



The Illinois Mathematics and Science Academy of Aurora, IL presents

## IMSANITY 4

### -ROUND 14-

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## Tossups

- (1) In this territory, William Stone was defeated at the Battle of the Severn. William Claiborne also rose in rebellion in this territory after his property on Kent Island was taken by its government. Lionel Copley led this colony after the Glorious Revolution, and after it became a state, it was sued for taxing notes from the Second Bank of the United States. Its original northern border was moved south according to surveyors Charles(\*) Mason and Jeremiah Dixon. Sued by McCulloch, one of its first settlers was Leonard Calvert. For ten points, name this colony that was established as a refuge for Catholics by Lord Baltimore.

**ANSWER:** Maryland (accept Maryland colony or Terra Mariae before “state”)

- (2) The Abraham-Minkowski controversy concerns this phenomenon in a dielectric resulting in electromagnetic momentum. This phenomenon occurs along with magnetic birefringence in the Voigt effect. Its occurrence in the atmosphere is related to the apparent altitude from the ground and is the source of turbulence when observing stars. The ratio of indices associated with this phenomenon is equal to the ratios of the(\*) sines of the angles of incidence. The speed of light in a particular substance determines that aforementioned index, which is used in Snell’s Law. For ten points, give this term that describes the bending of light as it passes through different phases.

**ANSWER:** refraction

- (3) In one scene in this novel, the protagonist is inspired to get a job after he is served cabbages three times in one week. One character in this novel keeps the link from a chain he dragged along his leg for 19 years, and another empties a spittoon on someone’s head after mistaking him for a different character. In one scene in this novel, Mr. Norton is shaken by an encounter with Jim Trueblood, and faints in the Golden Day Tavern. After the death of Tod(\*) Clifton, a riot causes the protagonist to leave the Brotherhood and find Ras the Exhorter. The protagonist needs to fight blindfolded in the battle royale in, for ten points, what novel by Ralph Ellison?

**ANSWER:** Invisible Man (do NOT prompt on or accept “The Invisible Man”)

- (4) **This god threw a whetstone into the air, causing nine reapers to slit each other's throats in an attempt to get it. This god refused to ferry another god while in the form of Harbard. This god is accompanied by two ravens known as "Thought" and "Memory", and he killed the giant Ymir along with his brothers(\*) Vili and Ve. The owner of the hall Valaskjalf, he can see everything from his throne, and this deity sacrificed one eye to drink from the spring of Mimir and gain the Wisdom of the Ages. This rider of Sleipnir is the father of Thor. For ten points, name this "All father" of the Norse gods.**

**ANSWER:** Odin (or Wotan)

- (5) **One tributary of this river is known for its karst and spring formation at Ra's al-Ayn. The Tishrin Dam sits on this river and forms a reservoir also fed by one of this river's tributaries, the Sajur. The Murat River feeds into it, and wheat is heavily cultivated in the valley of this river's largest tributary, the Khabur. The(\*) Keban Dam marks the formation of this river, the southernmost of the two rivers that empty into the Shatt al-Arab. For ten points, name this Asian river which flows through Turkey, Syria, and Iraq, the southern border of the Fertile Crescent, often paired with the Tigris.**

**ANSWER:** Euphrates River

- (6) **One character created by this author said his deepest sexual experience was watching a woman in a red dressing robe brushing her hair. In another work, the protagonist owns the same edition of Charles Lamb's *Tales from Shakespeare* that Dr. Hasselbacher has. That work sees 59200, Henry Hawthorne, recruit vacuum cleaner salesman Jim Wormold as a spy, and in another novel, Inspector Vigot investigates the death of Alden Pyle but does not discover Thomas Fowler's part in it. The creator of the(\*) Whisky Priest, for ten points, identify this author of *Our Man in Havana*, *The Quiet American*, and *The Power and the Glory*.**

**ANSWER:** (Henry) Graham Greene

- (7) The first paper modeling this theory discussed C. Loring Brace's catch phrase "hominid catastrophism", and that work also used the example of the number of whorls on Liassic oyster and opened with a section titled *The Cloven Hoof print of Theory*. Richard Goldschmidt's theory of hopeful monsters often leads to confusion of this theory with saltation. This theory, which argues against(\*) anagenesis, was proposed after studies of trilobites by Niles Eldredge and Stephen Jay Gould. Contrasting with phyletic gradualism is, for ten points, this theory that suggests that evolution proceeds in rapid bursts rather than gradual change.

