**Ben Cooper Memorial Tournament 2010 / ABC Spring 2010**

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Packet 3

**Tossups**

1. **A giant sword-wielding statue on Mamayev Hill commemorates this battle; the initial objective of one side’s Operation Blue, capturing the oil at Maikop and Grozny, was abandoned after it. Its turning point was Operation Uranus, when a Romanian army to the north was attacked by Georgi** [\*] Zhukov. One side of this five-month battle was led by General Paulus, and the harsh winter led to almost 2 million casualties along the Volga River. For 10 points, name this World War II battle, the turning point of Operation Barbarossa, where the Soviets resisted the Nazi siege of a city named for their leader at the time.

ANSWER: Battle / Siege of **Stalingrad** [OW/MJ]

2. **In the Debye model, Planck's constant times this quantity divided by wavelength gives the vibrational energy of phonons in a crystal. At it, one may observe a Prandtl-Glauert Singularity, or "shock egg" from a white cylindrical cone of water droplets due to a decrease in** [\*] air pressure. The ThrustSSC and Bell XS-1 achieved it, on land and air respectively. For 10 points, name this point at which an object travels with a Mach number greater than one, and moves from transonic to supersonic speed.

ANSWER: **speed of sound** [accept **sound barrier**; accept **c-sub-s**; prompt "Mach 1" before mentioned] [AJ]

3. **In this song’s music video, the singer drives a Pontiac Trans Am to the Corral Drive-In movie theater. In this song’s second verse, the singer is troubled by the popularity of stiletto heels, and, in the first verse, a shout of “whoa” is preceded the singer’s claim to be bearing** [\*] “a dream and a cardigan.” This song’s artist asserted that she had never heard a Jay-Z song, despite being comforted by one according to this song’s lyrics. Telling of the singer’s arrival in Los Angeles, for 10 points, identify this song in which the singer states she is “nodding her head like yeah,” a recent hit for Miley Cyrus.

ANSWER: “**Party in the USA**” [IE]

4. **One of this artist's works features a black girl being escorted past a griffitied racial slur by four federal marshals. Besides *The Problem We All Live With*, he depicted a boy and his reluctant father before he attends college, and painted three** [\*] partially-clothed boys running to the left with a black and brown dog in *Breaking Home Ties* and *No Swimming*. He showed himself looking in a mirror and painting himself in *Triple Self Portrait*. Also known for "Rosie the Riveter", for 10 points, name this artist of the Four Freedoms series, who created cover illustrations for The Saturday Evening Post.

ANSWER: Norman **Rockwell** [JoC]

5. **One holiday in this religion celebrates the Forty Immortals and is called Maghi; another celebrates five men who entered a tent with the intention of losing their heads; that holiday, Vaisakhi, marks the origin of this religion’s baptism from an iron** [\*] bowl. Its sacred text is considered to be alive and was originally called the *Adi Granth*, and the “Five Ks” are to be followed by all believers include carrying a ceremonial dagger, or kirpan, and maintaining uncut hair. For 10 points, name this monotheistic religion whose Golden Temple can be found in Amritsar, India, expounded by Nanak and nine other Gurus.

ANSWER: **Sikh**ism [MJ]

6. **In this book, Walter’s face shows the signs of hookworm, and Randolph drinks Coca-Cola from a bottle in a brown bag. Despite the protagonists’ care, the bedridden Mrs. Dubose dies from her addiction to** [\*] morphine. A mysterious figure wraps a blanket around the narrator as Miss Maudie’s house catches fire; that same figure leaves gifts in a tree for the protagonists. Bob Ewell convinces a jury that Tom Robinson raped his daughter, despite the defense of Atticus Finch. For 10 points, name this book about the growth of Dill, Jem and Scout, the only novel by Harper Lee.

