

Packet of Michigan, Michigan State Students

Packet 4

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Tossups

1. **An approximating condition for this phenomenon says $F \sin^2 \theta$ is much smaller than 1. This phenomenon can produce “shadow zones” for waves which is why mountains block some radio waves. For a single slit, the path difference for this phenomenon is $d \sin \theta$.** (*) The “grating” version of this phenomenon separates light of different wavelengths. Huygen’s principle describes this phenomenon and says that intensity falls as one moves from the center. For a small hole, Airy disks are formed by this phenomenon. For 10 points, name this phenomenon that occurs when waves bend around an object.

ANSWER: diffraction

2. **In one of these pieces, the trumpet rests during the andante section, and some modern performances of these pieces replace the trumpet with a piccolo trumpet. The third of these pieces, which is in G major, is in binary dance form while the fourth of these pieces is scored for two horns and three oboes. The last of these pieces starts with two violas in close canon and is scored for two violas da braccio and two violas da gamba,** (*) but lacks violins. The fifth of these pieces features a notable harpsichord cadenza. For 10 points, name this set of six orchestral compositions named after a German city and composed by Baroque composer J.S. Bach.

ANSWER: The Brandenburg Concertos (or Brandenburg Concerti)

3. **In a story that inspired a character’s name in this novel, a giant white figure kills the natives of Tsalal. That novel is by Edgar Allan Poe. A blind Frenchman tries to eat the protagonist of this novel. The protagonist of this novel is aboard *Tsimtsum* and he practiced three religion at once. A hyena in this novel is killed by an animal named** (*) Richard Parker. This novel tells of a boy whose father owns a zoo and who is stranded on a lifeboat in the Pacific with a Bengal tiger. For 10 points name this Yann Martel novel in which the title Indian character’s nickname is the name of an irrational number.

ANSWER: Life of Pi

4. **One leader of this territory’s homage to Zygmunt August was depicted in Jan Kockanowski’s chronicle *Proporzec*. One leader of this territory married the daughter of Britain’s George I and introduced the canton system of recruitment. This nation’s first leader, Albert, had been the last Grand Master of the** (*) Teutonic Knights and had established this nation’s capital at Königsberg. After John Sigismund married Julia-Cleves-Berg, this territory unified with the Margrave of Brandenburg. For 10 points, name this kingdom in modern-day Germany led by leaders such as the “soldier king” Frederick I and his son Frederick the Great.

ANSWER: Duchy of Prussia (or Preußen, or Prusy)

5. **Though initially studying the glucose-6-phosphatase enzyme, differential centrifugation of an organ was used to discover this organelle. In one process involving this organelle, permease allows for an amphisome to form which eventually fuses with this organelle. Mutations in the HEXA (*) gene for beta-hexosaminidase A, which is used by this organelle, can cause Tay Sachs disease. This low pH organelle, discovered by de Duve, is known for digesting unwanted materials in the cell through endocytosis and autophagy. For 10 points, name this organelle known as the waste disposal system of the cell.**

ANSWER: Lysosome

6. **A holiday in this faith honors scholarly people such as Lonka Saha; that holiday is Lokashah Jayanti. One leader of this faith achieved Kevalnyan through fasting and meditation and advocated ideas attributed to Parshva. The philosophy of non-absolutism (*) is key to this religion, as is a principle of relatability known as Anekantavada. Followers of one branch of this religion wear white clothes while nudity is encouraged by followers of the Digambara branch. Supposedly founded by the last Tirthankara, Mahavira, is—for 10 points—what Indian religion whose principle of nonviolence is known as ahimsa?**

ANSWER: Jainism (or Jain Dharma)

7. **This man gained his first senate seat after John Adair resigned following his implication in the Burr Conspiracy. After having the longest period in between times in congressional office, he immediately returned alongside John Calhoun after the Tariff of 1833 was signed. (*) This man was selected Speaker of the House on his first session in the House of Representatives in 1811 and he would use that position to elevate his fellow “War Hawks.” Unsuccessfully running for the presidency in both 1832 and 1844 under promises of his “American System”, this congressman was an early Whig. For 10 points, name this Kentuckian nicknamed the “Great Compromiser”.**

