



The Illinois Mathematics and Science Academy of Aurora, IL presents

IMSANITY 4

-ROUND 2-

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Tossups

- (1) One character on this show refers to tomatoes as “Soulja Boy Tell Em’s” and is friends with Jean-Ralphio. Characters in this show frequent the Snakehole lounge. Megan Mullally portrays one of this show’s character’s ex-wives, both of whom are named Tammy. April marries Andy in this show’s third season, and its fourth season revolves around its central character’s(*) campaign for City Council. This show stars Nick Offerman and Aziz Ansari as Ron Swanson and Tom Haverford. For ten points, name this NBC television series set in Pawnee, Indiana whose leading role is played by Amy Poehler.

ANSWER: Parks and Recreation

- (2) In one novel by this author, Max is run over, causing his fiancé Eunice to shoot Koko. Another of this author’s protagonists says that *The Heart of the Matter* had a happy ending because the main character committed suicide. In addition to writing about the competitions between Chief Nanga and Odili in *A Man of the People*, he wrote about a character who beats his wife during the(*) Week of Peace and wrestles Amalinze the cat. After the death of his mother and the loss of Clara, Obi starts accepting bribes in *No Longer at Ease*, which follows the grandson of the Umuofia-dwelling Okonkwo. For ten points, identify this author of *Things Fall Apart*.

ANSWER: Chinua Achebe

- (3) This leader instituted the distribution of family planning and cheap radios as Minister for Information and Broadcasting. As a child, this politician led the Monkey Brigade. In office, this politician signed the Shimla Agreement with a western neighbor. The death of Lal Shastri preceded the rule of this leader, under whom the nuclear test known as “Smiling Buddha” took place. A state of emergency was declared after her election fraud was discovered, and the(*) Golden Temple was desecrated in her Operation Blue Star. For ten points, name this woman who was assassinated by her Sikh bodyguards in 1984, a daughter of Nehru and third Prime Minister of India.

ANSWER: Indira Gandhi (prompt on partial answer)

- (4) **Hans Hellman argued that these entities are stabilized due to a lowering of kinetic energy. The gauche and anomeric effects determine the spatial orientation of these entities, and IR spectroscopy detects their scissoring, rocking, and wagging behavior. High melting points are a result of the presence of these entities in certain crystalline structures, and compounds containing them may exhibit(*) resonance. These bonds contain sigma and pi orbitals, and Lewis structures use lines to represent them. For ten points, name this type of bond formed by the sharing of electrons between atoms which can be rated as single, double, or triple.**

ANSWER: covalent bonds (prompt on “bonds” before mention)

- (5) **Dmitri Shostakovich’s last symphony features a melody from this opera, in which the aria *Accours dans ma nacelle* is sung by Ruodi the fisherman. One character in this work escapes after a storm on a lake, and the aria *Asile Héritaire* is sung by Arnold, who later falls in love with Princess Mathilde. The *Ranz des Vaches* melody is featured in this work, and the actions of Gessler prompt one character to sing the aria(*) *Sois Immobile* to Jemmy in this work, which features a “gallop” section in its overture. For ten points, identify this opera about a Swiss patriot who shoots an apple off his son’s head, written by Giacomo Rossini.**

ANSWER: William Tell (or Guillaume Tell or Guglielmo Tell)

- (6) **In one work by this author, an oil field set on fire is known as Wyatt’s Torch, and one composer who wrote *The Concerto of Deliverance* disappeared after the success of *Phaethon*. In another work by this author, the protagonist designs the Wynand Building and is opposed by Ellsworth Toohey and Peter Keating. This creator of *Howard Roark* wrote a novel in which(*) Dagny Taggart joins a strike against the moochers of the world after discovering the answer to the question “Who is John Galt?” For ten points, name this author of *The Fountainhead* and *Atlas Shrugged*.**

ANSWER: Ayn Rand (or Alisa Zinovyevna Rosenbaum)

