

Teterboro's Academic Packets of Intellectual Rigor  
Packet 3

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**Tossups**

1. **A Mormon work is named for one of these objects “of great price,” which is mentioned in a parable of Jesus about one of these objects. In a Steinbeck work set in Mexico, Kino throws one of these objects away after he kills three thieves who shot and killed his son Coyotito. The outside of these objects are made of (\*) nacre, which is also used to make utensils for eating caviar. One of these objects is shown with a girl who looks left towards the viewer while wearing a blue and yellow turban in a Vermeer painting “with an earring.” For 10 points, name these precious stones often found in oysters.**

ANSWER: pearl (accept mother of pearl)

2. **The sponge variety of this material is produced from a direct reduction by a reducing gas or elemental carbon and may be produced in a bloomery. A mixture of this element's oxide and aluminum is a common form of thermite. The +2 and +3 oxidation states of this metal are mixed in an ore which may occur as (\*) lodestone. Impurities in this element are burned off by blowing air across its molten form in the Bessemer process. This metal's cast type is commonly used in cooking pans, and has a higher carbon content than steel. For 10 points, name this metal element which oxidizes into rust.**

ANSWER: iron [or Fe]

3. **In one poem, this poet wrote about a man “found by the bureau of statistics to be one against whom there was no official complaint.” Another poem by this man instructs to “prevent the dog from barking with a juicy bone,” “silence the pianos,” and (\*) “stop all the clocks.” This writer described “the darkened lands of the earth” and “unmentionable odor of death” in a poem that concludes “we must love one another or die” inspired by the start of World War II. For 10 points, name this British American poet of “Funeral Blues,” and “September 1, 1939.”**

ANSWER: Wylan Hugh Auden

4. **The earliest known settlement of these people is in Cloudy Bay, where a hangi oven big enough to feed about 1000 people was discovered. Although later interactions were generally peaceful, these people killed and ate 70 Europeans in the Boyd Massacre in an act of revenge. Following the introduction of a (\*) firearm, these people engaged in intertribal warfare in the Musket Wars. This people agreed to obtain rights as British subjects, but gave away sovereignty in the Treaty of Waitangi. For 10 points, name these indigenous people of New Zealand.**

ANSWER: Maori

5. **GIP and GLP1 may stimulate the synthesis of this compound, while a growth factor “like” this compound is released in response to growth hormone. This protein is a product of carboxypeptidase E, a mutation of which can lead to elevated levels of its “pro” form. The primary structure of this protein, which was (\*) the first to be sequenced, was discovered by Frederick Sanger. This hormone is secreted by the beta cells in the islets of the pancreas, and an excess of it in the body may lead to hypoglycemia. For 10 points, name this hormone which, like glucagon, regulates glucose levels in the body.**

ANSWER: insulin

6. **One character from this novel loses the privilege of practicing medicine after publishing an article about Oedipus criticizing the government. This novel's protagonist constantly recites "Es muss sein," or "it must be," which he tells his boss after choosing to stay with his wife, unlike another character who goes to America in search of freedom. That character, (\*) Sabina, hates kitsch and wears a bowler hat while nude. The Czech surgeon and womanizer Tomas is the main character of, for 10 points, what Milan Kundera novel set during the Prague Spring?**

ANSWER: *The Unbearable Lightness of Being*

7. **An organization supporting this cause targeted Myron T. Herrick, leading to his defeat in re-election for Governor of Ohio to Wayne Wheeler. Members of a trade association opposing this cause also opposed the suffrage movement, which was supported by groups like the Francis Willard led (\*) Women's Christian Temperance Union. This period started due to the passing of the Volstead Act, and led to the establishment of thousands of speakeasies in the US. For 10 points, name this period between the 18th and 21st amendments which banned alcohol in the US.**

ANSWER: Prohibition

8. **A 1997 promotional card depicts one of these creatures riding on a pink surfboard surfing. Female individuals of these creatures have a notched tail, which they rub with one another as a greeting. When one of these natives of the Viridian Forest holds a (\*) light ball, their attack and special attack is doubled. These creatures which charge attacks using their red cheek sacks are the exclusive users of a Z-move that is an upgraded version of the move Volt Tackle. For 10 points, name this electric mouse Pokemon, the companion of Ash.**