ANSWER: punctuated equilibrium

- (8) This artist was depicted painting on the edge of a forest next to a woman in a John Singer Sargent work. Two pairs walk through the titular red meadow in Argenteuil in his *Poppy Field*, and this artist painted a series showing the title building at different times of the day. Those depictions of the(\*) Rouen Cathedral are similar in style to this painter's series of haystacks. This man's painting of Le Havre gave name to his movement. For ten points, identify this artist *Impression*, *Sunrise* famous for a series of *Water Lilies*.

ANSWER: Oscar-Claude Monet

- (9) A 4 by 4 Cayley-Menger determinant is equal to zero when points have this property. Pascal's Theorem guarantees that the intersections of opposite sides of a hexagon inscribed in a conic section have this property. Paul Erdős [READ: "AIR-dawsh"] showed that, if  $n$  is prime, then  $2n$  points can be placed on an  $n$  by  $n$  grid with no three having this property. Perfectly(\*) correlated data have this property, in which case their R squared value is equal to one. The two sides of the triangle inequality are equal when its three input points have this property, in which cases that triangle has area zero. For ten points, name this property, possessed by every pair of points, of lying on a common line.

ANSWER: collinearity

- (10) **One combatant at this battle was the juggler Taillefer. While pursuing the retreating army in this battle, many of the victor's cavalry were killed at the Malfosse. One side's forces at this battle consisted of mainly the Fyrd militia and the(\*) Housecarl royal guards. A failed cavalry charge caused the losing side to rush down the hill, breaking ranks, and after a final arrow volley, the losing commander was reportedly shot through the eye, as recorded on the Bayeux Tapestry. For ten points, name this battle fought at Senlac Hill on October 14, 1066 in which Harold Godwinson was defeated by the Normans under William the Conqueror.**

**ANSWER:** Battle of Hastings

- (11) **This man lost a Dance Dance Revolution contest to his arch-nemesis, the K-pop star Rain. This man sang in the a capella group *The Sing Dynasty* at Dartmouth, and had been sent to an "exorcism day camp" due to his love for *Dungeons & Dragons*. The *Daily Bugle* once ran a headline that this man defeated both John McCain and Barack Obama, but this man's attempt to run for president of(\*) South Carolina failed. This man authored the books *I Am America (And So Can You!)* and *America Again*. A former correspondent on *The Daily Show*, for ten points, name this right-wing host of his namesake Report on Comedy Central.**

**ANSWER:** Stephen Colbert

- (12) **A constellation named for one of these entities has as its brightest star Al Tarf, and its 55 star has five planets. Another object named for these entities has a blue region that Shklovsky discovered to be produced by synchrotron radiation, and it was named after a sketch by Lord Rosse. The pulsar with this name was first recorded by Jon Bevis, and its origin was observed by(\*) Chinese astronomers in 1054. That constellation, which contains the Beehive Cluster, is the namesake for the northern limit of the tropics. For ten points, identify this animal that names the first of the Messier objects, in Taurus, and the constellation Cancer.**

**ANSWER:** crab (accept Crab Nebula or Cancer before mentioned)

- (13) **One character in this work leaves his too small boots behind for someone else to find and says he can go barefoot because Jesus did. Another character in this work claims that he could prevent someone from doing whatever he does, which made ten people beat him up. One character describes the works of Puncher and Wattmann and the labors of Fartov and Belcher when commanded to “think.” One character in this novel is given a turnip when he asks for a carrot, and(\*) Lucky is connected by a rope to Pozzo. With the setting of “A country road. A tree,” for ten points, identify this play about Vladimir and Estragon, a tragicomedy by Samuel Beckett.**

**ANSWER:** Waiting for Godot (or En Attendant Godot)

- (14) **This composer wrote a bitonal patriotic work which includes a march and polonaise entitled *Variations on “America”*. Three preludes were meant to accompany a work by this composer depicting the harmony between the earth and heavens in its section “Past”. He used the ragtime song *Hello! Ma Baby* in a composition which makes up his *Two Contemplations* with a work in which four flutes respond to a(\*) trumpet. This composer wrote the *Universe Symphony*, *Central Park in the Dark*, and *The Unanswered Question*. For ten points, name this American composer who included the movement “Putnam’s Camp” in *Three Places in New England*.**

