Maryland Fall 2015

Packet 1 – arrernte

Questions by Jordan Brownstein, Ani Perumalla, Emma Stevens, Sam Rombro, Sarang Yeola, Will Alston, Weijia Cheng, Naveed Chowdhury, Justin Hawkins

Tossups

- 1. The rare cantillation marks *qarnei farah* and *yerach ben yomo* both appear in this book on the same name. This book and Song of Songs are the only ones in the Bible that do not refer to God. In this book, Bigthan and Teresh plot to murder a man who had dismissed Vashti for failing to appear before him at a banquet. This book's central figure appears (*) unsummoned, but is not punished for doing so by her husband Ahasuerus. Graggers are used to drown out the name of one figure in this book, which is set in Shushan. For 10 points, what is this book of the Bible, in which Haman's plot to destroy the Jewish nation is foiled by the titular Jewish woman? ANSWER: Book of Esther [or the Megillah or Megillat Esther]

 <SR Religion>
- 2. During an invasion of this country, its national treasury, 50 tons of gold, was loaded on a train and then shipped off on the *HMS Glasgow*. A strike against milk rationing in this country prompted commissioner Josef Terboven to declare martial law. During Operation Linebacker, troops with gliders tried to sabotage the German heavy water plant in this country. After this country's king (*) Haakon VII fled, the head of the Nasjonal Samling party became the leader of a puppet regime here. That collaborator during the Nazi occupation of this country was Vidkun Quisling. For 10 points, name this Scandinavian country whose capital is Oslo. ANSWER: Norway

ANSWER: Norwa

- 3. One of this architect's creations consists of two long, narrow rectangular buildings, which from the street appear as one horizontal structure. This architect designed a building in the "Maya Revival Style" that had a shallow, mud-based foundation, which allowed it to survive a 1923 (*) earthquake. This designer of the Robie House built a Pennsylvania home commissioned by Edgar Kaufmann that uses cantilevered floors to extend over a running creek. For 10 points, name this Prairie Style architect, the designer of the Imperial Hotel and Fallingwater. ANSWER: Frank Lloyd <u>Wright</u>

 <SY Architecture>
- 4. In this work, the pirate Mynheer Vanderdendur steals sheep from the protagonist. An old woman in this novel is actually the Princess of Palestrina and tells the story of why she only has one buttock. Characters in this work include the traveling partners Martin and Cacambo. A character in this novel is thought to have been (*) hanged during an auto-da-fé, but turns up on a ship heading for Constantinople. The title character of this novella is expelled from the castle of Baron Thunder-Ten-Tronckh after kissing Cunegonde, and he is taught that this is the "best of all possible worlds" by Dr. Pangloss. For 10 points, name this satirical novella by Voltaire. ANSWER: <u>Candide</u>; or, Optimism [accept <u>Candide</u>; ou, l'Optimisme]

 <ES Literature>
- 5. This molecule was first isolated by Friedrich Miescher using cells obtained from the bandages of local hospital patients. Unlike the more common B-form of this molecule, the Z-form is left-handed and its major and minor grooves are not clearly different in width. The alteration of regions of this molecule is performed by the addition of (*) methyl groups. Two carbon atoms are linked in this molecule by a phosphodiester bond. This molecule can be amplified using an enzyme derived from *Thermus aquaticus* in PCR. For 10 points, name this molecule that contains the genetic information in an organism's cells.

ANSWER: **DNA** [or **deoxyribonucleic acid**]

6. This person allegedly used burning corpses as lamps for a nighttime garden party. This leader had the architects Severus and Celer build an extravagant palace called the Golden House. The general Corbulo fell on his sword on the orders of this man, who once had a collapsible boat built in an effort to kill his mother. Revelation of the Pisonian conspiracy against this emperor prompted his (*) tutor, Seneca, to commit suicide. The Year of the Four Emperors followed this emperor's death, and he was probably aware of the plot to poison his predecessor, Claudius. For 10 points, name this emperor who blamed Rome's Christians for a fire during which he apocryphally "fiddled."