ANSWER: **To Kill a Mockingbird** [MJ]

7. **Other entities associated with this deity’s domain include Telesto, Phorcys, and Glaucus. Once, this deity organized several others in a plot to make Zeus promise to be nicer by trapping him in a gold net. While in a temple with Medusa,** [\*] this god was caught, causing Athena to turn Medusa and her sisters into the gorgons. An olive tree was planted in one city while he failed in a contest to become its patron god, and this husband of Amphitrite created horses. For 10 points, name this father of Polyphemus, a Greek god who caused earthquakes with his trident and ruled over the seas.

ANSWER: **Poseidon** [prompt “Neptune”] [SR]

8. **An argument removing the burden of proof from the skeptic envisions an undetectable orbiting object, this man’s namesake “teapot”. A principal follower of logical atomism, his namesake paradox asks, “Does the set of all sets that do not contain themselves contain itself?” With Einstein, he names a manifesto advocating** [\*] nuclear disarmament, signed by many nuclear physicists, and claimed that organized churches oppose moral progress in “Why I Am Not A Christian”. Also known for his work with Alfred Whitehead, for 10 points, name this author who attempted a logical foundation for math in his *Principia Mathematica*.

ANSWER: Bertrand **Russell** [accept **Russell’s teapot** before “his namesake” is mentioned] [AJ]

9. **Its indigenous people include the Yaghan, whose language has one native speaker, and Robert Fitzroy brought four natives of this location back to England. Though not New York, one segment is sometimes called Staten Island, and its highest point is Monte** [\*] Darwin. Its west end, Isla Desolación, can receive 800% more rain than the east end, and Ushuaia, its largest city, is generally considered the southernmost city in the world. Containing the Beagle Channel, for 10 points, name this archipelago, bordered to the north by the Strait of Magellan, that is divided between Chile and Argentina and whose name means “Land of Fire.”

ANSWER: **Tierra del Fuego** [JoC]

10. **Characters in this novel compete in unusual games like Riemann Surface Tennis and Obstacle Golf, and two characters cross the Atlantic in the Red Rocket. It opens with a description of the Bokanovsky process, and one character is threatened with exile to Iceland by** [\*] Mustapha Mond, an Alpha Double-Plus. The protagonist’s mother is seduced by Popé, who offers her Mescal to replace Soma, and that protagonist hangs himself at the end of the novel, in the year 632 After Ford. For 10 points, name this dystopian novel about Bernard Marx and John the Savage, named for a line from *The Tempest* and written by Aldous Huxley.

ANSWER: **Brave New World** [JoC]

**[HALF-TIME / SCORE CHECK]**

[If a team’s roster has more than four players, that team may substitute players in or out at this point.]

11. **One work by this composer contains a C minor theme representing the hero and an E major theme representing the hero’s mother, the *Coriolan Overture*. One of his piano works is Bagatelle no. 25 in A minor, while another does not follow traditional sonata form and thus has “Almost a** [\*] fantasy” appended to its title; those works are usually known as “Fur Elise” and “Moonlight”. For 10 points, identify this composer who included the “Eroica” and “Choral” in his nine symphonies.

ANSWER: Ludwig van **Beethoven** [ReM]

12. **In one episode in this work, a storm causes the protagonist to dream of a visit from his father, who married Kiritsubo after the death of the protagonist’s mother. The 42nd to 54th chapters of this novel, known as the Uji chapters, depict events following the protagonist’s death, which is signaled by the blank** [\*] “Vanished into the Clouds” chapter. The protagonist becomes fascinated by a child with the same name as the author, cheats with the sister of his rival Kokiden, and is married to Aoi at the age of 12. For 10 points, identify this 11th-century work about a Japanese prince by Lady Murasaki, often considered the first novel.

ANSWER: The **Tale of Genji** [or **Genji Monogatari**] [IE]

13. **The Ito *[EE-toe]* cells of this organ are located in the space of Disse and hold vitamin A. The function of this organ is tested by measuring serum albumin level, and it possesses special macrophages called Kupffer cells. It is able to take pyruvic** [\*] acid to perform the reverse reaction of glycolysis, gluco-neo-genesis. The failure of this organ to metabolize bilirubin leads to jaundice. This organ’s cirrhosis can occur as from hepatitis, but it is capable of regeneration. For 10 points, name the largest internal organ in human body, which people abuse by drinking lots of alcohol.