ANSWER: Henry Clay

8. **Encyclopaedia Britannica is read by a character who served in this conflict after he suffers memory loss. In that same novel, Valentine is seduced by Christopher Tietjens. “Men marched asleep” and “lost their boots” (*) in one poem about this conflict that contains a depiction of a soldier “gargling” on blood. “We are the dead” is proclaimed by the speaker of one poem about this conflict that also mentions “poppies” blowing “between the crosses”. Ford Maddox Ford wrote novels about this conflict and McCrae’s “In Flanders Fields” was written while he was serving in this war. For 10 points, “Dulce et Decorum Est” by Wilfred Owen was written during what European war?**

ANSWER: World War I (or The First World War or Great War)

9. **A woodpecker assisted two individuals associated with this place and Tarpeia was crushed by shields in this mythological city. One leader of this city defeated the Fidenates. An important woman from this city has her hair catch on fire in Book 7 of the epic in which she appears. The fury Alecto (*) is summoned by a goddess to ensure that there is a war involving this city. The story of this city’s founding is found in the *Ab Urbe Condita Libri*. One monumental figure in this city’s history married Lavinia and kills Turnus. For 10 points name this city founded by the children of Rea Silvia, Remus and Romulus.**

ANSWER: Rome

10. In one commercial for this firm, children had to say the biggest number they could think of so one kid said “10”. That commercial contained the slogan “bigger is better”. This company, originally part of the Bell System, was the first carrier to have the iPhone when it was released in 2007. (*) The mobile phone services of this company used to be known as Cingular. In October 2016, this company spent \$109 billion including net liabilities to purchase CNN and HBO’s parent company, Time Warner. For 10 points, identify this multimedia conglomerate who purchased DirecTV in 2015 and competes in some markets against Comcast.

ANSWER: AT&T Inc. (prompt on American Telephone and Telegraph Company because it is technically just AT&T now)

11. For large n , this function of n can output a value with a tail of trailing zeroes. Triangular numbers can be related to this function by evaluating $2n$ with this function and solving that for 2 to the n times the product of triangular numbers. The Gamma Function (*) is this function shifted over 1. This function appears in the combination and permutation formulas. When this operation is done on 3, the output is 6. This function multiplies a natural number by all the natural numbers before it. For 10 points, identify this mathematical operation that looks like an exclamation point.

ANSWER: Factorial

12. This nation had 5 kings of the same name in a row during the 1800s, one of which ended this nation’s 150-year isolation from Western influence. This nation’s current royal family was established by Yot Fa in during the Early Chakri Period, who moved the court to its current capital from (*) Ayutthaya. This nation was first contacted by Portuguese traders in 1511, and was aided by the French in repelling Dutch incursions in 1664. This kingdom could keep its independence because it acted as a buffer state between British Burma and French Indochina. For 10 points, name this nation that changed its name to Thailand in the 1940s.

Answer: Siam (accept Thailand before mention. Prompt on “Ayutthaya” before mention.)

13. Research by Basset-Jones and Lloyd says this thinker’s most famous idea is not applicable to the workplace. In *The Psychology of Science*, this man said, “if all you have is a hammer, everything looks like nail”, which is referred to as *his Hammer*. Thomas Jefferson (*) is often cited as someone who achieved a concept created by this thinker. The ability to reconcile freedom and determinism and peak experiences are necessary conditions for this man’s concept of “self-actualization”. In this man’s most famous idea, security of body, resources and health describe the safety stage. For 10 points, name this psychologist who invented a Hierarchy of Needs.

