

Packet of Michigan, Michigan State Students

Packet 3

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Tossups

1. **This leader died shortly after a disastrous invasion of the island of Java returned in failure. Forces under this man and Aju won a five-year siege that allowed him to invade and conquer his southern neighbor. This man succeeded the throne from his brother, but then had to fight a civil war against his other brother, Ariq Boke (*), to secure his highest position. During his reign, this man established a base at the Wei River valley and defeated the Nanzhao kingdom. Niccolo, Maffeo, and Marco Polo presented letters from the pope to this man. For 10 points, name this 5th leader of the Mongol Empire and founder of the Yuan Dynasty.**

ANSWER: **Kublai Khan**

2. **A character in this story wears a yellow shirt with blue parrots, which is later seen being carried out from the woods. In this story, a character recounts her boyfriend giving her watermelons with the initials E.A.T. carved onto them. (*) Hiram and Bobby Lee assist one character in this story; that character ends this story by stating "It's no real pleasure in life." The central characters in this story eat at Red Sammy's restaurant, and a car crash in this story is caused when the cat Pitty Sing startles Bailey. For 10 points, name this story set in Georgia in which the Grandmother is shot by the Misfit, written by Flannery O'Connor.**

ANSWER: **"A Good Man is Hard to Find"**

3. **In one myth system, a goddess version of this animal encounters Nayanazgeni and Tobadzistsini and gives them two eagle feathers. A god resembling this animal turned an ear of corn into a hundred goats in another myth system. A yokai of this kind of animal could transform into an attractive (*) woman to lure men into her cave and was known as Jorōgumo. One mythical being who resembled this animal captured a leopard and shared stories with humanity. In Greek mythology, a woman was transformed into this creature after boasting she would best Athena at weaving. For 10 points, Anansi is what animal that Arachne was turned into?**

ANSWER: **Spider**

4. **Treatments for this disease include the drugs amantadine and acyclovir, and the drug clonazepam, which may alleviate the myoclonus associated with this disease. Dementia, involuntary movements, and blindness can result from this disease that is similar in symptoms to scrapie. This disease, possibly related to kuru, likely causes the variant TSE (*) Creutzfeldt-Jakob disease. Despite an outbreak in the United Kingdom, there have been almost no reported cases of this disease in the United States. This disease is suspected to be caused by an accumulation of prions in the brain. For 10 points, name this disease that is caused by feeding infected meat to cattle.**

ANSWER: **Bovine Spongiform Encephalopathy** (accept **Mad Cow Disease** or **BSE**, accept **Creutzfeldt-Jakob** disease before mention)

5. A spear is extended by a bearded man and a man who covers his eyes is about to get trampled by a horse in one painting by this artist. A man wearing a red and yellow shirt with a feather in his cap appears in another painting by this artist. This artist of (*) *The Conversion of St. Paul* depicted a piece of bread next to some salad in a scene where the resurrected Jesus reveals himself to two disciples in his *Supper at Emmaus*. Light shines down on the title figure in the most famous painting by this artist in which Jesus points towards a man surrounded by tax collectors. For 10 points, identify this Baroque painter of *The Calling of Saint Matthew*.

ANSWER: Michelangelo Merisi de Caravaggio

6. In one play by this author, ladies argue that men such as La Grange should be made miserable by ignoring their pleas for love. A character in one play by this playwright is given a poem and says that that poem is so horrible that Oronte (*) should stop writing poetry. In that play, Célimène bothers Alceste when she gossips with Eliante and Philinte. In a more famous play, this author of *The Affected Young Ladies* contrasts the reasonable Cléante with Orgon who falls under the influence of a religious hypocrite. For 10 points, identify this French playwright of *The Misanthrope* and *Tartuffe*.