ANSWER: **Liver** [DU]

14**. Many members of this school studied with Carl Stumpf. Its laws of closure, similarity, and proximity are examples of its concept of pragnanz, and This school attempted to demonstrate that individuals perceive visual information beyond that which is** [\*] extant in its principle of reification. One member of this movement named a phenomenon in which motion is perceived in still images, the phi phenomenon. Including members such as Kurt Koffka and Wolfgang Kohler, for 10 points, name this psychological school that also included Max Wertheimer, whose name translates as “whole.”

ANSWER: **Gestalt** psychology [IE]

15. **One of these is proved by Boltzmann’s H-theorem, and itself disproves the possibility of T-symmetry; Stanley Meyer was sued by two investors after claiming to circumvent these in water. Hydroelectric plants can often** **avoid a** [\*] thermal bottleneck, a direct result of the second of them. The alignment of perfect crystals at absolute zero is described by the third one of these, while the so-called “zeroth” one is essentially a transitive property for systems in thermal equilibrium. For 10 points, name this set of laws that describes the transfer of heat and work.

ANSWER: **Laws of thermodynamics** [AJ]

16. **According to legend, this country’s flag fell from heaven at the Battle of Lyndanisse, and its king Valdemar IV signed the Treaty of Stralsund. Though unrelated, this nation’s last three prime ministers have shared the surname** **Rasmussen. The HMS *Indefatigable* was** [\*] sunk by German Admiral Scheer near this nation’s largest province in the 1916 Battle of Jutland, and its king Christian X wore a yellow star in solidarity with Jews during World War II. For 10 points, name this Scandinavian nation with many wind farms surrounding Copenhagen.

ANSWER: **Denmark** [or **Danmark**] [MJ]

17. **In one novel by this author, the second title character leaves Mariabronn monastery to find the “pole of nature,” and in another, Hans Giebenrath drowns after leaving Maulbronn seminary. In addition to *Narcissus and Goldmund* and *Beneath the Wheel*, he wrote a novel in which Franz Kromer bullies a boy who studies Abraxas with Pistorus, Emil** [\*] Sinclair; that novel is *Demian.* This author described the internal musings of the novelist Harry Haller, and wrote of a Nepalese man who wanders around with Govinda. For 10 points, name this German author of *Steppenwolf* and *Siddhartha*.

ANSWER: Hermann **Hesse** [IE]

18. **The Safronov and Cameron hypotheses regard this region’s formation, and it was first theorized by Estonian scientist Ernst Öpik. Its inner section is sometimes named for Hills, and the Nemesis theory regards a** [\*] brown dwarf in it. Thought to be remains of the original proto-planetary disk, this region is the origin of objects like Hale-Bopp, long-period comets. For 10 points, name this hypothetical region that extends to the gravitational edge of our solar system, just outside the Kuiper *[KY-purr]* belt.

ANSWER: Opik-**Oort cloud** [AF/MJ]

19. **During this man’s rule, war broke out after a neighboring country annexed the Aksai Chin region, which followed the breakdown of the Five Principles of Peaceful Coexistence. This man’s reign saw his country’s takeover of Goa, and, like Stalin, he outlined his economic policy in many Five Year Plans. This man gave the** [\*] “Tryst with Destiny” speech, and coined the term “non-aligned movement,” a movement he founded with Nasser and Tito. His interim government was opposed by the Muslim League of Muhammed Ali Jinnah. For 10 points, name this father of Indira Gandhi, the first prime minister of an independent India.

ANSWER: Jawaharlal **Nehru** [IE]

20. **This man signed the regulatory Elkins and Hepburn Acts, but backed away from a legal List of Simplified Spellings. He became a New York City Police Commissioner at the age of 27, but two years later was appointed Assistant Secretary of the Navy. In Milwaukee, he survived John Schrank’s** [\*] assassination attempt before a speech. His role in the Treaty of Portsmouth got him a Nobel Peace Prize, and in 1912, he lost a three-way election running as a Progressive, or “Bull Moose”. For 10 points, what former Rough Rider, famous for charging San Juan Hill, became President in 1901 after William McKinley was assassinated?