ANSWER: Pikachu

9. **An artist from this country designed the never completed *Tatlin's Tower* and started the Constructivist movement. A painter from this country who founded the suprematism movement made paintings of both a black square and "white on white." Another artist from this country founded a movement after his painting *Last Judgement* was (\*) rejected from an exhibition, and was named for a famous painting in which a man cloaked in blue rides a white horse past a field. For 10 points, name this home country of the artist of *The Blue Rider*, Wassily Kandinsky.**

ANSWER: Russia [accept Union of Soviet Socialist Republics or USSR]

10. **This man justified his lifestyle since he believed virtues to be better in action than in theory, and once walked around with a lamp in daylight while in search of an honest man. This thinker famously sabotaged many of Plato's lectures by purposefully trying to be distracting such as by presenting a (\*) plucked chicken to proclaim that he had found man, a featherless biped. After seeing a child drinking from his hands, this thinker, nicknamed the "dog of Antisthenes," remarked that he could live a plainer life. For 10 points, name this cynicist philosopher who lived in a jar in Athens.**

ANSWER: Diogenes

11. **This man was assassinated immediately upon setting foot in Pelusium. Although Sertorius defeated this man in the Battle of Lauron, this man ultimately quelled that revolt in the province he governed. During the Lucca Conference, this man was given control of that province, Hispania. This man quelled a slave revolt alongside (\*) Marcus Licinius Crassus in the Third Servile War, and following the death of Crassus and this man's wife, Julia, the First Triumvirate ended and he sided with the optimates faction. For 10 points, name this great Roman general of the late Republic.**

ANSWER: Pompey the Great

12. **Rosby Waves in this region may cause disturbances like the Madden-Julian Oscillations. One phenomenon common in this region may form at transitions between Ferrell and Hadley cells. The top of this region is marked by a boundary in which temperature is at a relative minimum and (\*) stops decreasing as elevation increases.** Since other regions do not experience convection from heat reflected off of the earth's surface, nearly all weather occurs in this region. For 10 points, name this bottom layer of the atmosphere below the stratosphere.

ANSWER: **troposphere** (prompt on the tropopause and the atmosphere before mentioned)

13. **The northern portion of this system is composed primarily of precambrian igneous rocks from up to 4 billion years ago, being part of the Laurentian Shield. This system's North Channel and Georgian Bay bound its (\*) Manitoulin Island to the north and southeast respectively.** Another island in this system is a national park where researchers observed the relation between the native moose and wolf population. The St. Lawrence river is the main outlet of this system. For 10 points, name this system of five large freshwater bodies straddling the US-Canada border.

ANSWER: **Great Lakes** (prompt on the US-Canada border before mentioned)

14. **A common fable associated with this author tells of how he met an old woman who was grinding an iron rod into a needle while he was slacking off from studying. In a poem originally by this poet, the narrator remarks how she was married at 14, stopped scowling at 15, and was left by her husband when she was 16. This poet of the (\*) "River Merchant's Wife" often wrote his poems while drunk, and described the homesickness he experienced while lowering his head after looking up at the night sky.** For 10 points, name this Tang Dynasty chinese poet who wrote of moonlight in his bedroom in "Quiet Night Thoughts."

ANSWER: **Li Bai** [or alternatives]

15. **In a work by this composer, one character asks his lover "what eyes in the world can compare to your black and glowing eyes" after being questioned for his faithfulness and earlier compares that singer to a portrait of Mary Magdalene in "Recondita Armonia." Another opera by this composer includes the "In Questa Reggia" aria featuring 3 riddles that are later solved by (\*) Calaf.** In another opera by this composer of Turandot, Rodolfo yells "Mimi" after he gives her a pink bonnet and she dies. For 10 points, name this Italian composer of *Turandot* and *La Boheme*.

ANSWER: Giacomo **Puccini**

16. **In this field, expressions may be simplified using Karnaugh maps, which involve a rectangular array of possibilities for better visualization. One axiom in this field states the idempotency of addition, while another states that x plus x complement equals 1. (\*) DeMorgan's theorems are often used in this field, which states that NAND is equal to negative OR and that NOR is equal to negative AND.** The results of expressions in this field may be visualized using truth tables. For 10 points, name this field of logic and math involving true or false values.