ANSWER: Molière (accept Jean Baptiste Poquelin)

7. A researcher involved in this event worked with Anderson on a 1980 paper about resisting mind control. The principle researcher in this study spoke about an increase in the fear of intimacy in his 2011 TED Talk “The demise of guys”. (*) One participant in this study was nicknamed John Wayne. This experiment ended in only six days instead of the twelve originally planned. For 10 points, give the name of this psychological experiment conducted by Philip Zimbardo at a West Coast University where participants assumed the roles of guards or prisoners.

ANSWER: Stanford Prison Experiment (prompt on “Zimbardo experiment” before mention)

8. As this phenomenon increases in strength, the number of electrons in the Landau quantization varies proportionally with this phenomenon. One unit corresponding to this phenomenon is equal to webers over meters (*) squared. That SI unit is tesla. This phenomenon times the divergence equals zero by an equation named for Gauss. A force related to this physical phenomenon is the divergence of $\mathbf{m} \cdot \text{this phenomenon}$. In alternating current, this quantity is constantly changing its direction and magnitude. For 10 points, give the name of this vector field, symbolized \mathbf{B} , produced by electrical current.

ANSWER: Magnetic Field (accept B-field before mention)

9. Per Diodorus Siculus, after accidentally killing one of these beings, a Roman was killed by a mob in retaliation, despite the pleas of Ptolemy XII. The papyrus of Nespeher'an portrays a ginger colored one of these beings. A large tomb of these (*) animals was found near the village of Beni Hasan in 1888. That tomb contained the mummified remains of 80,000 of these animals. Herodotus wrote that after the death of one of these animals in ancient Egypt, their household would go into mourning and people would often shave their eyebrows. For ten points, identify these modern-day house pets that were considered sacred by the ancient Egyptians.

ANSWER: cats

10. Tests of “Silence”, “Fire” and “Water” are undertaken by this opera’s tenor lead character. The aria “Der Vogelfänger bin ich ja” is sung by a lonely character in this opera who dresses as a bird. A lightning bolt sends the villain of this opera to hell. A difficult F6 (*) note appears in a famous aria from this opera where a character sings “so bist du meine Tochter nimmermehr” and gives a character a knife. In this opera, Sarastro holds captive Pamina, who is loved by Tamino. For 10 points, the Queen of the Night sings “Der Hölle Rache” [pr. “Dare Hoo-leh Rock-uh”] in what Mozart opera about an enchanted instrument?

ANSWER: The Magic Flute (or Die Zauberflöte)

11. An object mentioned in this poem likely came from the writings of the traveler historian Savary. That object is given a “frown” and a “wrinkled lip”. A hand “that mocked them” is mentioned in this poem that also mentions a (*) “colossal Wreck”. The speaker of this poem met someone who said that he saw “Two vast and trunkless legs of stone/Stand in the desert”. The speaker of this poem is a sculptor and says “Look on my Works, ye Mighty, and despair!” For 10 points, name this Percy Bysshe Shelley poem about the statue of an Egyptian pharaoh. ANSWER: “Ozymandias”

12. Formed in High Green in 2002, this band made a single in which the singer mentions aggravating “the icky man on rainy afternoons”. Their song “When the Sun Goes Down” inspired the award winning short film “Scummy Man”. While recording their most recent album, this band’s drummer broke his hand and was replaced by Elvis Costello drummer (*) Pete Thomas. That album includes a song in which lead singer Alex Turner sings that the sky is “much less picturesque without her catching the light/The horizon tries but it's just not as kind on the eyes”. This is—for 10 points—what band who performs “Do I Wanna Know?” and “Crying Lightning”? ANSWER: Arctic Monkeys

13. This man’s paper “On the Influence of Carbonic Acid in the Air Upon the Temperature on the Ground” represents an early formulation of the greenhouse effect. To account for collisions, the steric factor ρ is multiplied by a variable represented by a Z that accounts for frequencies of collisions (*) to calculate a variable in an equation named for this chemist. This man defined a substance that increases the hydrogen ion concentration of a solution as an acid. For 10 points, name this chemist, whose namesake equation includes a pre-exponential factor and gives the reaction rate constant as a function of temperature and activation energy. ANSWER: Svante Arrhenius