**ANSWER:** Charles Ives

- (15) **One assassination attempt against this man was conducted by a blind poet with a lead-tipped lute, and this ruler connected his country’s two main waterways with the Lingqu canal. This ruler died after swallowing mercury pills to gain immortality, and he man obtained his more famous name after conquering the Qi Dynasty during the(\*) Warring States Period. Assisted by his Legalist chancellor Li Si, this man ordered hundreds of book-burnings, and he initiated the construction of the Great Wall of China. Buried in Xi’an alongside terracotta soldiers, for ten points, name this first ruler of the Qin Dynasty and a unified China.**

**ANSWER:** Qin Shi Huangdi (accept Ying Zheng)

- (16) In one essay, R.M. Hare questioned whether Kant could have been a member of this school of philosophy. One advocate of the “preference” brand of this philosophy wrote the book *Animal Liberation* and was named Peter Singer. An influential work of this philosophy is *The Methods of Ethics* by Henry Sidgwick. Propinquity, intensity, and extent are variables used in(\*) felicific calculus, which was introduced by this school's founder in his *The Principles of Morals and Legislation*. J.S. Mill wrote a namesake book describing this philosophy. For ten points, name this branch of philosophy founded by Jeremy Bentham that seeks the greatest happiness for the greatest number.

ANSWER: utilitarianism

- (17) The negative of this value over the product of Boltzmann's constant and temperature is an exponent in the Saha equation. The vertical form of this value is larger than its adiabatic form, which does not require conservation of molecular geometry in its measurement. This value is computed using Koopmans's Theorem, and its analog in solid-state physics is termed the work function. The average of this value and(\*) electron affinity is used in Mulliken's electronegativity scale, and its value increases across a period and up a group. For ten points, name this thermodynamic quantity, the amount of energy need to remove a valence electron from an atom in the gas phase.

ANSWER: ionization energy or ionization potential

- (18) During this decade, Jozef Pilsudski attempted to nominally liberate Ukraine in the Kiev Operation. Both the Liberal and Labour parties in the United Kingdom lost many seats partly due to the Zinoviev letter, ending Ramsay McDonald's first term. This decade saw the “Roman Question” answered with the creation of the Vatican City in the Lateran Treaty. John Baline was the only person to vote against the United States' adoption of the(\*) Kellogg-Briand Pact, and both the Munich Beer Hall Putsch and Scopes Monkey Trial occurred in this decade. For ten points, name this decade of the Jazz Age which was “Roaring”.

ANSWER: 1920s (accept Roaring Twenties before mention, prompt on “20s”)

- (19) **One fire important to this religion was called Farnbag, and touching the left ear of a dog can exorcise evil beings in this faith. Akoman and Indar are members of a group that deceives man, the Daevas, the counterparts to this religion's Amesha Spentas. The sixth creation in this religion was the perfect man(\*) Gayomard, and one extinct sect of this religion worshipped the god of the infinite named Zurvan. Sacred texts in this religion include the Gathas Hymns and the *Avestas*. For ten points, name this dualistic religion in which Angra Mainyu opposes Ahura Mazda and which was named for a Persian prophet.**

**ANSWER:** Zoroastrianism (accept Mazdaism before "Mazda" is read, accept Zarathustrism)

- (20) **This author wrote of a character who spends all his four days off playing billiards deliberately, moving the cue back and forth countless times. Another character made his wife type *A Girl of Sixteen*, a manuscript about his affair. This author of *Beauty and Sadness* wrote a novel where Shusai realizes that White 130 was the fatal mistake of a six-month long(\*) competition against Otake. In one novel, Shuichi's mistress insists on having a child, though his wife, Kikuko, has an abortion, and in another, Shimamura returns to the title location to visit Komako. For ten points, identify this author of *The Master of Go*, *The Sound of the Mountain*, and *Snow Country*.**