- (7) **This city’s minor rail systems are the Docklands Light Railway and Tramlink, and its Metropolitan Railway became the first underground rapid transit system in 1863. In 1956, this city began using a fleet of Routemaster buses. This city is served by Stansted airport. A memorial in this city’s(*) Hyde Park commemorates the July 7, 2005 terrorist bombings on its public transportation systems. Passengers in this city are told to “mind the gap” on its Underground, colloquially known as the Tube. For ten points, name this city also served by Gatwick and Heathrow airports and a fleet of red double-decker buses.**

ANSWER: London, England

- (8) According to some traditions, Graecus and Latinus are sons of a woman named for this figure, her grandmother. This figure's daughter married Deucalion, survived a great flood with her, and was named Pyrrha. The Charities gave this figure a golden necklace, and she was taught to sew by Athena and to speak by Hermes. This figure was created in response to(*) Prometheus stealing fire, and Prometheus warned Epimetheus to not have anything to do with her. Elpis, or hope, was the last thing remaining after Epimetheus accepted her jar. For ten points, name this woman who released evils upon the world from her namesake box.

ANSWER: Pandora

- (9) *Rhacophorus nigropalmatus* is now known as this scientist's namesake flying frog. A fire on the ship *Helen* destroyed most of his work from around the Rio Negro with Henry Bates. Sections about the Celebes and Malaccas appear in his *The Malay Archipelago*, which also introduced his namesake line that divides the islands of Java and Bali. His namesake effect says that reproductive isolation can arise from a phenomenon that he discovered at the same time as another scientist working in the Galapagos.(*) For ten points, name this British naturalist who formulated the idea of evolution around the same time as Charles Darwin.

ANSWER: Alfred Russel Wallace

- (10) This man was rumored to have been located while imprisoned by singing back to his minstrel Blondel. This ruler was killed by a crossbow-wielding child, Pierre Basile, while trying to obtain a hoard of Roman gold. This man took over Cyprus after his fiancé, Berengaria, and his sister were shipwrecked there. The victor at Arsuf and(*) Acre, this man failed to capture Jerusalem and later signed a treaty with his rival, Saladin, to end the Third Crusade. The son of Eleanor of Aquitaine and the successor of Henry II, for ten points, name this English king, noted for his bravery.

ANSWER: Richard I or Richard the Lionhearted (prompt on Richard)

- (11) The Bagnold formula models a process resulting from this phenomenon, one form of which occurs near the magnetopause and passes through the bow shock. John Patterson invented the three-cup variety of a device used to measure this phenomenon. The planetary form results from the escape of gases into outer space, and the heliosphere is defined by another type consisting of(*) charged particles from the sun. This phenomenon can be measured with an anemometer. Neptune experiences the highest speeds of it in the solar system, and sand dunes are formed by erosion due to it. For ten points, name this meteorological process of the large-scale movement of air.

ANSWER: wind

- (12) **One character in this novel saves a jar of whortleberries for her son, and Mittelstaedt mocks a former teacher by using the expression “inadequate, quite inadequate.” Josef Hamacher claims he’s not responsible for his actions, and the protagonist fakes a fever to stay with Albert Kropp. Characters in this novel resent both their schoolteacher Kantorek and the cruel(*) Corporal Himmelstoss, and Kemmerich’s boots are passed on to Müller and then the protagonist. The narrator “knows nothing more” after the death of Stanislaus Katczinsky. For ten points, identify this novel about Paul Bäumer’s experience in World War I by Erich Maria Remarque.**

ANSWER: All Quiet on the Western Front (or Im Westen nichts Neues)

- (13) **On the right side of this painting, a woman’s arm holds a lady covering her ears with her black-gloved hands as those women talk to a man in a bowler hat and Paul Lhôte. In the center of this painting, a shoulder obscures the face of a man sitting next to a woman whose face is partially blocked by her wine glass. A gray dog heels on top of a table and plays with a woman in a daisied hat. Behind her, a(*) sleeveless man leans against a railing, which supports the red and white striped awning overhead. For ten points, identify this painting that depicts Gustave Caillebotte and other friends of the artist eating a meal by Pierre-August Renoir.**