ANSWER: Abraham Maslow

14. Due to differences in this quantity, electrons in sigma bonds are associated with inductive effects. For simple molecules, the atom with the lowest value of this quantity is likely to be the center of the molecule. When determining the nature of a bond (*) between atoms, the difference in this quantity can indicate whether the bond is ionic. The Pauling scale is most commonly employed to evaluate this property and has a maximum value of 4. Fluorine has the highest value of— for 10 points—this chemical property that is the tendency of an atom to attract electrons to itself.

ANSWER: Electronegativity

15. A thinker associated with this school of thought argued that we cannot construe science through ontological claims. An essay arguing for this school of thought argued for a scientific approach to philosophy. That essay is “The Fixation of Belief.” *Philosophy and the Mirror of Nature* (*) was written by Richard Rorty, who is associated with this philosophical school. One work advocating this idea describes a squirrel running around a tree trunk. Another work shows “How to Make Our Ideas Clear”. John Dewey and Charles Sanders Pierce [pr. “Purse”] are associated with this philosophical idea. For 10 points, identify this philosophical position advocated by William James in a work of the same name.

ANSWER: Pragmatism (accept “naturalism” before The Fixation of Belief is read)

16. On the Doubtful Sound in the Fiordland National Park in New Zealand, one of these objects shares its name with a tarn named after Browne. In Hawaii, one of these physical objects is at the end of the Pipiwai Trail and is known as Waimoku. Though not an island, the name of one these objects originally described an island in Whitefish Bay. (*) One of these geographical feature is associated with Auyán-tepui and is in Canaima National Park in Venezuela. For 10 points, identify these geographic objects, examples of which include Michigan’s Tahquamenon, the tallest one known, Angel, and Niagara.

ANSWER: Waterfalls (prompt on “falls”)

17. In one play, an eccentric character who works in this profession is “fascinated” by the beauty of Yelena and is named Astrov. That play is *Uncle Vanya*. Because the father of one character who practices this profession is an alcoholic and commits suicide, (*) a character in this profession lives with his uncle Kolya. The wife of one character in this profession stabs a man with a gun and is the only character to not go blind in a José Saramago novel. Another character who works in this profession is in love with the shooter of Victor Komarovskiy, Lara. For 10 points, name this profession of Boris Pasternak’s character Yuri Zhivago.

ANSWER: Doctor (accept Physician)

18. Arthur Fadden held this position for a month, and was succeeded by a man who signed the Statute of Westminster Adoption Act. One man in this position disappeared swimming one day. That man, Harold Holt, succeeded another person in this position who gave a speech praising his country’s middle class called (*) the “Forgotten People’s” speech in 1941. One holder of this office proclaimed National Sorry Day in 1998. For 10 points, name this position held by Robert Menzies and John Curtin during the Second World War, whose current holder is Malcolm Turnbull.

ANSWER: Prime Minister of Australia

19. An artist from this country depicted a skeleton giving birth to a stack of books in a piece held at Dartmouth College. Another work from this country contains an image of a burning building in a bathtub; that painting is *What the Water Gave Me*. The artist of that painting depicted two connected hearts (*) in a double self-portrait. A work by an artist from this country was ordered to be destroyed by John D. Rockefeller over a depiction of Vladimir Lenin, and was titled *Man at the Crossroads*. That artist painted a series of murals depicting the industry of Detroit. For 10 points, identify this home country of Frida Kahlo and Diego Rivera.

ANSWER: Mexico

20. A “blood-red moon” shines through a widening “fissure” in this short story. The narrator of this story reads a poem that begins “In the greenest of our valleys, By good angels tenanted”. When a character gets depressed in this short story, he plays the guitar. “Sir Launcelot Canning’s” Romantic story (*) “Mad Trist” is read before the climactic action of this story. After burying his presumably dead sister alive, Roderick is attacked by his twin Madeline right before she dies. For 10 points, identify this Edgar Allan Poe short story where the title abode collapses.