14. One city in this state, known as “Queen City of the East”, was the world’s leading lumber port in the 1860’s. Earlier, this non-Florida state’s John Baker raised a US flag over the junction of the Baker Brook and the Saint John River leading to the Pork and Beans War. After the (*) Aroostook War, the borders of this state were clarified in the Webster-Ashburton Treaty. One military regiment from this state led by Joshua Chamberlain successfully defended “Little Round Top” during the Battle of Gettysburg. This state was the namesake of a ship whose destruction in Havana Harbor directly led to the Spanish-American War. For 10 points, name this Northeastern state with capital at Augusta. ANSWER: Maine

15. A variable update is separated by a semicolon from other constituent requirements for this computer construct in C. After a variation of this construct, a declaration and an expression go in parentheses in Java. This object requires three statements in Java, the second of which defines the condition. Along with selection and sequence, this command that can be stopped by a (*) break is one of the three basic logic structures in programming. In Python, this command executes a target statement if the condition is true in its “while” variety. For 10 points, identify this command in computer programming that iterates an action until completion. ANSWER: Loop (accept specific kinds of loops such as “for loop”, “while loop” or “do... while loop”)

16. In one set of pieces, this composer begins in the key of C major before ascending through the flats to B flat major. Inspired by poets Ludwig Uhland and Ferdinand Freiligrath, a set of three piano pieces by this composer include one whose three sections are separated by difficult cadenzas. In one of his most famous set of works, this composer employed three hand illusions (*) and a gypsy scale. This composer of *Liebesträume* [pr. “Leeb-es-troy-muh”] also wrote a set of four pieces where the first piece opens with an imitation of a violin tuning. For 10 points identify this composer, known for his “mania”, who composed *The Mephisto Waltzes*, *The Transcendental Etudes* and *The Hungarian Rhapsodies*. ANSWER: Franz Liszt

17. **Some observers of this holiday eat Hamantaschen pastries and wear costumes. The gifts of food given on this holiday are known as Mishloach manot or shalachmanos. During this holiday, practitioners often use a grogger to make noise when a character is mentioned while reading the (*) M'gillah.** Observed on the 14th of Adar, it commemorates the saving of the Jews from Haman's plot to murder the Jewish people of Persia. That plot was stopped by Mordecai and his adopted daughter. For 10 points, identify this Jewish holiday recorded in the Book of Esther.

ANSWER: Purim

18. **Carin von Kantzow, the wife of one man in this event, helped her husband escape to Innsbruck after he was shot in the leg, which started his long addiction to morphine. After marching on the Bürgerbräukeller, one man took Gustav von Kahr hostage. In the aftermath of this event, Georg Neithardt sentenced its main perpetrator to only (*) 8 months in prison after being impressed by his oratory skills, which led to Erich Ludendorff's acquittal. One man involved wrote his *Mein Kampf* while in prison with Rudolf Hess.** For 10 points, name this failed 1923 coup orchestrated by a young Adolf Hitler that aimed to put the Nazi Party in power in Bavaria.

ANSWER: Beer Hall Putsch (accept Munich Putsch)

19. **One character in this novel offers another character a picture of her child if she sleeps with a specific man. After this novel's main plot is over, cassette tapes found in Maine contain the plot details of this novel. Moira, who was a friend of the protagonist of this novel, escapes the Red Chamber. Two characters in this novel play (*) Scrabble, which is forbidden.** The protagonist of this novel had an affair and a child with the married Luke. The Eyes are a police force in this novel. The Commander and his religious wife Serena Joy are served by Offred in this novel. For 10 points, give the name of this novel about the dystopian Republic of Gilead written by Margaret Atwood.