ANSWER: Luncheon of the Boating Party (or Le déjeuner des catoniers)

- (14) **The Baby-Step Giant-Step algorithm computes the discrete analogue of this function. This function is a homomorphism from the positive reals under multiplication to the reals under addition. The fractional part of this function is called the mantissa. Powers of one minus ten to the negative seven power were used to compute the first values of this function by its discoverer,(*) John Napier. When this function is applied to x times y , the result is the sum of its outputs for x and y alone. The Change of Base Formula relates its “common” and “natural” varieties. For ten points, name these inverses of exponential functions.**

ANSWER: logarithm (accept common logarithm or natural logarithm or something with another base, accept ln)

- (15) **At this battle, General George Sears Greene quickly captured and retreated from Dunker Church. John Bell Hood’s Texas Brigade held back troops under Joseph Hooker at this battle, and William French received heavy casualties while fighting at Bloody Lane. Reinforcements under A. P. Hill arrived from Harpers Ferry near the end of this battle after(*) Ambrose Burnside captured a namesake bridge. George McClellan failed to capitalize on his advantage over Robert E. Lee at this battle, but earned a technical victory nonetheless. Leading to the Emancipation Proclamation, for ten points, name this bloodiest single-day battle of the Civil War.**

ANSWER: Battle of Antietam (accept Battle of Sharpsburg)

- (16) One of these structures was built after the signing of the Treaty of Zsitvatorok and had its interior adorned with jewel-encrusted ostrich eggs. Another one of these structures has a hypostyle hall with hundreds of columns made from quarried Roman buildings. All of these buildings contain a(*) minbar and a mihrab, and jumma takes place in them. Zakat is given in these buildings, the largest of which surrounds the Kaaba. Salat is observed in these buildings, which include a “Blue” one in Istanbul. For ten points, name these structures where Muslims pray.

ANSWER: mosques

- (17) This author wrote about Kullus initiating his own intervals in the short story *The Examination*. In another work, Flora shows Barnabas their garden and gives Edward the tray of the match seller. This author of *A Slight Ache* wrote a play in which the title character needs to go to Sidcup to get the papers proving that Bernard Jenkins is his assumed name, and Mac Davies is his real one. He wrote play in which Meg was “The belle of the ball” and Goldberg and McCann take Stanley Webber away. In another play, one character criticizes the other for wasting matches and reads a newspaper while waiting for(*) orders from the title instrument. The creator of Ben and Gus is, for ten points, which author of *The Caretaker*, *The Birthday Party*, and *The Dumb Waiter*?

ANSWER: Harold Pinter

- (18) This work's epilogue opens with a story about merchants dumping spices and claims that faith is the highest passion. This work makes reference to the story of Amor and Psyche and employs a story of a merman seducing Agnes to discuss hiddenness and disclosure. Its first section compares a certain action to a mother weaning a child and is titled *Exordium*. It relates the struggles of the knight of faith and the tragic hero, and the absolute duty to God and teleological suspension of the ethical are among this work's *Problemata*.(*) For ten points, name this philosophical work concerning Abraham's sacrifice of Isaac written by Soren Kierkegaard.

ANSWER: Fear and Trembling (or Frygt og Bæven)

- (19) American followers of this man included James Cannon, and followers of this man used the “entryism” tactic in the French Turn. This man put down the Kronstadt Rebellion and opposed the idea of “socialism in one country.” Along with Alexander Parvus, he developed the theory of permanent revolution, and this man founded the Fourth International. This man led the Soviet delegation at the signing of the(*) Treaty of Brest-Litovsk, and later obtained control of the Red Army. In 1940, this man was killed by NKVD spy Ramon Mercader with an ice-axe. For ten points, name this Russian communist who fled after losing a power struggle with Stalin.