ANSWER: “The Fall of the House of Usher”

21. (TB) This leader overtook the Three-anti and Five-anti campaigns to take down corruption in his country's cities, which led to “struggle sessions”. This man’s doctor wrote an unflattering memoir of this leader, who headed the Hundred Flowers Campaign. Later in this man’s leadership, he would embark on a program that encouraged the creation of backyard furnaces. That program’s aftermath saw the Three Years of Natural Disasters which had been caused by his Four Pest Campaign. This leader oversaw a 2-year period of rapid industrialization called the Great Leap Forward. For 10 points name this leader of the Chinese Communist Party who established the People’s Republic of China.

ANSWER: Mao Zedong (or Mao Tse-Tung, accept either first or last name)

22. (TB) This author “went to heaven” in one poem and said it “’Twas a Small Town”. A “blue, uncertain, stumbling buzz” appears in one poem by this poet about the experience of death. This author wrote of a drum that “Kept beating, beating, till I thought/My mind was going numb” in “I Felt a Funeral in My Brain”. In one poem, this author of “I heard a fly buzz when I died”, mentioned a figure who “kindly stopped for me”. For 10 points, identify this “Belle of Amherst” who wrote “because I could not stop for Death”.

ANSWER: Emily Dickinson

BONUSES

1. Name some things about the “hermit kingdom” for 10 points each,

[10] The modern-day Northern version of this nation has been called the “hermit kingdom” for its highly isolationist policies. The ancient version of this nation lied on its namesake peninsula.

ANSWER: **Korea** (prompt on “North Korea”)

[10] The medieval Joseon Dynasty was known as the “hermit kingdom” in the latter years of its regional dominance. Arguably its most famous leader was this man, who established a system of forts along its northern border to protect against the Jurchens.

ANSWER: **Sejong** the **Great** (or **Yi Do**, prompt on “Sejong”)

[10] This class of ships were first used by the Joseon kingdom to repel the invasions of Toyotomi Hideyosi in the late 16th century. These ships were created by Yi Sun Shin to repel the Japanese navy.

ANSWER: **Turtle** Ships (or **Geobukseon**)

2. For 10 points, answer some questions about planets that cannot be guessed through an acronym about a Very Earthy Mother.

[10] This word refers to any planet that is not orbiting our Sun. In other words, these objects are far past Pluto.

ANSWER: **Exoplanet** (prompt on “extrasolar planet”)

[10] This class of exoplanets have a size and mass close to our planet but have a larger volume. One example of this celestial object is 55 Cancri e and the rock Kepler-10b.

ANSWER: **Super-Earths**

[10] Before you get to the exoplanets, you may run into this hypothetical, icy region that surrounds the Sun at up to about 2 light years away. This interstellar region may also contain the minor planet Sedna.

ANSWER: **Oort-** **Öpik** **Cloud**

3. The integrated form of this equation for a first-order reaction contains the term \ln of A. For 10 points each:

[10] Name this equation found in reaction kinetics that relates how quickly a reaction proceeds to the concentrations of its reagents.

ANSWER: **rate law** (or **rate equation**)

[10] The rate law of a reaction sets the proportionality of rate to concentrations equal to this term, denoted k , expressed in units of reciprocal seconds times some power of molarity.

ANSWER: reaction **rate constant** (or reaction **rate coefficient**)

[10] This method, often employed in Michaelis-Menten kinetics, sets the rate of production of a reaction intermediate equal to the rate of its consumption to simplify calculation of the rate law of a mechanism.

ANSWER: **steady-state approximation** (or **stationary-state approximation**)

4. This quantity can be calculated using a GDP Deflator or by comparing the value of price indices. For 10 points each:

[10] Name this economic variable that shows how much value money has lost each year.

ANSWER: **Inflation** rate

[10] This price index, which measures changes in the price of a market basket of goods, is used as the inflation rate for cost of living adjustments.

ANSWER: **CPI** (or **C**onsumer **P**rice **I**ndex)

[10] Many Keynesian economists were surprised when the US economy was suffering from this condition. This condition is characterized by both high unemployment and inflation.