ANSWER: <u>Nero</u> [or <u>Nero</u> Claudius Caesar Augustus Germanicus] <JB History>

7. In April 2015, the Villarica Volcano in this country erupted and the Calbuco Volcano erupted twice. A recently discovered dinosaur in this country is like a vegetarian Tyrannosaurus and was dubbed the "platypus of dinosaurs." In April 2014, this country experienced a magnitude 8.2 earthquake in (*) Iquique, a city on the Nazca plate's eastern edge. The Very Large Telescope was recently built in the Cerro Amanos Region of this country's Atacama Desert. For 10 points, name this South American country whose capital is Santiago.

ANSWER: <u>Chile</u> <SY Geography>

8. This poem describes "Five miles meandering with a mazy motion" and a place "haunted by woman wailing for her demon-lover!" The composition of this poem was interrupted by a person from Porlock. The speaker of this poem envisions encountering a "damsel with a dulcimer" "singing of Mount Abora" who turns out to be "an (*) Abyssinian maid." The title character of this poem earlier hears "Ancestral voices prophesying war!" and describes "caverns measureless to man" where there is the sacred river, Alph. For 10 points, name this poem that tells of the title character's "stately pleasure dome" in Xanadu by Samuel Taylor Coleridge.

ANSWER: "<u>Kubla Khan</u>: Or, A Vision in a Dream. A Fragment." <ES Literature>

9. Rotokas is often thought to have the smallest number of these, although Pirahã may have fewer. If two of these objects exclusively appear in different environments, they are said to be in complementary distribution. The contrast between these objects can vanish in neutralization. Two of these objects are in free variation if choosing one or the other does not alter (*) meaning. Minimal pairs are words which only differ by one of these units. These units differ in regular patterns as allophones of a single sound. For 10 points, name these smallest linguistic units of sound that can bring about a change in meaning.

ANSWER: **phoneme**s [prompt on "sounds" until read]

<SR Social Science>

10. The Einstein tensor contains this quantity to the fourth power in its denominator. Maxwell discovered that this quantity is equal to one over the square root of the product of the vacuum permittivity and permeability. Cherenkov radiation occurs when this quantity is (*) exceeded in its local frame. Length contraction occurs as objects approach this constant. The equivalence of mass to energy depends on this constant squared, according to Einstein's famous equation. For 10 points, name this constant, the rate at which a photon travels in a vacuum, denoted by the letter "c."

ANSWER: <u>speed of light</u> [prompt on "c"] <SY Physics>

11. The beginning of Michel Foucault's *The Order of Things* discusses two monarchs in this painting whose presence is only confirmed by the reflection of a mirror at the back. A large red cross is emblazoned on the

chest of the man standing next to the giant easel on the left of this painting, who happens to be the (*) artist himself. A dog and a dwarf are part of the entourage of this painting's central figure, who is being attended to by her maids of honor. For 10 points, name this painting of the Infanta Margarita by Diego Velázquez.

ANSWER: <u>Las Meninas</u>

<WA Painting>

- 12. After founding a namesake town in Wyoming, this man built a hotel named after his youngest daughter, the Irma Hotel. General Philip Sheridan arranged for this man to guide Grand Duke Alexei on a hunting trip during his goodwill tour of the United States. After killing and scalping a Cheyenne warrior named Yellow Hair at Warbonnet Creek, this man shouted, "The first scalp for Custer!" This man's namesake (*) show was performed at Queen Victoria's Golden Jubilee, and included the sharpshooter Annie Oakley and Chief Sitting Bull. For 10 points, name this former Pony Express rider who became a worldwide celebrity through his Wild West show. ANSWER: Buffalo Bill [or William Frederick Cody] < WC History>
- 13. A story by this author features a tarantula with a girl's face who is only fed meatballs. The title character of that story is imprisoned in a chicken coop but flies away at the end. This author also wrote a novel in which Urbino dies while trying to get a parrot out of a tree, allowing (*) Florentino Ariza and Fermina Daza to reunite. Another novel by this author of "A Very Old Man with Enormous Wings" includes the gypsy Melquiades and a man that has seventeen sons all named Aureliano in the town of Macondo. For 10 points, name this author who wrote about the Buendia family in *One Hundred Years of Solitude*.