ANSWER: Leon Trotsky (accept Lev Davidovich Bronstein)

- (20) **The E/A ratio of the heart is determined with a form of echocardiography that uses this effect with ultrasound. Gamma rays were sent from a rotating disk in the Mossbauer rotor experiments to confirm this phenomenon, also discovered by Hippolyte Fizeau. Another experiment used canal rays to confirm time dilation and study this effect's transverse form, and was conducted by(*) Ives and Stilwell. Its most common formulation relates emitted and observer frequencies, and general relativity predicts that redshifts are caused by this effect. For ten points, name this phenomenon in which a moving source causes a perceived change in the frequency of a wave.**

ANSWER: Doppler effect

- (21) **An Irish god of this type is a psychopomp who gave Cormac a cup that broke when it heard lies; that god was Manannan mac Lir. The father of the nine billow maidens is one of these deities. The Mesopotamian god of this type created the languages and saved Utnapishtim from Enlil's flood. In addition to Aegir and Enki, these gods include a Greek one who is the father of(*) Polyphemus and is known as the tamer of horses, and he caused Medusa to become a monster. That god offered Cetus the sacrifice of Andromeda. For ten points, name this type of god that includes the Greek creator of earthquakes, Poseidon.**

ANSWER: sea god (accept water god or ocean god; prompt on river god)

Bonuses

- (1) Identify the following collectors of folklore for ten points each.
- [10] These two brothers were responsible for the collection of most German fairy tales, including *Hansel and Gretel* and *Rumpelstiltskin*.
ANSWER: Jacob and Wilhelm Grimm
- [10] The Brothers Grimm included the tales of this French author who retold common folklore, but sometimes just made stories up. Some of his better-known tales include *Little Red Riding Hood*, *Cinderella*, and *Sleeping Beauty*.
ANSWER: Charles Perrault
- [10] This author was commissioned to be an Italian Brothers Grimm, but was more famous for writing a novel which included the character you and the other reader, Ludmilla, called *If on a Winter's Night a Traveller*.
ANSWER: Italo Calvino
- (2) Hippolyte Delaroche painted the same scene, albeit with the title figure looking more humble. For ten points each:
- [10] Name this painting in which the title figure, dressed in a blue coat and billowing gold cape, sits on a rearing white horse and points forward to the left. In the lower background, his infantrymen wheel a cannon onward.
ANSWER: Napoleon Crossing the Alps
- [10] *Napoleon Crossing the Alps*, in addition to *The Coronation of Napoleon*, were painted by this French neoclassical artist whose other depictions of French history include *The Death of Marat*.
ANSWER: Jacques-Louis David
- [10] This student of David painted a nude Napoleon wearing a red robe and riding a golden chariot in his *Apotheosis of Napoleon*. His better-known works include *Apotheosis of Homer* and *The Grand Odalisque*.
ANSWER: Jean Auguste Dominique Ingres
- (3) Queen Victoria was considered her namesake. For ten points each:
- [10] Name this queen of the Iceni who was inspired by the plundering of her husband Prasutagus's estate and raping of her daughters to revolt against the Romans. Her forces were defeated at Watling Street.
ANSWER: Boudica (accept Boadicea)
- [10] Boudica's revolt against the Romans occurred in this modern-day country. Hadrian's Wall and the later Antonine Wall were built here, and native tribes which resided in this country included the Silures.
ANSWER: United Kingdom of Great Britain and Northern Ireland (accept Great Britain; prompt on England)
- [10] Another tribe which resided in the United Kingdom was these people in northern and eastern Ireland. Closely related to the Celts, these people were known for the colorful painting they had on their bodies, and kings of them included Bridei and Talorc.
ANSWER: Picts