ANSWER: **Boolean** algebra (accept boolean logic and boolean variables, prompt on logic)

17. **This writer wrote an essay comparing the creative energy of an artist group as a "vortex," coining the name of the Vorticist movement. This poet described "the apparition of these faces in the crowd" in a two line poem containing no verbs," and also wrote a poem whose title character's "true Penelope was Flaubert" and (\*) "strove to resuscitate the dead art of poetry" in "Hugh Selwyn Mauberley."** This writer's studies of chinese helped him write an unfinished 120 section poem. For 10 points, name this American poet who wrote In a Station of the Metro and the Cantos.

ANSWER: Ezra **Pound**

18. **Propaganda during this event included an article titled “a cockroach cannot give birth to a butterfly” published by Kangura. This event was spurred in part due to the assassination of president Juvenal Habyarimana, during which (\*) his plane was shot down by missiles. This event operated by the Interahamwe ended with the victory of Paul Kagame’s “Patriotic Front” and was propelled by the Hutu Power movement. For 10 points, name this event in which hundreds of thousands of rapes were committed and an estimated one million Tutsis were killed in an african nation.**

ANSWER: **Rwandan Genocide**

19. **The opposite of this effect causes a distortion in the cosmic microwave background in the Sunyaev-Zeldovich effect. A peak of this process occurs in an “edge” during gamma spectroscopy. The classical or non relativistic version of this effect at its low energy limit is named for (\*) J. J. Thomson, and is an elastic collision. This effect, which occurs with X-rays or gamma rays, causes a decrease in energy and an increase in wavelength proportional to 1 minus the scattering angle. For 10 points, name this form of scattering in which a photon collides with an electron.**

ANSWER: **Compton scattering** [or inverse **Compton scattering**; accept **SZ** effect or **Sunyaev-Zeldovich** effect before mentioned]

20. **One type of these animals must place either reeds, leaves, or a skull on its head in order to shape shift. One of these animals defeats his uncle by tricking him into ice fishing with his tail and is rivals with Isengrim. That character, Reynard, appears in a cycle of medieval fables. Some of these animals often disguise themselves to seduce men, are the (\*) messengers of Inari, and are known as kitsune, while others often appear with 9 tails in east asian folklore. For 10 points, name these vulpine animals often appearing as witty tricksters in folklore.**

ANSWER: **foxes**

## Bonuses

1. This man participated in the contest to design the *Palace of the Soviets*, and also designed the Carpenter Center at Harvard University. For 10 points each:  
[10] Name this French-Swiss architect who built modern houses such as *Villa Savoye* and *Villa La Roche*.  
ANSWER: **Le Corbusier** (or Charles Edouard **Jeanneret**)  
[10] In addition to buildings such as churches and the UN Headquarters, Le Corbusier also designed these household seating implements labeled *LC-1*, *LC-2*, *LC-3*, and *LC-4*.  
ANSWER: **chair** (accept long **chairs**, prompt on **furniture**)  
[10] Le Corbusier created the master plan for this country's city of Chandigarh, including its High Court, Palace of Assembly and Secretariat Building. The city is the capital of two states in this country, including Punjab  
ANSWER: **India**
2. You are texting your friend about how cool this quiz bowl tournament you're competing at is. Your message is being sent. For 10 points each:  
[10] The text is sent through this service, which allows for mobile phones to send and receive your message. However, if you want to send a cute pic of the moderator, you are out of luck since this technology does not support multimedia.  
ANSWER: **Short Message Service**  
[10] Your message about the coolness of this tournament are sent through control channels, which are data streams broadcast using these lowest frequency waves. Communication signals using these waves are picked up by antennas.  
ANSWER: **radio** waves  
[10] In order to send your friend that text in the first place though, you need to make sure that your phone has service from one of these telecommunication companies that control the infrastructure required to send that text. Such companies include AT&T and Verizon.  
ANSWER: **carriers**
3. For 10 points each name some of these famous kings named William.  
[10] This William called for the publication of the Domesday Book to aid in collecting taxes. However, he is better known for becoming the first king of England in 1066.  
ANSWER: William **the Conqueror**  
[10] This William was the second king of Sicily, and his reign was significantly influenced by his chancellor Maio of Bari.  
ANSWER: William **I of Sicily** (or William **the Bad** or **Wicked**)  
[10] This William's country was invaded by the French during the Rampjaar. However, that invasion during this man's rule was ultimately repelled by the waterline built earlier by Maurice of Nassau.  
ANSWER: William **III** (or William **of Orange**)