ANSWER: Gabriel Garcia Marquez

<ES Literature>

14. In category theory, a diagram has this property if composing different paths gives the same result. The study of random variables that do not have this property is called free probability. If two operators have this property then will be simultaneously diagonalizable. Groups with this property have only normal subgroups and are called (*) abelian. Subtraction possesses the "anti" form of this property. For 10 points, identify this property that applies to addition and multiplication in which *x* plus *y* equals *y* plus *x*.

ANSWER: commutativity or commutative

<SY Math>

15. Commanders of this military force's *ortas* were called "soup cooks" and carried ladles as symbols of their rank. Sigismund III's victory at the Battle of Chocim preceded an unsuccessful attempt to reform this military force, which was abolished after it revolted during the Auspicious Incident. The (*) *devshirme* system initially provided most of this military force's manpower by levying Christian boys from the Balkans. For 10 points, name this elite military force whose soldiers were legally slaves to the sultan of the Ottoman Empire.

ANSWER: <u>Janissaries</u> [accept <u>Janissary</u> Corps or <u>Yeniceri</u>]

<WC History>

16. After hearing snakes hissing, this figure was inspired to invent the flute, but then threw it away when she realized how ugly she looked playing it. This figure gave the sisters Herse, Pandrosos, and Aglauros a box containing a baby born after Hephaestus tried to assault this goddess but instead impregnated Gaia. This goddess later won a contest against (*) Poseidon by creating an olive tree. After losing a weaving contest, this goddess turned Arachne into spider. This goddess was born when Zeus cleaved his head open with an axe. For 10 points, name this Greek goddess of wisdom and war.

ANSWER: Pallas <u>Athena</u> [or <u>Athene</u> or <u>Athena</u> Parthenos]

<ES Mythology>

17. In one song, this artist asks "Aye, the beat go off?" That song has the same title as one performed by The Weeknd. Lupe Fiasco stated that this rapper "scares him" after this man joked about the murder of Lil JoJo on Twitter. This man featured on Gucci Mane's "Top in the Trash," and Kanye West and Lil B feature on his album (*) Bang 3. Most of his songs are produced by Young Chop. Rappers associated with him include Lil Reese and Fredo Santana. This man is credited with advancing the drill genre, a relative of trap music. For 10 points, name this rapper, the founder of Glory Boyz Entertainment and the artist of "Love Sosa" and "I Don't Like."

ANSWER: <u>Chief Keef</u> [or Keith <u>Cozart</u>] <SR Trash>

18. A woman in a play by this author is asked to commit suicide by jumping into the mill-race like the protagonist's first wife did. In a play by this author, a woman dances the tarantella to distract another character from checking his mail. In a play by this author, the editor of *The People's Messenger* goes back on his promise to print Dr. Stockmann's article about the (*) contamination of the town baths. Krogstad blackmails the protagonist of one of this author's plays after she forges a loan. That play ends with Nora leaving her husband, Torvald. For 10 points, name this Norwegian playwright of *An Enemy of the People* and *A Doll's House*.

ANSWER: Henrik **Ibsen**

<ES Literature>

19. E. T. A. Hoffmann, who helped popularize this symphony, wrote that it "sweeps the listener into the realm of the infinite." The exposition of the first movement of Brahms' First Symphony, which is in the same key, quotes this symphony's opening motif. A timpani roll links this symphony's third movement to its fourth movement, which is in C major even though this symphony is in the parallel key, (*) C minor. Its long finale ends with 29 bars of C major chords. "Fate knocking at the door" is the name given to a motif from this symphony, which precedes its composer's Pastoral Symphony. For 10 points, name this symphony by Ludwig van Beethoven that features a "short-short-long" motif.