ANSWER: **Stagflation** (exact phrase required)

5. This novel begins in 1873 Cincinnati several years after Howard and Buglar run away. For 10 points each:

[10] Identify this Toni Morrison novel whose protagonist Sethe believes her house is haunted by a child she killed while enslaved.

ANSWER: **Beloved**

[10] In this other Morrison novel, Pecola believes Shirley Temple is pretty and she is ugly. This depressing novel's narrator also tells of the abusive pasts of Pecola's parents Cholly and Polly.

ANSWER: **The Bluest Eye**

[10] Morrison also wrote this novel that partially takes part in Michigan where Milkman becomes irritated because humans cannot fly. Later, Milkman tries to rob Pilate only to find rocks and a skeleton.

ANSWER: **Song of Solomon**

6. Two new Pokémon games were released in November 2016, so answer some questions about our favorite Pocket Monsters.

[10] The new games are named after these two celestial objects that are represented by the Pokémon Solgaleo and Lunala.

ANSWER: The **Sun** and the **Moon** (accept **Pokémon Sun** and **Pokémon Moon**)

[10] Lunala is part Psychic type and part this other Pokémon type. The new Pokémon Mimikyu and Sandygast are part this type--as is the old-school Pokémon Misdreavus.

ANSWER: **Ghost** Type

[10] In the new games, this organization led by Lusamine opposes the new bad guys Team Skull and seeks to research the Ultra Beasts.

ANSWER: **Aether** Foundation

7. Answer the following about the supposedly boring painting genre of still life which is super cool for 10 points each:

[10] This French Post-Impressionist put a green vase and some red apples in his *Still Life with Apples*. Some non-food related still lifes by this artist include the still-apple-containing *Still Life with Plaster Cupid*.

ANSWER: Paul **Cezanne**

[10] Van Gogh is generally more well-known for self-portraits, but he also painted two series of still lifes of this yellow plant.

ANSWER: **Sunflowers** (or **Helianthus**)

[10] This 20th century Italian artist of still lifes often chose to depict non-living boxes, bottles and vases, such as in his *Still Life with Cups and Boxes* over colorful fruit.

ANSWER: Giorgio **Morandi**

8. This country spans three time zones and is home to the most Muslims in the world. For 10 points each:

[10] Identify this archipelago nation with capital at Jakarta.

ANSWER: Republic of **Indonesia**

[10] This partially-Indonesian island also contains the tiny country of Brunei. The highly- industrialized Malaysian city of Kota Kinabalu is on this island and contains a giant sword fish statue.

ANSWER: **Borneo**

[10] The official language of Indonesia is referred to by this term that is similar to the word for "language" in other Asian languages such as Lao or Thai.

ANSWER: **Bahasa** (or **Basa**, **Phasa**)

9. For 10 points each name some things about an early American settlement where things didn't quite go as planned. [10] Nicknamed the "Lost Colony", some believe that this settlement's residents all fled to the nearby island of Croatoan during the three-year Anglo-Spanish War.

ANSWER: **Roanoke**

[10] Roanoke was founded by this explorer and friend of Queen Elizabeth who had lead expeditions up the Orinoco river in search of El Dorado.

ANSWER: Walter **Raleigh**

[10] This grandfather of Virginia Dare discovered that Roanoke was abandoned. Additionally, this man painted many watercolors of the coastal Algonquin people, which are in the *British Museum*.

ANSWER: John **White**

10. Answer the following about Deutsche Theaterstücke [pr. "Doy-cha Tay-ah-tur-stook-uh] for 10 points each:

[10] This German playwright wrote *The Robbers* which revolves around the rivalry between amoral brothers Karl and Franz. Karl then decides to live in the forest with a gang of outlaws.

ANSWER: Friedrich **Schiller**

[10] This two-part Goethe [gurr-tuh] play describes a man who makes a pact with Mephistopheles. The protagonist of this play tries to woo Helen of Troy.