4. Some scientists dispute whether this effect allows for particles to surpass the speed of light. For 10 points each:
- [10] Name this phenomenon in which a particle crosses a potential energy barrier higher than its own energy.  
ANSWER: **quantum tunneling**
- [10] George Gamow computed the rate of this process by modeling it as quantum tunneling. In this process, an atomic nucleus emits a helium nucleus.  
ANSWER: **alpha decay**
- [10] Quantum Tunneling occurs between these things in the Josephson effect. In BCS theory, superconductivity is caused by the condensation of these things.  
ANSWER: **Cooper Pairs**
5. During this novel the Reverend Dimmesdale whips himself in an attempt to relieve his guilt. For 10 points each:
- [10] Name this Nathaniel Hawthorne book about the adultery committed by Dimmesdale, causing the protagonist to adon the title mark.  
ANSWER: ***The Scarlet Letter***
- [10] This woman is the protagonist of *The Scarlet Letter*. She is married to Roger Chillingworth when she commits her adultery, and wears the embroidered letter for all the townspeople to see.  
ANSWER: **Hester Prynne** (either underlined part is fine)
- [10] In *The Scarlet Letter*, Chillingworth serves this profession for Dimmesdale. Alternatively called a leech, Chillingworth learned this profession while captured by Indians.  
ANSWER: **doctor** (or **physician**)
6. Although most people don't think of music being closely related to math, music theorists may be able to convince them otherwise! For 10 points each:
- [10] This term for a type of scale based on Ancient Greek music theory which also shares its name with the most frequently occurring number in a set.  
ANSWER: **Mode**
- [10] Fill in the missing beat value! The time signature is nine eighths, and the measure consists of a quarter note, an eighth note, three sixteenth notes, a missing beat, and a dotted quarter note. What is the value of the missing beat? You have 10 seconds.  
ANSWER: **dotted eighth note** (accept **one and a half eighth notes** and equivalents)
- [10] In this series of pitches, each pitch has a frequency that is an integer multiple of the lowest, fundamental frequency. It shares its name with a similar infinite series with general term  $1/n$ .  
ANSWER: **Harmonic** Series
7. This man argued in one of his works that old religions were fertility cults, and that mankind progresses from magic to religion to science. For 10 points each:
- [10] Name this Scottish anthropologist who heavily studied mythology, many of his data which were mailed to him from overseas.  
ANSWER: Sir James George **Frazer**
- [10] In a 1913 work, Frazer made 4 divisions for these types of myths, one of which tells of the story of 2 messengers, one of whom ends up being delayed, causing mankind to experience another fate first.  
ANSWER: **origin of death** stories (accept equivalents)
- [10] This most famous work by Frazer takes its name from a Turner painting, and in it he draws many comparisons between the myths of different cultures.  
ANSWER: ***The Golden Bough***