ANSWER: Symphony No. <u>5</u> by Ludwig van <u>Beethoven</u> in C minor [or <u>Beethoven's Fifth</u> Symphony] <WA Music>

20. Citrobacter are able to accumulate large amounts of this element. One compound of this element is made with acetic acid and is used extensively in electron microscopy. This element was isolated from pitchblende found in the Johanngeorgenstadt deposit in 1789 by Martin Klaproth. This element is the (*) heaviest of those that occur naturally in the Earth's crust. The most commonly occurring isotope of this element is 238. Its 235 isotope, which decays to thorium-231, is used in nuclear reactors because it can sustain a fission reaction. For 10 points, name this element, symbolized U.

ANSWER: **uranium** [or **U** until read]

<SR Chemistry>

Bonuses

- 1. This president's National Commission on Excellence in Education criticized the country's schools in the report *A Nation at Risk*. For 10 points each:
- [10] Name this president whose other children-related policies included the anti-drug "Just Say No" campaign, which was devised by his wife.

ANSWER: Ronald Reagan

[10] Reagan's economic policies, which focused on deregulation and tax-cuts, are often known as "trickle-down" economics or by this other term. George H. W. Bush dismissed this approach as "voodoo economics."

ANSWER: supply-side economics

[10] Reagan also appointed Sandra Day O'Connor as the first female member of this body. Reagan elevated William Rehnquist to "chief" of this body and unsuccessfully nominated Robert Bork for it.

ANSWER: <u>Supreme Court</u> of the United States [or <u>SCOTUS</u>]

<JB History>

- 2. Previously, this award was only given to citizens of the Commonwealth, Ireland, and Zimbabwe, but policy was amended in 2013 to include any novel written in English and published in the UK. For 10 points each:
- [10] Name this prize, first awarded in 1969, whose winners have included Salman Rushdie, Nadine Gordimer, and J. M. Coetzee twice.

ANSWER: **Booker** Prize [or **Man Booker** Prize]

[10] This author of *Three Cheers for the Paraclete* was shortlisted for the Booker for his novel *The Chant of Jimmie Blacksmith*.

ANSWER: Thomas Keneally

[10] Keneally won the Booker in 1982 for a novel titled for the "Ark" of this factory owner who saved Jews during the Holocaust. It was adapted by Steven Spielberg into a film titled for this character's "List."

ANSWER: Oskar Schindler

<SR Literature>

- 3. Answer some questions about underworlds in mythology. For 10 points each:
- [10] This Mayan underworld ruled by twelve gods includes locations like the Jaguar House and the Razor House.

ANSWER: Xibalba

[10] Theseus and Pirithous were trapped by snakes after trying to kidnap Persephone, the wife of this Greek god of the underworld.

ANSWER: Hades

[10] This Shinto god went to Yomi in an attempt to retrieve his wife after the birth of their son Kagu-tsuchi killed her, but fled when he saw her rotting maggot-filled body.

ANSWER: **Izanagi**-no-Mikoto

<ES Mythology>

- 4. Most of this compound is synthesized by the cumene process. For 10 points each:
- [10] Name this compound whose formula is C₃H₆O. Its common uses include paint thinner and nail polish remover.

ANSWER: acetone [or propanone]

[10] Acetone is the simplest example of this type of compound. These compounds consist of a carbonyl group attached to carbon-containing substituents.

ANSWER: ketone [or alkanone]

[10] Compounds containing this element are removed from gasoline in the doctor sweetening process. Cysteine is the only amino acid that contains this element, which allows it to act as a nucleophile.

ANSWER: $\underline{\mathbf{sulfur}}$ [or $\underline{\mathbf{S}}$]

- 5. Name some things about the geography of the Islamic State. For 10 points each:
- [10] The Islamic State recently refurbished the luxury Ninawa International Hotel in this Iraqi city, which in June 2014 became the largest city under its control.