**ANSWER:** Yasunari Kawabata (accept in either order)

- (21) **This author wrote "Nothing in the world is single; / All things by a law divine / In one spirit meet and mingle. / Why not I with thine?" in the poem *Love's Philosophy*. This poet wrote "I vowed that I would dedicate my powers / To thee and thine- have I not kept the vow?" in *Hymn to Intellectual Beauty*. He says the title figure's soul "Beacons from the abode where the Eternal are" in an elegy for John Keats, (\*) *Adonais*. One of his poems asks "If winter comes, can spring be far behind?" and another describes a pedestal with the words "Look on my Works, ye Mighty, and despair!" For ten points, identify this author of *Ode to the West Wind* and *Ozymandias*.**

**ANSWER:** Percy Bysshe Shelley



## Bonuses

- (1) Functions in this coordinate system include roses and spirals. For ten points each:
- [10] Name this coordinate system in which points are indicated by an ordered pair of a radius and an angle from the positive  $x$ -axis.  
**ANSWER:** polar coordinates
- [10] The polar equation  $r$  equals  $a$  plus  $b$  sine  $\theta$  [READ: “theta”] describes this shape. When  $a$  and  $b$  are equal, a cardioid is formed, and if  $a$  has smaller absolute value than  $b$ , an inner loop appears.  
**ANSWER:** limaçon [READ: “lee-ma-SOHN”]
- [10] A horizontal line can be described by the polar equation  $r$  equals  $a$  divided by this function of  $\theta$ . The equation  $r$  equals  $a$  times this function of  $\theta$  describes a circle with center on the  $y$ -axis.  
**ANSWER:** sine
- (2) Identify the following about the world’s oldest profession for ten points each.
- [10] The medieval chronicler Wendover recorded how a large number of prostitutes took part in this Crusade, led by Stephen of Cloyes and Nicholas of Cologne. It failed to peacefully capture Jerusalem, and some of its young members were sold off into slavery.  
**ANSWER:** The Children’s Crusade
- [10] This Byzantine Emperor married the former prostitute Theodora. The Hagia Sophia was built under his reign, which also saw the suppression of the Nika riots.  
**ANSWER:** Justinian I or Justinian the Great
- [10] This controversial pope enjoyed watching prostitutes pick up chestnuts from the floor with their mouths in the aptly named Feast of the Chestnuts. He was succeeded by Pius III.  
**ANSWER:** Pope Alexander VI (prompt on Alexander; accept Alexander Sextus, Rodrigo Borgia, or Roderic Llancol i de Borja)
- (3) The protagonist of one of this author’s works reads letters written between two dogs, and believes himself to be King Ferdinand VIII of Spain. For ten points each:
- [10] Identify this author of *Diary of a Madman* who wrote about Chichikov paying landowners for serfs who had died in *Dead Souls*.  
**ANSWER:** Nikolai Gogol
- [10] Gogol wrote about the clerk Akaky Akakievich Bashmachkin saving money to buy the title object, which is soon stolen. In another novel, pages from this story saved Ashoke’s life in a train wreck.  
**ANSWER:** The Overcoat (or Shinel)
- [10] Jhumpa Lahiri wrote this novel about Nikhil Gogol Ganguli’s life, including his relationships with Maxine, Moushumi, his parents, and his Bengali heritage.  
**ANSWER:** The Namesake