8. This mathematician solved one problem by noticing that a diagram contained four nodes of odd degree. For 10 points each:  
 [10] Name this mathematician who invented graph theory to solve the seven bridges of Konigsberg problem.  
 ANSWER: Leonhard **Euler**  
 [10] Euler's number is the base of this function, the inverse of  $e^x$ .  
 ANSWER: **Natural Log**  
 [10] Euler's theorem generalizes this other theorem, which states that for each prime number  $p$  and integer  $a$ ,  $a^{p-1}$  is a multiple of  $p$ . Another theorem by the same mathematician was proven by Andrew Wiles in 1995.  
 ANSWER: **Fermat's Little Theorem** (do not accept or prompt on Fermat's Last Theorem)
9. The story of this novel is continued in the sequel *Twenty Years After*. For 10 points each:  
 [10] Name this novel in which each member of the title triumvirate rejects a promotion, leading D'Artagnan to become a lieutenant for Monsieur Treville.  
 ANSWER: **The Three Musketeers** (or **Les Trois Mousquetaires** if someone wants to flex their french)  
 [10] That promotion comes following the execution of this woman, a spy and ex wife of Athos, who sports a fleur de lis on her body.  
 ANSWER: **Milady de Winter**  
 [10] This man, who kidnaps Constance, is told at the end of the novel to become friends with D'Artagnan after attempting to arrest him. This man is often referred to as the Man from Meung.  
 ANSWER: Comte de **Rochefort**
10. Political opponents of this man called him "egghead" in reference to his bald head. For 10 points each:  
 [10] Name this politician served on the committee that created the UN and lost the 1960 DNC to John F Kennedy.  
 ANSWER: Adlai E **Stevenson II**  
 [10] Stevenson was defeated in those 2 presidential elections by this Republican in 2 landslide losses, who was a popular war hero. This president created the US interstate system.  
 ANSWER: Dwight David **Eisenhower**  
 [10] This man served as an aide during Stevenson's 1956 presidential campaign in order to prepare for the future presidential run of his brother Jack. He reportedly voted for Eisenhower after being unimpressed by Stevenson.  
 ANSWER: **Robert Francis Kennedy** (prompt on Kennedy)
11. This process of asexual reproduction includes steps of fragmentation, ligation, transfection and screening. For 10 points each:  
 [10] Name this technology which resurrected the Pyrenean Ibex for a few minutes before the specimen died and made the species extinct again.  
 ANSWER: **cloning**  
 [10] This sheep was the first mammal to be successfully cloned. This organism was cloned by somatic cell nuclear transfer, in which an adult sheep's nucleus is transferred into an oocyte with a removed nucleus.  
 ANSWER: **Dolly**  
 [10] The first primate to be cloned were specimens of these primate, a "rhesus" species of which is often used in lab testing. That species names the Rh factor for blood groups and were involved in the development of several vaccines.  
 ANSWER: rhesus **macaques**

12. When quizbowl brings Mexican literature, they normally bring their best. For 10 points each:
- [10] Name this Mexican poet who wrote a poem beginning and ending about a “willow of crystal, a poplar of water” in “Sunstone.”
- ANSWER: Octavio **Paz**
- [10] Octavio Paz also wrote this nine section work including “The Day of the Dead” and “The Sons of La Malinche,” centering on Mexican identity.
- ANSWER: **The Labyrinth of Solitude**
- [10] Octavio Paz wrote multiple poems commemorating the students who were massacred in Mexico City while protesting this event, for which the Mexican government invested in about a billion dollars adjusted for inflation.
- ANSWER: 1968 Summer **Olympics**
13. Although this man nearly doubled the population of his country, he was also responsible for approximately tens of millions of deaths due to poorly run economic campaigns. For 10 points each:
- [10] Name this first Chairman of the Chinese Communist Party who murdered his critics after encouraging them to open their opinions by announcing “let a hundred flowers bloom.”
- ANSWER: **Mao Zedong**
- [10] Mao led this effort for China to transform into an industrial nation. Parts of this campaign included killing birds, building backyard steel furnaces, and close cropping, which did not increase crop yields.
- ANSWER: The **Great Leap Forward**
- [10] Part of the Great Leap Forward included killing these birds which he considered pests for eating crops. Forever, since these birds also controlled the locusts population, the cycle of life was thrown off balance and more famine occurred.
- ANSWER: Eurasian Tree **Sparrow**
14. For 10 points each name some of the following places with a large crab presence.
- [10] Blue Crabs are the crustacean of this state, where they are often enjoyed in cake form with Old Bay seasoning along the northern shores of the Chesapeake Bay.
- ANSWER: **Maryland**
- [10] The delicious Dungeness Crab, commonly fished for on the Pacific Coast, is named for the town of Dungeness in this state. This state’s Olympic peninsula is home to temperate rainforests.
- ANSWER: **Washington**
- [10] An enormous population of coconut crabs and red crabs may be found in this Australian island named for the day of its discovery. Many tourists travel to this island to watch the annual mass migration of nearly 100 million crabs to the sea.
- ANSWER: **Christmas Island**