ANSWER: **Faust** (do NOT prompt or accept "*Doctor Faustus*" by Christopher Marlowe)

[10] In this Heinrich von Kleist play, Adam lies and says a facial injury was caused by a clothesline and a goat. Frau Marthe blames Ruprecht for destroying the title object in this play.

ANSWER: **The Broken Jug** (or **Der zerbrochene Krug**)

11. Every large American city has skyscrapers so that they seem important. Answer some questions about skyscrapers for 10 points each:

[10] This 38-story structure on Park Avenue was famously featured in *Breakfast at Tiffany's*. Phillip Johnson designed part of the interior of this "corporate modernist" building.

ANSWER: The **Seagram Building**

[10] Part of the exterior of the Seagram Building was designed by this German-American architect who also worked on the TD North and South skyscrapers. This architect is famous for his motto "less is more".

ANSWER: Ludwig **Mies** Van der Rohe (or **Van der Rohe**)

[10] The Seagram Building is in this American city that also features the tallest building in the Western Hemisphere, the One World Trade Center.

ANSWER: **New York** City (or **NYC**)

12. These circuit devices contain two metal plates separated by a dielectric. For 10 points each:

[10] Name these devices that store electrons that are represented by two vertical bars on a circuit diagram.

ANSWER: **Capacitor**

[10] Dielectrics are often insulators and can be made of this highly electronegative gas that is used in circuit breakers as an arc quenching medium and in high voltage switchgears.

ANSWER: **Sulfur Hexafluoride** (accept **SF₆**)

[10] This unit is commonly associated with capacitance. This unit is equivalent to the stored charge of one coulomb when there is one-volt potential difference between the plates of the capacitor.

ANSWER: **Farad**

13. In one myth, this god helps destroy Seth and this god was worshipped at cities like Arsinoe. For 10 points each:
[10] Identify this god of the Nile who supposedly brought fertility to the land and is often featured with a crocodile head.

ANSWER: **Sobek** (or any of **Sebek**, **Sochet**, **Sobk**, **Suchos**, **Sobki**)

[10] Sobek is especially associated with this lake-side location which is perhaps why the Greeks renamed this region's city of Shedyet Crocodilopolis.

ANSWER: **Faiyum**

[10] Myths of Sobek may have been combined with this non-Ra Egyptian god who was the son of Isis and Osiris. Some pharaohs were thought to be related to this falcon-headed sky god.

ANSWER: **Horus**

14. This symphony was partially inspired from African American spirituals but still retains Bohemian influences. For 10 points each:

[10] Identify that symphony which features "Goin' Home" in its second movement.

ANSWER: Symphony **from the New World** (or **"New World Symphony"** or **Dvořák 9th Symphony** or **Dvořák's Opus 95** but do not reveal Dvořák)

[10] This Prague-born composer composed *The New World Symphony* as well as *The Slavonic Dances*.

ANSWER: Antonín Leopold **Dvořák**

[10] Dvořák also composed this chamber piece while he was staying in the United States. This piece contains a scherzo third movement that has the form ABABA.

ANSWER: **American** (String) **Quartet** (or **String Quartet 12 in F major** or **Opus 96**)

15. In this novel, 108 outlaws help quell counter rebellions and foreign invasions. For 10 points each:

[10] Give the name of this in the vernacular novel that also features the staff-wielding soldier of Wu Song and the monk Lu Zhishen.

ANSWER: **Water Margin** (or **Shui Hu Zhuan**, or **Outlaws of the Marsh**, or **All Men are Brothers**)

[10] *Water Margin* is one of the four Great Chinese novels. Another novel is this one published during the Ming Dynasty. In this novel, a monk travels to India to retrieve the sutras. On the way, he encounters a Monkey King.

ANSWER: **Journey to the West** (prompt on "Monkey" as that is apparently an old English translation)

[10] Another famous novel that takes place in China is the 20th century's *The Good Earth*. This American author created the farmer Wang Lung and his wife O-lan, who was sold into slavery in the novel.