ANSWER: **T**heodore “Teddy” **Roosevelt** [Prompt on just “Roosevelt”] [JoC]

**[STOP HERE]**

[You have reached the end of the round. Do not continue reading unless the game is tied or a tossup was thrown out earlier in the round.]

21. **A statue of a deity with a shield and wooden staff, Minerva, is on the right side of this painting; on the far right, a veiled self-portrait pokes his head out among others. Two successive barrel vaults with hexagonal coffers stretch back to an archway at the back of this painting. A man in brown clothing writes on a** [\*] slab of stone in front of a man in a blue tunic sitting on steps with legs splayed to one side. This painting stands across La Disputa in the Stanza della Signatura; at its center are Plato and Aristotle. For 10 points, name this painting by Raphael showing philosophers with the figure of artists like Leonardo in the titular Greek city.

ANSWER: The **School of Athens** [or **Scuola di Atene**] [GT]

**Bonuses**

1. According to Lev Vygotsky, it occurs through “scaffolding”, and he also described the “zone” where it is “proximal”. For 10 points each,

[10] First name this psychological process associated with aging, described in an eight-stage model by Erik Erikson.

ANSWER: **development**

[10] This Swiss psychologist developed the idea of “object permanence” in conjunction with his four-stage child development model, which goes from “sensorimotor” to “formal operational” stages.

ANSWER: Jean **Piaget**

[10] Lawrence Kohlberg developed a six-stage theory of development for this concept, which begins with two pre-conventional selfish stages, and ends with a post-conventional universal stage that most people don’t reach.

ANSWER: **moral**ity or **moral** reasoning [do not accept “ethics” or any similar answer] [MJ]

2. Answer these questions about South American lakes, for 10 points each.

[10] Fed by the Catatumbo river, this brackish northern lake, actually a bay of the Caribbean Sea, is a key oil extraction site for Venezuela.

ANSWER: Lake **Maracaibo**

[10] This largest lake of South America sits on the Peru-Bolivia border. One of the highest navigable lakes in the world, this lake is also known for a collection of artificial islands made of reeds.

ANSWER: Lake **Titicaca**

[10] A dam created the artificial Lake Paranoá, on the side of which sits the Palácio da Alvaroda, in this airplane-shaped city with major buildings designed by Oscar Niemeyer.

ANSWER: **Brasilia** [JoC]

3. Yazid I of this polity attacked Ali’s family at the Battle of Karbala, and it fell after Marwan II’s defeat at the Great Zab River. For 10 points each,

[10] What polity, founded by Muawiyah I, governed Islam’s conquest from North Africa to Mesopotamia and was the first Caliphate?

ANWER: **Umayyad** Caliphate

[10] The Umayyad caliphate had its capital in this Middle Eastern city, currently home to Bashar al-Assad.

ANSWER: **Damascus**

[10] After the fall of the Umayyad Caliphate and the rise of the Abbasids, Abd-ar-Rahman I re-established the Umayyads in this southern Spanish city.

ANSWER: **Córdoba** [DU]

4. Answer the following questions about chess, for 10 points each.

[10] This defensive move, preceded by moving a knight and a bishop, cannot be performed if the king or rook has been moved, or to escape or move into check. Its ‘queenside’ variant is denoted in chess notation as o dash o dash o.

ANSWER: **Castling** or **castle**

[10] This French term refers to the ability of a pawn to capture another adjacent pawn by moving diagonally behind it. It is usually only allowed if the pawn to be captured has just moved two spaces forward.

ANSWER: **en-passant**

[10] It has been said that d4 is the statistically best first move for white, but only because this defense plays so well against e4. This common Black defense has variations such as the Najdorf, Accelerated Dragon, and Sveshnikov.