15. This process vital for making pasta occurs when the vapor pressure of a liquid is equal to the atmospheric pressure. For 10 points each:
- [10] Name this process which in pure water occurs at 100 degrees celsius at 1 atm.  
ANSWER: **boiling** (accept **condensation**)
- [10] When water is sprinkled onto a hot pan, this effect occurs as an insulating vapor layer prevents the liquid from boiling rapidly, causing a droplet to float over the surface instead of making contact with the hot surface.  
ANSWER: **Leidenfrost Effect**
- [10] The boiling point of a substance may be measured through an ebullimeter, which was first invented to determine the concentration of this substance in a sample. A 96% solution of this substance in water forms an azeotrope.  
ANSWER: **ethanol**
16. Music performers are artists too, just like the composers! For 10 points each:
- [10] This musician is well known for his recordings and interpretations of Bach pieces, as well as his habit of humming while playing.  
ANSWER: Glenn **Gould**
- [10] This chinese concert pianist is known for his extremely expressive gestures while playing. This flamboyant performer is also known for playing extremely hard pieces in unorthodox methods such as with chopsticks or an apple.  
ANSWER: **Lang** Lang
- [10] After arriving in America, Vladimir Horowitz made a recording of this Russian composer's third piano concerto, who Horowitz idolized.  
ANSWER: Sergei **Rachmaninoff**
17. Unlike another type of tissue, this tissue allows for movement in multiple directions. For 10 points each:
- [10] Name this vascular tissue which transports sugar and nutrients throughout a plant.  
ANSWER: **phloem**
- [10] In trees, phloem comprises the innermost section of this protective outer section of wood. Other parts of this layer include the cortex and periderm, the source of cork.  
ANSWER: **bark**
- [10] Phloem contain these cells which transport the chemicals made during photosynthesis. These conducting cells lack nuclei, so they rely on companion cells for nutrients.  
ANSWER: **sieve** elements (accept **sieve** tubes or **sieve** cells)
18. One person who studied this thing noted the importance of its developmental Lines. For 10 points each:
- [10] Name this part of the mind, which gives us personal identity and goes between the conscious and unconscious.  
ANSWER: **ego**
- [10] This psychologist wrote an important study on the ways in which the ego can ward off negative feelings and depression in a 1936 study during her time as the director for the Vienna Psychoanalytic Training Institute.  
ANSWER: Anna **Freud**
- [10] Anna Freud enumerated 10 defense mechanisms in her book *The Ego and the Mechanisms of Defence*, including this mechanism in which the person denies the existence of their qualities and attributes them to others.  
ANSWER: **projection**

19. This civilization inhabited the city of Nesa, the conquest of which was detailed in the Anitta text. For 10 points each:

[10] Name this Anatolian civilization which collapsed during the Bronze Age and fought in the Battle of Kadesh.

ANSWER: **Hittites**

[10] The Hittite capital was this city on the Kizilirmak River whose entrances included the Sphinx Gate and Lion Gate. Muwatalli II moved the capital of his empire from this city to Tarhuntassa.

ANSWER: **Hattusa**

[10] The Hittites lived primarily in this country, which contains the historical regions of Anatolia and Asia Minor.

ANSWER: **Turkey**

20. The work in which this character appears begins with her family vacationing on Grand Isle, an island in the Gulf of Mexico. For 10 points each:

[10] Name this lover of Robert Lebrun, who commits suicide by drowning in the Gulf after finding a note that he will leave her forever. This woman is encouraged to be independent by Mademoiselle Reisz, but to conform by Adele.

ANSWER: **Edna Pontellier** (either underlined part is fine)

[10] While Edna listens to Mademoiselle Reisz emotionally performing this activity, she starts crying as a result. In contrast, the Farival twins and Adele's performing of this action is pleasant but not emotionally spurning or expressive.

ANSWER: **playing the piano** (accept equivalents, prompt on less general answers like music)

[10] This author of *Desiree's Baby* and *The Story of an Hour* wrote of Edna Pontellier in *The Awakening*.

ANSWER: Kate **Chopin**