (18) The addition of non-volatile solutes raises the temperature at which this process occurs. For ten points each:
 [10] Identify this phase transition from a liquid state to a gas. For ammonia, the temperature at which this occurs is around negative thirty three degrees Celsius.
ANSWER: boiling
 [10] Boiling only occurs when this property of a liquid is equal to the atmospheric pressure. Dühring’s Rule states that there exists a linear relationship between the temperatures at which two mixtures exhibit the same value of this property.
ANSWER: vapor pressure (do not prompt on or accept pressure)
 [10] Given the heat of vaporization and vapor pressure at a certain temperature, this doubly-eponymous equation is used to calculate the vapor pressure at another temperature.
ANSWER: Clausius-Clapeyron equation

- (19) It begins “Thou hast made me endless, such is thy pleasure,” and ends by describing a flock of homesick cranes. For ten points each:
 [10] Identify this poetry collection, which say “Light, my light, the world-filling light, the eye-kissing light, heart-sweetening light!” It is often translated as *Song Offerings*.
ANSWER: Gitanjali
 [10] This author wrote *Gitanjali*, in addition to writing the national anthem of Bangladesh, *Amar Shonar Bangla*, and of India, *Jana Gana Mana*.
ANSWER: Rabindranath Thakur or Tagore
 [10] Tagore wrote about a poem titled for a boat of this color. Vikram Seth wrote a novel in Onegin sonnets about a bridge in San Francisco named for a gate of this color, and a Robert Frost title poem lamented that nothing this color could stay.
ANSWER: Gold (accept forms like Golden)
- (20) This man controversially published Protocol of the Elders of Zion in his newspaper, the Dearborn Independent. For ten points each:
 [10] Name this businessman who gained fame for introducing efficiency wages in his factory and pioneering the use of assembly lines to create his Model T.
ANSWER: Henry Ford
 [10] In May 1937, security forces for Ford violently broke up a rally by this labor union in what became known as the Battle of the Overpass. Walter Reuther, who was beaten in the incident, was later president of this union for 24 years.
ANSWER: United Auto Workers (or UAW)
 [10] Ford was ridiculed for sponsoring the creation of this ship, known as the “Peace Ship”, as a goodwill gesture. Derisively called the “Ship of Fools”, Ford abandoned it after it arrived in Oslo.
ANSWER: Oscar II
- (21) The protagonist of this novel slips a picture of a geisha into Father Dosen’s newspaper, and Kashiwagi uses his clubfoot to make women fall in love with him. For ten points each:
 [10] Identify this novel in which Mizoguchi ultimately interprets the koan “If you see the Buddha, kill him” as justification for burning down the title structure.
ANSWER: The Temple of the Golden Pavillion (or Kinkaku-ji)
 [10] *The Temple of the Golden Pavillion* is a work by this Japanese author who included *Spring Snow* and *The Temple of Dawn* in his *Sea of Fertility* tetralogy.
ANSWER: Yukio Mishima (accept in either order)
 [10] Mishima’s *Sea of Fertility* follows this character as he attempts to save what he believes are reincarnations of Kiyooki Matsugae from early death.
ANSWER: Shigekuni Honda (accept either underlined part, accept in either order, accept Judge Honda)