ANSWER: **Sicilian** Defense [accept **Sicilian** opening] [AJ]

5. This religion, symbolized with the yin-yang, is compared favorably to others in the allegory of the Vinegar Tasters. For 10 points each:

[10] What Eastern religion interprets the human mind as *pu*, an uncarved block, and advocates passive acceptance of the Way?

ANSWER: **Tao**ism [accept **Dao**ism]

[10] The founder of Taoism is this 6th century philosopher who is generally considered to have written the *Tao Te Ching.*

ANSWER: **Lao Tse** [or **Laozi**; accept other reasonable Romanizations of his Chinese name]

[10] This philosopher of the Hundred Schools of Thought period, who famously dreamt about becoming a butterfly, is a notable follower of Taoism.

ANSWER: **Zhuangzi** [or **Chuang** Tse or other reasonable Romanizations; accept Master **Chuang**] [DU]

6. In this novel, Stamp Paid hears unspeakable thoughts as he tries to knock on the door of 124. For 10 points each,

[10] First, name this novel about the escaped slave Sethe *[SETH-thuh]*, who reunites with Paul D and takes in the title woman, whose name is the word on her baby daughter’s gravestone.

ANSWER: **Beloved**

[10] This Princeton professor wrote about Cholly Breedlove raping his daughter Pecola in *The Bluest Eye.* She also wrote *Beloved*.

ANSWER: Toni **Morrison**

[10] In this Morrison novel, the title character returns to a black community, called the Bottom, where rich whites are demolishing to build a golf course, and confronts the uptight housewife Nel, her former best friend.

ANSWER: **Sula**

7. For 10 points each, answer the following about mathematical operations:

[10] Notated by a number in superscript to the right of the base number, this operation involves multiplying the base number by itself a certain number of times.

ANSWER: **Exponent**iation [accept **raising to a power**]

[10] The exponential function with this number as its base has a rate of change equal to itself at any value.

ANSWER: **e** [accept **Euler’s number**; make sure people don’t stall, so prompt “2.718281828…”]

[10] Also called hyper-4, this operation involves raising a number to the power of itself a certain number of times. In Knuth’s Up-Arrow Notation, it is symbolized by two arrows.

ANSWER: **tetration** [AJ]

8. This author wrote about Felipe Montero’s stint as a live-in editor for General Llorente in his novel *Aura*. For 10 points each:

[10] Identify this Mexican author, whose other works include *Where the Air is Clear* and *Terra Nostra*.

ANSWER: Carlos **Fuentes**

[10]In this novel, Fuentes provides an overview of Mexican history through the internal dialogue of the titular tycoon, who is interrupted by a number of priests, doctors, and family members.

ANSWER: The **Death of Artemio Cruz** [or **La Muerte de Artemio Cruz**]

[10] Characters in this Fuentes novel about an author’s disappearance in Mexico include Harriet Winslow and General Arroyo. It was inspired by the last days of Ambrose Bierce.

ANSWER: The **Old Gringo** [accept **Gringo Viejo**] [IE]

9. For 10 points each, name these 1800s Supreme Court cases ruled on by Chief Justice John Marshall.

[10] This case, brought on when the defendant refused to hand over a judge’s commission, struck down provisions of the 1789 Judiciary Act as unconstitutional and established the principle of judicial review.

ANSWER: **Marbury** v. **Madison** [accept in either order]

[10] This other Marshall decision ruled it unconstitutional for states to tax federal government bodies, specifically the Bank of the United States, for “the power to tax implies a power to destroy”.

ANSWER: **McCulloch** **v. Maryland**

[10] Andrew Jackson flat-out ignored the ruling in this 1832 case, which recognized Indian nations as sovereign and prohibited a certain state’s attempt to redraw its border with the Cherokee.

ANSWER: **Worcester** v. **Georgia** [MJ]

10. Its ‘terminal’ type stays constant when the downward force of gravity is equal to the upward force of drag. For 10 points each,

[10] First, name this vector quantity whose scalar magnitude is often called ‘speed’.

ANSWER: **velocity**

[10] This physics principle states that in inviscid fluids, pressure and velocity are inversely related. It is why sailboats can travel faster than the wind hitting their sails.