- (4) Ludwig von Mises argued that these situations arise due to a lack of “clear personal property definition”. For ten points each:  
[10] Name these situations which arise when a party not included in a transaction is affected by a cost or benefit due to that transaction. Air pollution is an example of a negative one, while merit goods induce positive ones.  
**ANSWER:** externality or externalities  
[10] Some recipients of positive externalities are these entities, like tax evaders, that enjoy benefits without paying costs. They can occur due to the non-excludability of certain public goods.  
**ANSWER:** free rider  
[10] This man names a theorem about resource allocation in the presence of externalities that was derived from his paper *The Problem of Social Cost*.  
**ANSWER:** Ronald Coase
- (5) Among the leaders of this faith was the author of *The Finished Mystery*, Joseph Franklin Rutherford. For ten points each:  
[10] Name this Christian denomination which holds its meetings in Kingdom Halls. This group is known for proselytizing door-to-door and not recognizing birthdays and many holidays.  
**ANSWER:** Jehovah’s Witnesses  
[10] The Jehovah’s Witnesses give out this publication free of charge. Often paired with the magazine *Awake!*, this publication shares its name with the governing society of Jehovah’s Witness.  
**ANSWER:** The Watchtower Announcing Jehovah’s Kingdom  
[10] Jehovah’s Witnesses abstain from this type of medical procedure, citing Leviticus 17:12. The Watch Tower Society established the *Hospital Information Services* in order help patients not undergo this operation.  
**ANSWER:** blood transfusions (accept clear equivalents, prompt on a partial answer)
- (6) Alexander Hamilton influenced the result of this election, campaigning for a man whom he believed was “by far not so dangerous a man”. For ten points each:  
[10] Name this election, sometimes called a revolution because it was the first time a party handed over the presidency. The House of Representatives eventually elected Thomas Jefferson over Aaron Burr during this election.  
**ANSWER:** United States Presidential Election of 1800  
[10] Along with John Adams, the Federalists ran this candidate, a statesman from South Carolina and veteran of the Revolutionary War. He later ran for the Federalists in the Election of 1808, but he again lost, this time to James Madison.  
**ANSWER:** Charles Pinckney  
[10] The Election of 1800 sparked the creation of this amendment, ratified in 1804, which set a procedure for selecting the President and Vice President.  
**ANSWER:** Twelfth Amendment

- (7) Many authors were inspired by the life, if not the literature, of Ken Kesey. For ten points each:
- [10] This beat generation poet published *First Party At Ken Kesey's With Hell's Angels* in his collection *The Fall of America*. Fifteen years prior, he published his best-known poem, *Howl*.  
**ANSWER:** Allen (Irwin) Ginsberg
- [10] This “new journalist” wrote of the cross-country trip of Kesey and his Merry Pranksters in his book *The Electric Kool-Aid Acid Test*. Later in his career, he turned to writing novels like *Bonfire of the Vanities* and *I Am Charlotte Simmons*.  
**ANSWER:** Thomas Kennerley “Tom” Wolfe
- [10] his man described a party at Kesey’s in his debut book *Hell’s Angels*. Like this author’s later *Fear and Loathing in Las Vegas*, it was an example of gonzo journalism.  
**ANSWER:** Hunter S(tockton) Thompson
- (8) This piece was originally meant to be included with an Interlude and Final Paraphrase. For ten points each:
- [10] Identify this symphonic poem that opens with a descending chromatic scale played by the flute. This work about a pan flute-playing figure’s pursuit of nymphs which was later choreographed by Nijinsky.  
**ANSWER:** Prelude to the Afternoon of a Faun
- [10] This composer of *Children’s Corner* and *Prelude to the Afternoon of a Faun* included the movement *Clair de Lune* in his *Suite Bergamesque*.  
**ANSWER:** Claude Debussy
- [10] This Hokusai-inspired Debussy work features movements such as *From Dawn to Noon on [the title entity]* and *Play of the Waves*.  
**ANSWER:** La Mer
- (9) The internet has altered Dawkins’s definition of “meme”. For ten points each:
- [10] This word denotes a person or action that attempts to annoy people for pleasure. Forum users will advise not to “feed” these people, and one meme associated with this action often asks “Problem?”.  
**ANSWER:** troll (accept trollface or trolling)
- [10] One form of trolling involves this Pokemon character being invoked alongside old content.  
**ANSWER:** Slowpoke
- [10] This other meme character’s image comes from the cover of the Beantown Mafia album “Ma Gangsta”. This character wears a backward brown cap and a fur-lined coat and does selfish things.  
**ANSWER:** Scumbag Steve