ANSWER: Mosul [or Al-Mawsil]

[10] This city is home to a civilian journalism group whose name suggests that this city "Is Being Slaughtered Silently." It is the *de facto* capital of the Islamic State.

ANSWER: Al-Raggah

[10] The Islamic State executed a group of twenty-one Egyptian Copts in this country, where it gained a foothold after the ouster of this country's former leader Muammar Gaddafi.

ANSWER: <u>Libya</u> <WC Current Events>

- 6. This character is born with an extra finger, and as a child he lets a neighbor's calf drown. For 10 points each:
- [10] Name this character who marries into the Tulsi family and lives most of his life at Hanuman House, before desiring to become independent and build his own dwelling.

ANSWER: Mr Biswas [or Mohun Biswas]

[10] This Trinidadian-born author wrote A House for Mr Biswas. This author of A Bend in the River has attracted controversy for his remarks about female authors, having particular disdain for Jane Austen.

ANSWER: Vidiadhar Surajprasad Naipaul

[10] Naipaul's *Beyond Belief* and *Among the Believers* are set in countries like Iran and Indonesia and examine fundamentalism in this religion.

ANSWER: **Islam** [or **Muslim**s]

<SR Literature>

- 7. This scientist names a law relating the redshift and the distance of objects in deep space and also a chart classifying galaxies. For 10 points each:
- [10] Name this cosmologist who theorized the expansion of the universe. He is the namesake of a space telescope launched into orbit in 1990.

ANSWER: Edwin Hubble

[10] Hubble's discoveries discredited the ideas of a static universe and this parameter. Einstein proposed this parameter so that general relativity would work in a static universe, but would later call it his "biggest blunder."

ANSWER: cosmological constant

[10] This paradox arises from a static and infinite universe. It claims that if there are infinite stars, then the sky should be infinitely bright.

ANSWER: Olbers' paradox

<SY Astronomy>

- 8. This religion venerates texts such as the Kitab al-Hikma and the Rasa'il al-Hind. For 10 points each:
- [10] Name this Middle Eastern religious group that reveres Jethro of Midian as the ultimate prophet.

ANSWER: <u>Druze</u> [accept <u>Derzii</u>, <u>Durzii</u>, <u>Durooz</u>, <u>Druzi</u>, or <u>Druzim</u>]

[10] Druze is symbolized by a five-colored, five-pointed one of these objects. A six-pointed one of these shapes often symbolizes Judaism.

ANSWER: star [or pentagram]

[10] In this religion, the star Kolob is the geometrically nearest thing to God. The Golden Plates, the origin of this religion's sacred texts, refer to the Angel Moroni and the patriarch Lehi.

ANSWER: <u>Mormonism</u> [or The Church of Jesus Christ of <u>Latter-Day Saints</u>; or <u>LDS</u>]

<AP Religion>

9. Answer the following about some prominent Italian political families of the Renaissance. For 10 points each:

[10] Leonardo da Vinci painted *The Last Supper* while under the patronage of this Duke of Milan from the Sforza family.

ANSWER: Ludovico il Moro [or Ludovico Maria Sforza]

[10] The Pazzi conspiracy attempted to overthrow this banking family by assassinating two of its members, Giuliano and Lorenzo the Magnificent. It first gained control over Florence under the leadership of Cosimo.

ANSWER: de Medici family

[10] This family of Spanish origin produced two popes, Calixtus III and Alexander VI. The latter fathered two notable illegitimate children, Cesare and Lucrezia, by his mistress Vannozza Catanei.

ANSWER: Borgias [or Borjas]

<WC History>

- 10. Isaac Albéniz composed the piano suite *Iberia* inspired by his home country in this style. For 10 points each:
- [10] Name this movement in late 19th- and early 20th-century classical music, which aimed to use tone-painting to convey moods and subjects with music. Its leading composers included Maurice Ravel.

