STIMPY 2015: we barely wrote the tournament, so there was no time to write a subtitle
Packet by MIT A and Michigan B
Edited by Chris Manners, Jordan Brownstein, Dan Puma, Brian McPeak, Jacob Reed, Sohan Vartak, Grace Liu, Ophir Lifshitz

Tossups

1. In a story set in this region, the narrator listens to a sermon ending "O God, mun, you're like a… cat," preached by his cousin from a "pulpit cart." A play set in this region features a man who reads *The Lives of Great Poisoners* and wants to kill his wife with poisoned porridge. The speaker of a poem set in this region describes being taken "Up to the swallow thronged loft by the shadow of my hand" after the end of the (*) "lamb white days." A fictional town in this region is home to the blind Captain Cat, and a farm in this region is described in a poem beginning "Now as I was young and easy under the apple boughs." A poet from this region wrote lines like "after the first death there is no other" and "rage, rage against the dying of the light." For 10 points, name this setting of *Under Milk Wood* and "Fern Hill," a country in the UK home to Dylan Thomas.
ANSWER: **Wales** [or **Cymru**; anti-prompt on more specific answers like "Swansea," "Llareggub," or "Fern Hill"; prompt on "United Kingdom" or "Great Britain"; do not accept "England"]

2. Baire's category theorem can be used to prove the open mapping theorem named for this mathematician and Schauder, and the uniform boundedness principle named for him and Steinhaus. He is the alphabetically former namesake of a theorem that allows bounded linear functionals to be extended to a whole space; that theorem is named along with Hahn. Complete (*) normed vector spaces are named for this mathematician, who showed that, on those spaces, if there is a contraction mapping from a closed subset into itself, then there is a fixed point. He is the alphabetically former namesake of an axiom of choice-dependent paradox in which a ball can be decomposed and reassembled into two copies of itself. For 10 points, name this Polish mathematician who names a paradox with Alfred Tarski.
ANSWER: Stefan **Banach**

3. In a film set in this country, Mr. and Mrs. Joyce reconcile after witnessing a parade in which a crippled man gains the power to walk on their "Journey To" this nation. A film movement from this nation began as a reaction to the bourgeois "White Telephone" films popular in this country during the 30s, and at the end of a film from that movement, a group of boys walks away after a (*) priest is shot for aiding a resistance movement. In another film from this country a man hired to hang up posters is forced to go on a journey with his son throughout a city in this country while looking for a stolen object. For 10 points, name this home country of the Neorealism movement, and the films *The Bicycle Thieves* and *Rome, Open City*.
ANSWER: **Italy**

4. During an election campaign, this politician's oratory was said to appeal to the "hillside men." This man's cause was damaged when another politician's son released the "Hawarden Kite" statement to the *Times*. As part of his campaign for the "Three F's," this person led the original boycott against Charles Boycott. John Devoy's compromises with this leader began the New Departure Movement. The forgeries of Richard Pigott implicated this man in a crime actually committed by the (*) Invincibles, the murder of Lord Cavendish and Thomas Burke. The reputation of this leader of the National Land League was damaged by the Phoenix Park murders and by his long-term affair with Kitty O'Shea. For 10 points, name this Irish nationalist who led the home rule movement.
ANSWER: Charles Stewart **Parnell**

5. This country disputes the wooded Tigri Area with its eastern neighbor. One of the largest wooden churches in the world, St. George's, is in this country's capital, which also contains the Stabroek Market. The Wai-Wai

people are native to this country, whose Acarai Mountains are the source of the Essequibo River. The Kaieteur National Park is in this country, which is bordered to the east by the (*) Courantyne River. The leader of a settlement in this country staged several "White Night" meetings and eventually killed himself and his followers with cyanide-laced Flavor Aid. For 10 points, name this South American country that was the site of the Jonestown Massacre, with capital at Georgetown.
ANSWER: **Guyana**

6. **This theory's predictions were tested by measuring the kinetic energy of electrons hitting an aluminum disc in an experiment by Bertozzi. A symmetry associated with this theory was tested by looking at frequency shifts in Zeeman splitting, and was carried out by Hughes and Drever. Because the Poincaré group is non-abelian, this theory yields a reduction in spin orbit interactions. This theory explained the mean lifetimes of** (*) muons as observed in the Rossi–Hall and Frisch–Smith experiments. The invariant metric element in this theory is the spatial length squared minus the time squared. This theory, whose mathematical setting is Minkowski space, predicts that objects at high velocities undergo length contraction. For 10 points, what theory postulates the invariance of the laws of physics in all inertial reference frames and the constancy of the speed of light?
ANSWER: **special relativity** [or **SR**; prompt on "relativity"; do not accept "general relativity" or "GR"]