ANSWER: **Bernoulli’s** principle

[10] This device, often found in aircraft, measures fluid velocity by using Bernoulli’s principle to determine the static and dynamic pressure on an object.

ANSWER: **Pitot tube** [MJ]

11. Its members included Asher Durand, who painted its founder alongside William Cullen Bryant in *Kindred Spirits.* For 10 points each,

[10] First, identify this mid 19th century American art movement, named for the river valley often depicted in its landscape paintings

ANSWER: **Hudson River** School

[10] Considered the father of the Hudson River School, this painter of *The Oxbow* also painted allegorical series such as *The Course of Empire* and *The Voyage of Life*.

ANSWER: Thomas **Cole**

[10] A pupil of Thomas Cole, this artist’s works include *Niagara* and *The Icebergs*; his travels to South America inspired *The Heart of the Andes*.

ANSWER: Frederic Edwin **Church** [OH]

12. It simply states that every entity, event, or proposition has a valid explanation for why it is. For 10 points each,

[10] Name this amazingly wrong philosophical principle.

ANSWER: **principle of sufficient reason**

[10] The principle of sufficient reason was put forth by this German thinker who wrote *Monadology* and developed the calculus independently of Newton.

ANSWER: Gottfried Wilhelm **Leibniz**

[10] This misogynistic German author of *On Women* wrote his doctoral thesis on the “fourfold root” of the principle of sufficient reason. Inspired by Eastern thought, his other works include *The World as Will and Idea.*

ANSWER: Arthur **Schopenhauer** [MJ]

13. They include boiling-point elevation and freezing-point depression. For 10 points each:

[10] First, name this type of property dependent entirely on the number of particles dissolved in a solution, and not on the size or mass of the solute.

ANSWER: **colligative** properties

[10] This dimensionless number, symbolized lower-case *i*, helps govern colligative properties. It is a ratio dividing the actual concentration of a dissolved substance by the predicted concentration from mass calculations.

ANSWER: **van’t Hoff factor**

[10] Vapor pressure, another colligative property, is governed by this law which states that the vapor pressure for a solution is equal to the sum of that of each compound in times to the mole fraction of that compound.

ANSWER: **Raoult’s** law [MJ]

14. This novel’s title character poses for Basil Hallward, and sees his lover, Sybil Vane, play the role of Juliet on stage. For 10 points each:

[10] First, name this novel whose protagonist does not age, in contrast with the title object.

ANSWER: The **Picture of Dorian Gray** [do not accept “The Portrait of Dorian Gray”]

[10] *The Picture of Dorian Gray* is a novel by this Irishman, who collected fairy tales in his *A House of*

*Pomegranates.* His plays include *An Ideal Husband* and *Lady Windemere’s Fan*.

ANSWER: Oscar **Wilde**

[10] This Wilde poem about a wife-murderer opens with the lines “He did not wear his scarlet coat / For blood and wine are red”. It notes that “Each man kills the things he loves”.

ANSWER: The **Ballad of Reading Gaol** *[RED-ing JAIL,* but be lenient with pronunciation*]* [DB-N]

15. This battle was preceded by a siege of Stirling Castle, and it saw the charging Henry de Bohun chopped to death near its namesake creek. For 10 points each,

[10] Name this 1314 battle where Robert the Bruce’s forces won a decisive victory for Scottish independence.

ANSWER: Battle of **Bannockburn**

[10] Robert the Bruce was a successor to this Guardian of the Scots, executed by England in 1305. He won the battle of Stirling Bridge with Andrew Moray, but faltered after the 1298 battle of Falkirk.

ANSWER: William **Wallace**

[10] This lovable English king executed William Wallace, extorted his country through the Model Parliament, laid waste to Wales, and expelled all English Jews in 1290. A son of his with the same name fought at Bannockburn.

ANSWER: **Edward I** of England [or Edward **Longshanks**; do *not* accept “Edward IV”] [MJ]

16. Although the protagonist comes to the titular structure to serve Count Westwest, he is never given his proper job as a land surveyor. For 10 points each:

[10] In what novel is neither the messenger Barnabas nor the official Klamm willing to help the protagonist, known by just one letter?