ANSWER: musical impressionism

[10] This other French Impressionist composer created *Suite Bergamasque*, three orchestral *Nocturnes*, and a symphonic composition depicting the sea titled *La Mer*.

ANSWER: Claude **Debussy**

[10] Debussy composed 24 of these solo piano pieces, including *Voiles* and *Brouillards*. This is the first word in the title of Debussy's composition based on a Stéphane Mallarmé poem that opens with a falling chromatic flute solo.

ANSWER: <u>prelude</u>s [accept <u>Prelude</u> to the Afternoon of a Faun]

<WA Music>

- 11. The narrator of this poem describes his activity as "just another outdoor game." For 10 points each:
- [10] Name this poem that states that "Good fences make good neighbors."

ANSWER: "Mending Wall"

[10] This American poet wrote "Mending Wall," "Stopping by Woods on a Snowy Evening," and "The Road Not Taken."

ANSWER: Robert Frost

[10] In "Mending Wall," the speaker has this kind of tree. This tree appears in another Robert Frost poem where the speaker's two-pointed ladder is "sticking through a tree toward heaven still."

ANSWER: apple tree

<ES Literature>

- 12. Answer the following questions about model organisms. For 10 points each:
- [10] This organism from the Brassicaceae family, informally the mustard plants, is known as thale cress. It was the first plant to have its entire genome sequenced.

ANSWER: Arabidopsis thaliana [or arabidopsis]

[10] A model organism from this kingdom, *Saccharomyces cerevisiae*, can convert sugars to alcohol and carbon dioxide in the fermentation process.

ANSWER: fungi

[10] This model organism is a fish used in research for its regenerative abilities. It is named for its black and white stripes.

ANSWER: **zebrafish** [accept **Zebra Danio** or **Danio** rerio]

<SY Biology>

13. Answer the following about the history of roller coasters. For 10 points each:

[10] The first roller coasters, or "Russian Mountains," were built under the reign of this Russian ruler who was supposedly fooled by "Potemkin villages."

ANSWER: <u>Catherine</u> the Great [or <u>Catherine</u> II or <u>Yekaterina</u> Alexeyevna or <u>Yekaterina</u> II]

[10] LaMarcus Adna Thompson, often credited as the "father of the roller coaster," opened one of his first coasters in this Brooklyn neighborhood, America's most visited amusement area before World War I.

ANSWER: Coney Island

[10] The first "Golden Age" of the roller coaster ended with the beginning of this 1930s economic downturn that included the Dust Bowl.

ANSWER: Great Depression

<AP History>

- 14. This school's founder used the example of a square tower that appears round to argue that all sense perceptions are true. For 10 points each:
- [10] Name this philosophical school, often falsely associated with unrestrained hedonism, which was named for a Greek philosopher who taught that pleasure was the only good.

ANSWER: **Epicurean**ism [or anything indicating the teachings of **Epicurus**]

[10] One of the tenets of Epicureanism was that the universe consisted of void and these swervy objects. Democritus proposed that these things were the smallest, indivisible units in all matter.

ANSWER: atoms

[10] This Roman Epicurean author described how free will originated with the "swerve" of atoms in his philosophical poem *On the Nature of Things*.

ANSWER: <u>Lucretius</u> [or Titus <u>Lucretius</u> Carus; prompt on "Titus" or "Carus"]

<JB Philosophy>

15. Answer the following about an incident that occurred in the NBA. For 10 points each:

[10] In 2004, members of this team brawled with the Detroit Pistons in an event known as the Malice at the Palace. This NBA team currently employs Paul George and is based in Indiana.

ANSWER: Indiana Pacers

[10] For his role in the Malice at the Palace, this player received the longest suspension in the history of the NBA. He changed his name to Metta World Peace in 2011.

ANSWER: Ron Artest [or Metta World Peace]

[10] The Malice at the Palace may never have occurred had this Pistons player not shoved Artest. He holds the record for the most blocks in a season and shot 41 percent from the foul line in his career.