- (10) It occurs when the molar Gibbs free energy of the liquid phase is higher than that of the solid and gas phases at all temperatures for a specific pressure. For ten points each:  
 [10] Name this phase change in which a solid vaporizes directly into the gas phase without a liquid intermediate. Dry ice undergoes this process when turning into gaseous carbon dioxide. The opposite of this transition is deposition.  
**ANSWER:** sublimation  
 [10] This element also undergoes sublimation, giving off a characteristic purple vapor. Lugol's solution is a solution of the anion of this element, and it is the active ingredient in counterfeit banknote detection pens.  
**ANSWER:** iodine  
 [10] Sublimation cannot occur above this temperature-pressure coordinate on a phase diagram. A substance with  $n$  possible phases has  $n$  choose three of these points, and highly exact thermometers are calibrated based on these points.  
**ANSWER:** triple point
- (11) Non-inertial ones are used to account for the fictitious centrifugal force. For ten points each:  
 [10] Name these entities that are used to model the position and movement of objects using a coordinate system. Special relativity posits that the speed of light is constant in all of these entities.  
**ANSWER:** reference frame or frame of reference (prompt on partial answer)  
 [10] When observed from an inertial reference frame, a non-inertial reference frame apparently undergoes this phenomenon, which can be computed as the time derivative of velocity.  
**ANSWER:** constant acceleration  
 [10] Measured in multiples of  $g$ , this term describes a sudden acceleration experienced during impact.  
**ANSWER:** shock
- (12) One thousand Martini Breech Rifles were captured before this battle, which took place at Otto Witt's mission. For ten points each:  
 [10] Name this battle in which less than one hundred British soldiers successfully defended their station against thousands of natives at the Tugela River, preventing them from reaching Port Natal.  
**ANSWER:** Battle of Rorke's Drift  
 [10] The leader of the natives during the Battle of Rorke's Drift was this man, who on the same day had won the Battle of Isandlwana. He was the last ruler of his people, at he also lost the Battle of Ulundi.  
**ANSWER:** Chief Cetshwayo kaMpande  
 [10] Cetshwayo was of the Zulu tribe, which was brought to prominence by this leader. He reorganized the Zulu military, introducing the iklwa as well as the buffalo horn formation.  
**ANSWER:** Shaka Zulu (accept Shaka kaSenzangakhona)

- (13) This man produced *The Gallery of Illustrious Americans*, a collection of portraits of early American leaders. For ten points each:
- [10] Name this American photographer whose pictures of the First Battle of Bull Run are among his many Civil War scenes.  
**ANSWER:** Matthew B. Brady
- [10] This other war photographer depicted a group of schoolchildren pledging allegiance to the American flag in *Salute of Innocence*, which is part of a collection of photos she took at Manzanar internment camp during World War Two.  
**ANSWER:** Dorothea Lange
- [10] This Hungarian-born photographer is known for his D-Day invasion photos and a picture taken during the Spanish Civil War, *The Falling Soldier*.  
**ANSWER:** Robert Capa (or Friedmann Endre Ernő)
- (14) This painting initially received negative criticism for its apparent glorification of the lower class. For ten points each:
- [10] Name this Jean-Francois Millet work which depicts three of the title figures picking up stray grains of wheat in a rural field.  
**ANSWER:** The Gleaners
- [10] Millet was a member of this French artistic school which primarily depicted romanticized landscapes. Paintings from this movement include Theodore Rousseau's *The Oaks of Apremont* and Jean-Baptiste Camille Corot's *The Town of Avray, by the River*.  
**ANSWER:** Barbizon school
- [10] This painting by John Constable largely inspired the Barbizon school. Set at Willy Lott's cottage on the River Stout, two black oxen pull the title vehicle through water.  
**ANSWER:** The Hay Wain
- (15) Her mother was a German who died giving birth and her father was a Milanese nobleman who was imprisoned attempting a revolt. For ten points each:
- [10] Name this woman, who was killed by a creature who had promised her foster brother and fiance that he'd be with him on his wedding night.  
**ANSWER:** Elizabeth Lavenza (accept either underlined part)
- [10] Elizabeth Lavenza was the wife of this man, who was inspired by Monsieur Waldman and investigated the principle of life. He narrated his story, and that of his creature, to Robert Walton.  
**ANSWER:** Victor Frankenstein (accept either underlined part)
- [10] Frankenstein's creature was inspired after reading this book, but was not sure whether he should sympathize more with Adam, alone in the world, or Satan, for feeling envy. The creature took it as fact, and missed the poetic moralizing that John Milton used to describe the fall of man.  
**ANSWER:** Paradise Lost

- (16) Along with her daughter, this god was the center of the Eleusinian mysteries. For ten points each:

[10] Name this goddess who had sex with Iasion in a ploughed furrow and gave birth to the wealth god Ploutos. Metaneira unwittingly foiled this goddess's attempt to make her son, Demophon, immortal.