ANSWER: Pearl S. **Buck**

16. This event's origins may have come from the 1346 Siege of Kaffa. For 10 points each:

[10] Name this event that terrorized Europe throughout the 14th century and killed off about 30-60 percent of its population.

ANSWER: **Black Death** (prompt on Bubonic Plague and Plague)

[10] The only monarch to be killed during the Black Death was the 11th of this name. This name was a common regnal name of Portuguese Kings.

ANSWER: **Alfonso**

[10] Poland was able to avert a lot of the carnage that accompanied the Black Death because of this "Great" King of Poland the last of the Piast dynasty, who founded the University of Krakow.

ANSWER: **Casimir** the **Great** (or **Casimir III**)

17. This process was studied by Sewall Wright in cattle, leading to him developing a coefficient for it. For 10 points each:

[10] Name this process that causes an increase in the percentage of inheriting homozygous traits, thus resulting in a depression of biological fitness.

ANSWER: **inbreeding**

[10] Inbreeding causes this kind of collapse by increasing repeat ancestors. This word also describes diagrams or tables that illustrate familial relationships in genetics.

ANSWER: **pedigree**

[10] In pedigrees, circles indicate females, while males are represented using this shape.

ANSWER: **square**

18. Answer some questions about how observant Muslims pray for 10 points each:

[10] Practitioners clean themselves by Wudu prior to this process where they face the direction, or Qiblah, of Ka'bah. This action is one of the Five Pillars of Islam.

ANSWER: **Salat** (or **Salah**)

[10] The position a practitioner takes while praying is named this. The name of the Islamic night prayer also contains this word followed by Al-lali.

ANSWER: **Qiyaam**

[10] Muslims are supposed to pray towards Mecca this many times per day. This does not include the night prayer Qiyaam Al-lali.

ANSWER: **Five**

19. A woman who is married to the paralyzed Sir Clifford has an affair with this man. For 10 points each:

[10] Name this gamekeeper whose estranged wife is named Bertha Coutts.

ANSWER: **Oliver Mellors** (accept either name)

[10] Mellors appears in this D.H. Lawrence novel that was the subject of a famous obscenity trial in the 20th century.

ANSWER: **Lady Chatterley's Lover**

[10] Lawrence wrote this other novel about the Morel family where Paul Morel engages in a complicated love triangle with Clara Dawes and Miriam Leivers.

ANSWER: **Sons and Lovers**

20. For 10 points each, name some things about the Monitorial Education System.

[10] The Monitorial System utilized these people in the idea that they would pass the knowledge of the teacher to the students; thus, giving the Monitorial System the nickname of "mutual instruction".

ANSWER: **Helpers** (accept anything that indicates that the person is an **intermediary** between the teacher and the student)

[10] The Monitorial System fell into disfavor but David Stow created this system, which trained teachers to have more intentions than to just be monitors. It is named for the largest city in Scotland.

ANSWER: **Glasgow**

[10] The Monitorial System was developed independently by Joseph Lancaster and Andrew Bell, who at the time were in this Indian city which was the site of Fort. St George as the first major British settlement in India.

ANSWER: **Madras**

21 (TB). Ever wondered how much an additional year of playing time affects the log of salaries for your favorite baseball players? Well if you did, you'd regress experience on log salary, so answer some questions about that process for 10 points each:

[10] Regression is often done using this technique that computes regression coefficients by minimizing the squared residuals.

ANSWER: **Ordinary Least Squares** (or **OLS**)

[10] After doing a regression in a program like [rhymes with data] STATA, one is given this number that is the sum of squared residuals divided by the total sum of squares. This value is often used to judge the fit of the model.

ANSWER: **r squared** (or "**coefficient of determination**")

[10] When graphed, a regression equation such as $\hat{y} = \beta_1 X_1 + \beta_0 + u_i$ resembles this shape that can be represented by $y = mx + b$.

ANSWER: **line** (accept word forms like "**linear**")