- (4) The degenerate form of this conic section is two intersecting lines. For ten points each:
 [10] Identify this conic section with two asymptotes, two branches, and an eccentricity greater than one.
ANSWER: hyperbola
 [10] Every point on a hyperbola has a fixed difference of distances from these two points. The optical property of the hyperbola says that light shone from one of these points will reflect directly away from the other.
ANSWER: focuses or foci or focal points
 [10] This Russian mathematician developed hyperbolic geometry as the first known example of non-Euclidean geometry in 1826.
ANSWER: Nikolai Ivanovich Lobachevsky
- (5) Answer some questions about physical waves for ten points each.
 [10] This phenomenon occurs when a sound wave passes through air and reduces the air pressure and density. In a cycle of longitudinal waves, this process follows compression.
ANSWER: rarefaction
 [10] In contrast to longitudinal sound waves, light waves travel in this form. These waves oscillate perpendicularly to the direction in which the wave is progressing.
ANSWER: transverse waves
 [10] These transverse waves are found at the interior of rotating fluids, unlike gravity waves. The Coriolis force restores these waves back to equilibrium when they occur in the ocean.
ANSWER: inertial waves
- (6) Answer the following about Canadian authors who also won a Booker prize for ten points each.
 [10] This “master of the short story” is the most recent Nobel laureate in literature. Her collections include *Friend of My Youth*, *Dance of the Happy Shades*, and *The Beggar Maid*, which was the only short story collection to win a Booker.
ANSWER: Alice Ann Munro (or Alice Ann Laidlaw)
 [10] This author won a Booker for a novel in which Piscine Molitor Patel survived 227 days stranded on a lifeboat with the tiger Richard Parker, *The Life of Pi*.
ANSWER: Yann Martel
 [10] This author won a Booker for a work about Iris Chase, *The Blind Assassin*, but she is better known for writing about Offred in *The Handmaid’s Tale*.
ANSWER: Margaret (Eleanor) Atwood
- (7) Answer some questions about the physiology of the male reproductive system for ten points each.
 [10] This condition arises as a result of an inability to maintain erection during sexual arousal. It can be diagnosed through a cavernosography, which measures vascular pressure.
ANSWER: erectile dysfunction (or ED)
 [10] This secondary messenger is the main neurotransmitter response for erections. This small, gaseous molecule acts by activating guanylyl cyclase, which raises cyclic GMP levels to relax smooth muscle in the corpus cavernosum.
ANSWER: nitric oxide (or NO)
 [10] The aforementioned process of relaxing smooth muscles of blood vessels is referred to by this term, which can also be induced by histamines and prostaglandins.
ANSWER: vasodilation

- (8) This faith considers children and animals to be the purest forms of life. For ten points each:
 [10] Name this religion in which adherents place power within themselves and see themselves as fully responsible for their own lives. Its Bible was written by Anton LaVey.
ANSWER: Satanism (or Church of Satan)
 [10] The symbol of Satanism is the Sigil of Baphomet, an inverted pentacle with the head of this animal inside. Along with a heifer, a ram, a turtledove, and a pigeon, this animal was sacrificed by Abraham in order to initiate a covenant with God.
ANSWER: goat
 [10] The final book of *The Satanic Bible* is the *Book of Leviathan*, named for a creature described in this book of the Old Testament. This book describes how its namesake figure lost his family and his property while being challenged by Satan.
ANSWER: Job
- (9) Examples of this type of market firm include the military industry and single-payer health-care systems. For ten points each:
 [10] Name this situation in which one large buyer controls the market and as a result drives the market price down. It is also known as a “buyer’s monopoly.”
ANSWER: monopsony
 [10] A monopsony deviates from this ideal theoretical market scenario in which there are infinite numbers of buyers and sellers and no barriers to entry and exit.
ANSWER: perfect competition (accept pure competition)
 [10] Monopsonies in the labor market can benefit by discriminating these entities, which partially explains why women sometimes earn lower ones than men. Under a monopsony, instituting a minimum for these entities can actually raise employment.
ANSWER: wages (accept equivalents)
- (10) It was led by Walter Waters, and its cause was supported by the American Legion. For ten points each:
 [10] Name this group of World War I veterans who sought to receive immediate payment of their compensation certificate.
ANSWER: Bonus Army
 [10] The Bonus Army marched on Washington during the presidency of this man, who ordered Douglas MacArthur to break it up. This man’s presidency saw the beginning of the Great Depression and shanty towns bearing his name.
ANSWER: Herbert Clark Hoover
 [10] Hoover’s presidency also saw this group of 25,000 unemployed Pennsylvanians march on Washington. It tried to convince the president to initiate public work programs, and it sparked the creation of the Jobless Party.
ANSWER: Cox’s Army (do not accept or prompt on “Coxey’s Army”)