**ANSWER:** Demeter

[10] The aforementioned daughter of Demeter was this figure, who, after eating a pomegranate, has to spend half the year in the underworld as the wife of Hades.

**ANSWER:** Persephone

[10] This figure was cursed by a nymph he killed while chopping down a giant oak, and Demeter made this figure continuously hungry. This figure sold his daughter Mestra for money to buy food, and he eventually ate himself.

**ANSWER:** King Erysichthon of Thessaly

- (17) The operations of this group were partially banned by the Force Act. For ten points each:

[10] Name this organization, led by a Grand Wizard whose members are notorious for their white-hoods, burning crosses, and racist actions towards minorities, particularly African-Americans.

**ANSWER:** Ku-Klux-Klan

[10] This man founded the Ku-Klux-Klan. A former confederate cavalry general, he led a massacre of black soldiers at the Battle of Fort Pillow, and failed to stop James Wilson's intrusion into Alabama.

**ANSWER:** Nathan Bedford Forrest

[10] The Ku-Klux-Klan was glorified by the movie *The Birth of a Nation*, directed by this man who also directed its sequel, *Intolerance*. He was influenced by the work of his friend Thomas Dixon.

**ANSWER:** D.W. Griffith

- (18) Functions lacking these quantities are called divergent. For ten points each:

[10] Identify this value that is approached by a function. Its formal definition involves delta and epsilon, and horizontal asymptotes can be determined by computing these quantities as  $x$  approaches infinity.

**ANSWER:** limit

[10] One method to compute a limit is this theorem, which states that if a function  $g$  lies between  $f$  and  $h$  and the limits of  $f$  and  $h$  coincide, then  $g$  has the same limit.

**ANSWER:** Squeeze Theorem or Sandwich Theorem (accept equivalents like "rule" for "theorem")

[10] The Squeeze Theorem, along with a geometric argument about areas, can be used to show that the limit of the sine of  $x$  divided by  $x$  as  $x$  approaches zero is equal to this value, although L'Hôpital's Rule is more direct.

**ANSWER:** one

- (19) The bark of the cinchona tree produces quinine, a chemical that is used to treat this disease. For ten points each:
- [10] Name this parasitic disease caused by organisms of the genus *Plasmodium*. Spread by the female *Anopheles* mosquito, it is especially problematic in subtropical and tropical regions of the world.  
**ANSWER:** malaria
- [10] After first infecting a human, *Plasmodium* parasites travel to this largest internal organ where they infect hepatocytes and undergo exoerythrocytic schizogony.  
**ANSWER:** liver
- [10] This name is given to the *Plasmodium* cells formed from a oocyst in a mosquito, where they migrate to its salivary glands before infecting a human.  
**ANSWER:** sporozoite or sporozite
- (20) Answer the following about the works of Dario Fo for ten points each.
- [10] The Maniac pretends to be a judge and re-enacts the title *Accidental Death of [this type of person]* and ends with either four policemen or one journalist being left to die.  
**ANSWER:** anarchist
- [10] Fo wrote a monologue where turning clay into birds is *The First Miracle of [this figure]*. His other miracles include feeding several thousand people with seven loaves of bread and a few fish and turning water into wine.  
**ANSWER:** Jesus Christ
- [10] Fo wrote a novel in which *[one of this type of] Woman Speaks*. This is also the kind of person that Meursault shoots on the beach.  
**ANSWER:** Arab
- (21) The Cori cycle converts lactate into this molecule in the liver, where some of it is directed to gluconeogenesis. For ten points each:
- [10] Name this molecule that is formed from phosphoenolpyruvate and decarboxylated to form coenzyme-A before entering the Krebs cycle.  
**ANSWER:** pyruvate
- [10] Two pyruvate molecules are produced per glucose molecule that enters this metabolic pathway, the first step in cellular respiration.  
**ANSWER:** glycolysis
- [10] In glycolysis, the last step of the energy-investment phase is the production of this compound from dihydroxyacetone phosphate by the enzyme isomerase. This compound also allows glycerol to enter the glycolytic pathway.  
**ANSWER:** G3P (or glyceraldehyde 3-phosphate or PGAL or phosphoglyceraldehyde)