ANSWER: *The Handmaid's Tale*

20. **Xavier Bertrand said that this action would be the end of the Juxtaposed controls. This policy's logistics are outlined in an article in a document that spawned a group of namesake "rebels" that included Bill Cash. One campaign for this policy said that it would free up 350 million (*) pounds for the NHS.** Nigel Farage, the leader of UKIP, was a vocal advocate of this proposal, which was achieved on a June 23rd referendum promised by David Cameron after he won re-election in the 2015 General Election. For 10 points, name this action nicknamed Brexit.

Answer: United Kingdom's withdrawal from the European Union (or Brexit before mention; also except Great Britain in the place of the United Kingdom)

21 (TB). The “situation sculptures”-maker George Segal created a sculpture with a red wall that paid homage to this painting. A parody of this painting features a cat on top of a trashcan and has an additional man not seen in the original that is known as this painting “Revisited”. Two silver canisters are next to a door with no doorknob in this painting in which the sidewalk appears blue. A sign for five-cent Phillies cigars sits atop an establishment in this painting in which a woman in red and two men in top hats sit at a diner. For 10 points, identify this painting of a restaurant by Edward Hopper.

ANSWER: Nighthawks

22 (TB). The Toba Catastrophe theory posits that one of these objects caused the extinction of most humans roughly 70,000 years ago creating a bottleneck event. When groundwater mixes with a product of these entities, a maar is formed. When one of these objects forms under a glacier, a flood called a jökulhaups can occur. These objects formed the Siberian traps that are thought to have caused the Permian Extinction event. The words Strombolian and Plinian characterize events produced by these entities. An example of the shield variety of these entities is Mauna Loa. For 10 points, name these geologic features that erupt to release lava.

ANSWER: Volcanoes (accept volcanic eruption or equivalents)

Bonuses

1. Noted author Stephanie Meyer and former governor of Massachusetts Mitt Romney are both practicing Mormons, so answer questions about Mormonism for 10 points each:

[10] This man founded Mormonism in upstate New York in the 1820s after supposedly being led to some gold tablets by the angel Moroni. He was killed by a mob in Illinois after allegations about polygamy appeared in a newspaper.

ANSWER: Joseph **Smith**

[10] After the death of Joseph Smith, the Mormon Church under Brigham Young relocated to the Utah Territory where they proposed the creation of a polity by this name.

ANSWER: **Deseret**

[10] Supposedly, some Mormons believe that after they die, each of them will receive one of these large objects. The Church of Latter Day Saints rejected the claim that is usually sourced from Abraham 3.

ANSWER: **planet** (or **Kolob**, **star**)

2. This theorem says every single-variable polynomial of degree greater than or equal to 1 with complex exponents has at least one complex root. For 10 points each:

[10] Name this “fundamental” theorem.

ANSWER: The **Fundamental Theorem of Algebra**

[10] The Fundamental Theorem of Algebra is equivalent to saying that the field of complex numbers has this property. A set has this property, sometimes represented by square brackets, if it includes all the outputs of a function on the numbers in the set.

ANSWER: **Closed** (accept word forms like “**closure**”)

[10] When proving closure for a proposed Vector Space in Linear Algebra, one must prove closure for two operations. Name both.

ANSWER: Closure under **Addition and Scalar Multiplication** (prompt on “multiplication” do NOT accept or prompt on “vector or matrix multiplication”)

3. This author responded to a Joseph Conrad novel in “An Image of Africa”. For 10 points each:

[10] Identify this author who created the English educated Obi in *No Longer at Ease*.

ANSWER: Chinua **Achebe**

[10] This famous novel by Achebe follows the protagonist Okonkwo as Christian missionaries come to his Igbo village.

ANSWER: **Things Fall Apart**

[10] This character is the lead preacher in *Things Fall Apart*. This character is far more benevolent than his successor Reverend Smith.

ANSWER: Mr. **Brown**

4. For 10 points each, answer the following questions about TV shows that were canceled in 2016.

[10] This ABC TV show starring Haley Atwell that spun off the story of *Captain America: The First Avenger*, was canceled after two seasons. The show followed the title character as she meets the future butler Jarvis and does intelligence work.