ANSWER: Ben Wallace

<SR Trash>

- 16. Answer some questions about the voyages of Sindbad the Sailor. For 10 points each:
- [10] During Sindbad's second voyage, he ties himself to a sheep carcass in order to escape a valley filled with diamonds and these animals. In his sixth voyage, Sindbad receives a bed made from the skin of one of these animals. ANSWER: snakes [or serpents]
- [10] Earlier in his second voyage, Sindbad escapes an island by tying himself to the leg of this giant mythical bird. Sindbad and his crew are attacked by this bird in his fifth voyage when his crew breaks one of its eggs.

ANSWER: **roc** [or **rukh**]

[10] The Seven Voyages of Sindbad appear in this collection in which Scheherazade tells stories to King Shahryar for a really long time.

ANSWER: *One <u>Thousand and One Nights</u>* [or *The <u>Arabian Nights</u> or <u>Kitāb 'alf layla wa-layla</u>] <ES Literature>*

- 17. A book by Henri Pirenne about the decline of antiquity and the Roman trade world is titled for Mohammed and this man. For 10 points each:
- [10] Name this king whose rear guard under Roland was massacred by Basques at Roncevaux Pass while returning from a campaign against the Spanish Umayyads.

ANSWER: <u>Charlemagne</u> [accept <u>Charles the Great</u>, <u>Carolus Magnus</u>, or <u>Charles I</u>; prompt on "Charles" or "Carolus"]

[10] Pirenne argues that the Arab conquests broke the unity of this body of water, allowing the rise of feudal empires like Charlemagne's. This body of water lies between Europe and Africa.

ANSWER: Mediterranean Sea

[10] The Pirenne Thesis contradicts this historian's view that the Germanic invasions of the 5th century marked the end of the Roman World, a theory he put forth in his *Decline and Fall of the Roman Empire*.

ANSWER: Edward Gibbon

<JB History>

- 18. Newton discovered the law describing this force, which can prove Kepler's laws of planetary motion. For 10 points each:
- [10] Name this force that causes objects on Earth to accelerate at 9.8 meters per second-squared when falling.

ANSWER: gravity [or universal gravitation]

[10] In Newton's Law of Universal Gravitation, the force of gravity is proportional to the product of the masses and this power of the distance. This relationship also dictates sound propagation and Coulomb's force.

ANSWER: inverse square [or descriptions like "one over the square of the distance" or "negative 2 power"]

[10] In this experiment from the end of the 18th century, a British scientist used a torsion balance to find big G, the proportionality constant in the Law of Universal Gravitation.

ANSWER: Cavendish experiment

<SY Physics>

- 19. Name these criminal offenses. For 10 points each:
- [10] This crime is committed when a person asserts the truth of their false testimony under oath.

ANSWER: perjury [or forswearing]

[10] This crime differs from assault in that it explicitly involves intentional unlawful physical contact.

ANSWER: battery

[10] This crime is defined as the intentional unlawful misreporting of assets for personal usage. Bernie Madoff's investment scheme was a complex, high-level form of this crime.

ANSWER: **embezzlement** [or **peculation**]

<AP Misc>

- 20. Answer the following questions about 19th-century Russian art. For 10 points each:
- [10] This 19th-century Russian painted gritty scenes of everyday life, such *Barge Haulers on the Volga* and *Religious Procession in Kursk Province*.

ANSWER: Ilya Repin

[10] Russian painter Nikolai Ge's depiction of this scene oddly shows a shadowed Judas walking away. Leonardo da Vinci's version of this scene shows Christ with his arms spread on a table.

ANSWER: The Last Supper

[10] The most influential trend in 19th-century Russian art was this one, which sought to focus art on the subjects of everyday life. This movement was promoted in France by the Barbizon school.

ANSWER: artistic **realism** [or **realist** movement]

<WA Painting>