ANSWER: The **Castle** [accept Das **Schloss**]

[10] The Castle was written by the same author of this work, in which Josef K dies like a dog after he is inexplicably arrested on his thirtieth birthday.

ANSWER: The **Trial** [accept Der **Prozess**]

[10] The Castle and The Trial are works by this Czech-German author, who also wrote about a sad character who turns into a huge bug, Gregor Samsa.

ANSWER: Franz **Kafka** [DU]

17. This 313 A.D. declaration ended a certain group’s religious persecution. For 10 points each:

[10] Name this decree which declared the return of stolen property and land to, and toleration of, Christians.

ANSWER: **Edict of** **Milan**

[10] This Roman emperor issued the Edict of Milan. He was the first Christian emperor, and changed the name of Byzantium.

ANSWER: **Constantine I** [accept **Constantine the Great**; prompt on just “Constantine”]

[10] Constantine I became a Christian convert after this 312 A.D. battle, at which he defeated Maxentius.

ANSWER: Battle of **Milvian Bridge** [DB-N]

18. The chief inhibitory one is GABA, while Substance P is one involved in pain transmission. For 10 points each;

[10]Identify this class of chemicals, which are released into the synaptic cleft and cause the firing of action potentials. They include dopamine.

ANSWER: **neurotransmitter**s

[10] This neurotransmitter, a tryptophan derivative, regulates the digestive system and mood. Selective reuptake inhibitors of this neurotransmitter are commonly used in anti-depressants.

ANSWER: **serotonin**

[10]This neurotransmitter is involved in muscle activity. Individuals with Alzheimer’s disease have low quantities of this neurotransmitter.

ANSWER: **acetylcholine** [or **ACh**] [IE]

19. For 10 points each, answer some questions about Norse creation.

[10] In the abyss Ginnungagap, this figure spawned frost giants from his sweat and humans from his armpit. He was killed by Odin & his brothers, who spread his body around to create the known universe.

ANSWER: **Ymir** [accept **Aurlgemir**]

[10] Ymir was fed by Audhumbla, this type of creature, from whom four streams of milk fell to nourish him. Another mythical example led Cadmus to the site of Thebes.

ANSWER: **cow**

[10] In some accounts, this fire realm is immediately south of the abyss Ginnungagap where Ymir resides. Surt leads the fire giants of this realm at Ragnarok.

ANSWER: **Muspell**heim [MJ]

20. Inspired by an anechoic chamber, its three parts all feature the instruction “tacet”. For 10 points each,

[10] First, name this composition in which the musician doesn’t play anything for the titular amount of time, a piece consisting only of sounds around the listener that’s often described incorrectly as “silence”.

ANSWER: **4’33’’** [or **Four minutes** and **thirty-three seconds**]

[10] This avant-garde American composer’s *Organ Squared: ASLSP* is to be played as slow as possible and will last for 639 years. He also wrote “Four Minutes and Thirty-Three Seconds”.

ANSWER: John **Cage**

[10] This series of five John Cage works employs recording devices; the first uses phono-turntables while the fourth and fifth use many randomly tuned radios that change in frequency and volume when conducted.

ANSWER: **Imaginary Landscape** series [MJ]

21. Answer some questions about linguistics, for 10 points each.

[10] These sounds, which can be ‘rounded’ or ‘voiced’, changed in English to include many diphthongs in their namesake “Great” “Shift”.

ANSWER: **vowel**s

[10] Grimm’s Law described the shift in sound of voiced, voiceless, and aspirated stops in this ancestral language as it developed into the Germanic family.

ANSWER: **Proto-Indo-European** [prompt “Indo-European”]

[10] Originally conceived of to deal with the Hopi people’s conception of time, this hypothesis of linguistic relativity claims that characteristics of language affect a speaker’s cognition.

ANSWER: **Sapir-Whorf** hypothesis [MJ]