ANSWER: *Marvels* **Agent Carter**

[10] Fox's flop *Grandfathered* starred John Stamos, whose character James discovers he has a granddaughter and a son played by this actor. This actor may be better known for his comedic work on *The Amanda Show*.

ANSWER: Josh **Peck**

[10] Netflix canceled this historically dubious TV show in which the protagonist must tangle alliances with the Cricket Minister and train under the blind Hundred Eyes.

ANSWER: **Marco Polo**

5. Mayor Karen Weaver declare a state of emergency in this city after this city changed its water supply from the Detroit River. For 10 points each:

[10] Name this Michigan city whose water was – and likely still is – contaminated by lead.

ANSWER: **Flint**, Michigan

[10] This Governor of Michigan hasn't resigned due to the Flint Water Crisis, though some blame Flint's city managers Darnell Earley and Ed Kurtz.

ANSWER: Rick **Snyder**

[10] One better handled lead contamination incident occurred in this small Youngstown-area village where the Ohio EPA revoked the license of Water Superintendent James Bates after Bates allegedly falsified reports.

ANSWER: **Sebring**, Ohio

6. For 10 points each, answer some questions about the relatively unknown explorer Martin Ignacio de Loyola.

[10] Martin Ignacio de Loyola was a missionary of this Christian religious order; whose namesake is the patron saint of animals. This monastic order is notable because some of its friars refused payment in money.

Answer: **Franciscans**

[10] Martin's most famous accomplishment as an explorer was being the first to complete this action twice, which was first achieved by Ferdinand Magellan.

ANSWER: **Circumnavigation of the Earth** (accept equivalents such as "**travel around the entire globe**")

[10] Martin made both of his circumnavigations under the banner of this king who at the time ruled over a united Portugal and Spain. This leader failed to suppress the revolt in the Spanish Netherlands in the 1560s.

ANSWER: **Phillip II** (prompt on Phillip)

7. Answer the following questions about string quartets for 10 points each:

[10] The classical quartet contains two violinists, a cellist and one player of this instrument that is slightly larger than a violin.

ANSWER: **Viola** (accept specific violas such as **Viola d'amore**)

[10] This Austrian composer is known as the "Father of the String Quartet" for such pieces as his Sun Quartets and Opus 64 Number 5, which is nicknamed "The Lark".

ANSWER: Franz Joseph **Haydn**

[10] Beethoven may be better known for his symphonies, but he also composed this set of string quartets nicknamed after a Russian diplomat. The second of these pieces contains an allusion to a Russian folk song.

ANSWER: String Quartets Nos. 7–9, "**Rasumovsky**" (or **Op. 59**, prompt on "Middle Period quartets")

8. The crew of a ship believes this animal to be a symbol of fortune responsible for the north-blowing winds. For 10 points each:

[10] Name this animal from a poem, whose corpse is hung around the neck of the man who shot it.

ANSWER: the **albatross** (prompt on the more general answer of “bird”)

[10] The albatross is shot by the title character in this 1834 poem by Samuel Taylor Coleridge.

ANSWER: **“The Rime of the Ancient Mariner”**

[10] The Ancient Mariner recounts the story of being lost at sea to this character, who, at the poem’s end, is said to be “a sadder and wiser man” for having heard the story.

ANSWER: The **Wedding-Guest**

9. Answer the following questions about the shocking world of electrochemistry for 10 points each:

[10] In a galvanic cell, this object maintains the charge balance between the two cells and connects the two half cells. These objects are often either glass tubes or filter paper.

ANSWER: **Salt Bridges**

[10] The Salt bridge connects the anode to this other half cell where reduction occurs. Positive charge flows out of this half cell.

ANSWER: **Cathode**

[10] Cathodes are often made of this metallic element because it has a plus 2 oxidation state and has relatively low reactivity. This metal’s oxide can appear greenish.