- (11) This polity's borders were established by the Treaty of Nerchinsk, and it saw the failed "Hundred-Days" reform under Emperor Guangxu. For ten points each:
 [10] Name this dynasty which faced a revolt led by a "Heavenly King" and self-proclaimed brother of Jesus called the Taiping Rebellion.
ANSWER: Qing Dynasty (also accept Manchu Dynasty, prompt on Later Jin Dynasty)
 [10] The Qing Dynasty also faced this rebellion led by the Society of Righteous and Harmonious Fists. This rebellion included the Taiyuan Massacre, and it was put down by the Eight Nation Alliance.
ANSWER: Boxer Rebellion
 [10] The Qing Dynasty rose to power as a result of the weakening of the Ming Dynasty due to this bandit, who won the Battles of Xiangyang and Beijing, creating the Shun Dynasty.
ANSWER: Li Zicheng
- (12) Giants with fifty faces and one hundred arms, the Hecatonchires, are imprisoned here. For ten points each:
 [10] Name this location in Greek Mythology, a deep abyss where the wicked are punished. King Tantalus was imprisoned here after cutting up his son Pelops and served him to the gods.
ANSWER: Tartarus or Tartaros
 [10] Tartarus is different than the Greek underworld, which is ruled by this god, the brother of Poseidon and Zeus.
ANSWER: Hades
 [10] Hades once tried to seduce this naiad using his golden chariot, but his wife transformed her into her namesake plant.
ANSWER: Minthe (also accept Mintha or Mentha)
- (13) He wrote "This is the way the world ends / Not with a bang but a whimper" in his poem *The Hollow Men*. For ten points each:
 [10] Identify this author who declared "I will show you fear in a handful of dust" and began "April is the cruellest month" in his poem *The Waste Land*.
ANSWER: Thomas Stearns Eliot
 [10] This poem by Eliot repeats the line "And indeed, there will be time," and asks "would it have been worthwhile...to have squeezed the universe into a ball." Other questions raised include "Do I dare disturb the universe?" and "Do I dare to eat a peach?"
ANSWER: The Love Song of J. Alfred Prufrock
 [10] *The Love Song of J. Alfred Prufrock* was partially inspired by this poem, which says "Let us roll all our strength and all / Our sweetness up into one ball" and begins "Had we but world enough, and time."
ANSWER: To His Coy Mistress

- (14) This technique was developed with the help of Fred Archer. For ten points each:
 [10] Name this technique which uses a scale from 0 to 10 with textural and dynamic ranges, a means of determining optimal exposure and development in photography.
ANSWER: Zone System
 [10] This American co-developer of the Zone System and member of the group f/64 may be best known for his black and white photos of nature, including those of El Capitan and Half Dome at Yosemite National Park.
ANSWER: Ansel (Easton) Adams
 [10] Adams photographed a moonrise in this state's town of Hernandez. Adams was introduced to Alfred Stieglitz in this state, in which Stieglitz's wife, Georgia O'Keefe, painted numerous cow skulls.
ANSWER: New Mexico
- (15) Answer some questions about electrochemistry for ten points each.
 [10] In a galvanic cell, negatively charged anions flow towards this electrode, the location of oxidation. Current always enters a device at this electrode.
ANSWER: anode
 [10] The cell potential of a galvanic cell is related to its standard cell potential by this equation, which at 298 Kelvin reduces to 0.0592 divided by the number of electrons multiplied by the log of the reaction quotient.
ANSWER: Nernst equation
 [10] The Tafel equation relates the rate of an electrochemical reaction with this value, the voltage difference between the experimentally observed redox potential and the theoretical reduction potential.
ANSWER: overpotential
- (16) This company developed Closure Tools to provide framework for their services including Maps and Docs. For ten points each:
 [10] Name this company which created the Nexus smartphone. Easter eggs such as "do a barrel roll" appear on its primary website, the most visited search engine in the world.
ANSWER: Google
 [10] One of Google's recent projects is this portable computer attached to an eyepiece frame. This device offers a camera and head-mounted display as well as voice-activated commands.
ANSWER: Google Glass
 [10] Google Glass was developed by this facility, known for discreetly producing futuristic inventions, such as Project Loon.
ANSWER: Google X