ANSWER: **Copper** (or **Cu**)

10. Answer some questions about mountains in the Wild, Wild, West of America for 10 points each.

[10] This mountain in the Sierra Nevadas, the highest in the contiguous United States, is in Sequoia and Kings Mountain National Parks.

ANSWER: **Mount Whitney**

[10] Located near Colorado Springs, this oft-visited mountain in the Rockies named after an American explorer is near the park known as the Garden of the Gods.

ANSWER: **Pike’s Peak**

[10] This group of three mountains in Nevada’s Ruby Mountains are named for a composer and are notable for the desert on their eastern side. These mountains are next to the Ladybug Peaks.

ANSWER: **Verdi Peaks**

11. For ten points each, name some things about the momentous 1066 Battle of Hastings.

[10] The Battle of Hastings saw this king of Normandy use feint retreats to defeat the forces of Harold Godwinson.

ANSWER: **William the Conqueror** (or **William I**)

[10] William the Conqueror is depicted on this cloth, which shows the Battle of Hastings, and other events that led to the Norman conquest of England.

ANSWER: **Bayeux** Tapestry

[10] Harold Godwinson was supposedly killed during the battle of Hastings in this manner according to the Bayeux Tapestry. Henry of Huntington also alleged that Harold was killed in this manner as he “sunk to the ground”.

ANSWER: **Arrow** to the **eye** (accept equivalents such as “He was **shot in the eye**”)

12. Answer the following about literary birds for 10 points each:

[10] In this Anatole France novel, European explorers think great auks are noble pagans and try to Christianize them. The Lord says the birds can't be converted, so He transforms them into humans with bird characteristics.

ANSWER: Penguin Island

[10] In this Anton Chekhov play, Treplev shoots the title bird and himself after Nina rejects him for the successful writer Trigorin.

ANSWER: The Seagull

[10] *The Birds* is a play by this comic Greek writer. In that play by this author, Pisthetaerus convinces the birds to construct cloud cuckoo land to communicate with the gods.

ANSWER: Aristophanes

13. Many people over the years have tried to prove God's existence. They have been unable to convince the supposed genius Richard Dawkins, so answer some questions about the proofs for 10 points each:

[10] This Scholastic philosopher was later canonized by the Church and gave five proofs of God in his *Summa Theologica*.

ANSWER: St. Thomas Aquinas (accept "Tomasso d'Aquino")

[10] An argument "from design" was given by this philosopher in his *Natural Theology or Evidences of the Existence and Attributes of the Deity*. This English philosopher is known for his "watchmaker" analogy.

ANSWER: William Paley

[10] In the posthumously published *Dialogues Concerning Natural Religion*, this philosopher criticized the ontological argument and said that "any thing may produce any thing".

ANSWER: David Hume

14. Answer the following about an Earth goddess who caused trouble when she was moody for 10 points each:

[10] This Greek God of agriculture and mother of Persephone has a Roman counterpart who lends her name to "cereal".

ANSWER: Demeter (prompt on "Ceres")

[10] Demeter had two children with this Greek God including an immortal talking horse. In another myth, this God created the horse to sleep with Demeter.

ANSWER: Poseidon

[10] Demeter placed the personification of famine inside of the stomach of Erysichthon as punishment for this man chopping down trees in Demeter's sacred garden. This name also belongs to several horses in Greek mythology.

ANSWER: Aethon (or Aithon, Ethon)

15. For 10 points each, answer questions about pre-Columbian Mesoamerican cultures.

[10] These people were responsible for monuments like the pyramids at Chichen Itza and their remarkably accurate calendar that famously "predicted" the end of the world on December 21, 2012.

ANSWER: Maya (or Mayans)

[10] This early, major Mesoamerican civilization inhabited areas in the modern states of Veracruz and Tabasco. They are also famous for their colossal stone carvings of heads.

ANSWER: Olmec

[10] The Zapotec civilization was centered in the city of Monte Alban, which was in this Mexican valley. This valley also names the modern Mexican state that encompasses the area of the ancient Zapotec.