- (17) This movement was initially called the New York Hypnotic School. For ten points each:
 [10] Name this style of music characterized by consonant harmony and repetition of motifs and musical phrases. Steve Reich and John Adams wrote music in this style.
ANSWER: Minimalism
 [10] This other minimalist composer of *Plutonian Ode* included an opera about Mahatma Gandhi with *Einstein on the Beach* in his Portrait Trilogy.
ANSWER: Phillip Glass
 [10] Reich wrote a string quartet which features recordings of Holocaust survivors named after these objects. The first scene of *Einstein on the Beach* is named for these objects, and Arthur Honegger mimicked their sound in *Pacific 231*.
ANSWER: trains (accept Different Trains)
- (18) One of the characters in this work replaces the words of the Lord's Prayer with "nada." For ten points each:
 [10] Identify this short story, where the older waiter tries to explain to the younger waiter why the deaf, lonely old man likes their cafe.
ANSWER: A Clean, Well-Lighted Place
 [10] *A Clean, Well-Lighted Place* is a short story by this author, who wrote about the burnt town of Seney in *Big-Two Hearted River* and Santiago struggling with a marlin in *The Old Man and the Sea*.
ANSWER: Ernest Miller Hemingway
 [10] *Big, Two-Hearted River*, like many other Hemingway short stories, followed this character. He witnessed a birth and a suicide in *Indian Camp* and later appeared as an ambulance driver during World War I.
ANSWER: Nick Adams (accept either underlined part)
- (19) Identify the following about darts in mathematics for ten points each.
 [10] Roger Penrose developed a tiling of the plane using kites and darts, which are both types of this four-sided polygon. Other examples of this class of polygon include rectangles, rhombuses, and trapezoids.
ANSWER: quadrilateral (or 4-gon)
 [10] In graph theory, a dart is an alternative term for a directed form of this structure, which in general joins pairs of vertices.
ANSWER: edge (accept arc)
 [10] Also in graph theory, the kite and dart are special graphs with six edges and this number of vertices. This is the smallest number of vertices of a nonplanar graph.
ANSWER: five

- (20) It was blamed for the demise of the Second National Bank of the United States. For ten points each:
- [10] Name this 1836 executive order which demanded that payments for government land be made in gold.
ANSWER: Specie Circular
- [10] This president issued the Specie Circular, although most of the burden to enforce it fell on his successor Martin Van Buren. This man had earlier served as the commander of the victorious side at the Battle of New Orleans.
ANSWER: Andrew Jackson
- [10] This man was the final president of the Second National Bank. After its charter expired, this man was arrested on charges of fraud.
ANSWER: Nicholas Biddle
- (21) Francis Parkman narrated his travels on this route. For ten points each:
- [10] Name this trail which ran from Independence, Missouri to the Willamette Valley. Many settlers followed it to its namesake western territory.
ANSWER: Oregon Trail
- [10] This trail followed the Oregon Trail from Iowa to Wyoming. Its namesake group proposed the State of Deseret at its end.
ANSWER: Mormon Trail
- [10] This group of pioneers chose to not take the Oregon Trail in favor of the “faster” Hastings Cutoff. Instead, they found themselves lost and stuck in the Sierra Nevada by the time winter came around, and the survivors of this group had to resort to cannibalism.
ANSWER: Donner Party