ANSWER: Oaxaca [pr. "Wuh-hack-uh"]

16. This phylum may have as many as 200,000 living species including quizbowl favorite The California Trivia. For 10 points each:

[10] Identify this invertebrate phylum that includes oft-shelled organisms including gastropods like snails, and bivalves.

ANSWER: Mollusca (or Mollusks)

[10] Bivalves contain this pointed body part that helps with locomotion. All mollusks have this body part except for the gastropods.

ANSWER: Foot

[10] This class of large Mollusks dates to the Ordovician period and includes the remarkably intelligent octopus and cuttlefish.

ANSWER: Cephalopoda (or Cephalopods)

17. In the novel in which he appears, the protagonist floats on this character's coffin. For 10 points each:

[10] Identify this former cannibal who was the son of a South Sea king. This character becomes a harpooner under Starbuck.

ANSWER: Queequeg

[10] Queequeg appears in this Herman Melville novel about a large whale.

ANSWER: Moby Dick; or *the Whale*

[10] In Herman Melville's "Bartleby the Scrivener", the title character says this phrase, which annoys other characters such as Turkey and Nippers. This phrase is uttered several times throughout the story including when Bartleby is asked to examine some copies.

ANSWER: "I'd would prefer not to" (exact wording required)

18. The Japanese subtype of this artistic medium is known as Ukiyo-e. For 10 points each:

[10] Name this East Asian art technique where ground pigments were used as ink and shading was known as bokashi.

ANSWER: Woodblocks (prompt on "Woodprints" or "Woodcuts")

[10] Arguably the most famous woodblock artist was this Japanese artist who painted a series of landscape prints known as *Thirty-six Views of Mount Fuji*.

ANSWER: Katsushika Hokusai

[10] The first and most notable of the Thirty-six prints was this one that shows a white-capped oceanic phenomenon engulfing several boats.

ANSWER: *The* Great Wave off Kanagawa (or Kanagawa-oki nami ura)

19. This quantity can be found by finding the cross product of \mathbf{r} and \mathbf{p} . For 10 points:

[10] Name this vector quantity symbolized \mathbf{L} whose magnitude can be found by using the formula m times r times v times sine of theta.

ANSWER: Angular Momentum (prompt on "momentum", do NOT accept or prompt on "linear momentum")

[10] When Newton's Second Law is applied for rotational systems, this quantity is the derivative of angular momentum with respect to time. This quantity is the rotational analogue of force.

ANSWER: Torque

[10] This phenomenon commonly occurs in rotating gyroscopes when the torque about a support point spins perpendicularly to angular momentum. This causes a change in the direction of the angular momentum.

ANSWER: Precession

20. Some of these documents were published serially in the *Independent Journal* and were written under the pseudonym of Publius. For 10 points each:

[10] Name these documents that promoted the ratification of the Constitution, they were written primarily by Alexander Hamilton and James Madison.

ANSWER: The **Federalist Papers**

[10] James Madison wrote this Federalist Paper that sought to convey ways to “guard against factions” and prevent a “tyranny of the majority”.

ANSWER: Federalist Paper No. **10**

[10] The Anti-Federalist Papers were partially written by this Virginia politician who staunchly supported states’ rights and supposedly declared, “I smell a rat!” during the Constitutional convention.

ANSWER: Patrick **Henry**

21. (TB) Answer the following related to the reunification of Germany in the 1980s and 1990s for 10 points each.

[10] This Christian Democratic Chancellor of West Germany became the first Chancellor of the unified Germany in 1990.

ANSWER: Helmut **Kohl**

[10] This treaty—pushed by Kohl and Francois Mitterrand— was passed after Germany was reunified and created the three-pillar structure of the European Union and led to the implementation of the Euro common currency.

ANSWER: **Maastricht** Treaty

[10] Before reunification, The German Democratic Republic had to renounce its membership in this defense organization that was roughly the Soviet equivalent of NATO.

ANSWER: **Warsaw Pact**