7. **This thinker described a society in which kinship depended on "a corporate body holding an estate made up of both material and immaterial wealth" as a "house society." This thinker opened one book with the chapter "The Science of the Concrete," which analyzes a portrait by François Clouet and outlines "plastic," "primitive," and "applied" modes of art. This thinker conjectured that marriage between groups was a means to increase social ties with outside groups as part of his "alliance theory." This thinker contrasted the more scientific** (*) "engineer" with a figure who works with "whatever is at hand" called the "bricoleur." He included the volumes "The Origins of Table Manners" and "The Raw and the Cooked" in his tetralogy *Mythologiques*. For 10 points, name this French anthropologist and founder of structural anthropology, the author of *The Savage Mind*.
ANSWER: Claude **Levi-Strauss**

8. **Several characters in this novel watch a circle of druidesses brandishing knives over a herd of pigs in a forest clearing. In this novel, a man is framed for an attempted bombing of a train after refusing to give up a nonexistent map depicting "telluric currents." This novel contains a story in which the real author of Shakespeare's plays is imprisoned in the Tower by Francis Bacon. In this novel, a parchment about the journey of a "hay wain" is stolen from an attic in Provins by** (*) Colonel Ardenti. While hiding in a giant periscope at a museum, the narrator of this novel recalls his encounters with the supposedly immortal Count Aglee in Brazil. In this novel, three employees of Garamond Publishing use the computer Abulafia to create a conspiracy theory called "the Plan." For 10 points, name this novel about Casaubon by Umberto Eco, which is named for a swinging object.
ANSWER: **Foucault's Pendulum** [or *Il **pendolo di Foucault***]

9. **A historian from this empire described an incident in which a prostitute was placed on a golden throne in its capital. The *Suda* was a massive encyclopedia compiled in this empire, whose border guards were celebrated in the Acritic Songs. Regulations on this empire's guilds are recorded in the Book of the Prefect. A writer from this empire claimed that one of its kings killed "ten thousand times ten thousand times ten thousand" people and had a** (*) detachable demon head. A princess from this empire named Anna wrote about her father in the *Alexiad*. The *Secret History* of Procopius claims that one of this empire's queens was a former stripper whose act involved geese eating grain off her crotch. For 10 points, name this empire ruled by the Comnenian dynasty and by Justinian the Great.
ANSWER: **Byzantine** Empire

10. **Robert Graves claims that one of these things was actually a magical bag containing a serpent. After seeing two of these objects belonging to Tydeus and Polynices, King Adrastus married his daughters to them. One of these objects was made with either the remains of the winged giant Pallas or the goat Amalthea. After betraying Rome to the Sabines, Tarpeia was crushed to death with these objects. Two** (*) cities, one at peace and one at war, are depicted on one of these objects which is described in a notable ekphrasis. Seven bulls' hides were used to make one of these objects which was used by Teucer and his brother Ajax. One of these objects was used as a mirror to defeat Medusa by Perseus. For 10 points, Athena's aegis was what sort of protective object?
ANSWER: **shield**s [or the **aegis** before mentioned]

11. **In a poem by this man, the speaker remarks that the "ancient war between obsession and responsibility will never finish." The speaker is reminded of "Ancestral murderers and poets, more perplexed in memory now by every ulcerous crime" in a poem by this man that opens with an epigraph from** *Hydriotaphia***. A poem by this man compares the "longing" of a mythological figure to "the adulterer hearing Nausicaa's name in every** (*) gull's outcry." The speaker of a poem by this man recalls how "a smell of dead limes quickens in the nose" while viewing the "disjecta membra" of the title structure. This author included the blind character Seven Seas in a seven-book epic poem in which Achille and Hector vie for the love of the woman Helen. For 10 points, name this St. Lucian author of "Sea Grapes," "Ruins of a Great House," and the epic poem *Omeros*.
ANSWER: Derek **Walcott**

12. **One reaction forms these compounds by reacting a carboxylic acid with hydrazoic acid in the presence of a protic catalyst. In another reaction, this functionality is added beta to a carbonyl carbon with the assistance of an activated formaldehyde molecule. Those are the Schmidt and Mannich reactions. Carbonyls are converted to an intermediate that is reduced to these compounds using sodium cyanoborohydride in their namesake** (*) "reductive" synthesis. The application of silver oxide, water, and heat removes this functional group and leaves behind an alkene in the Hofmann elimination. These compounds, which can be synthesized via the Gabriel synthesis, often have a fishy smell. For 10 points, name these compounds that contain one or more alkyl or aryl groups around a basic nitrogen atom.
ANSWER: **amine**s

13. **Initiates in one religion founded in this country receive green and white clothes as part of the "Garb" ceremony. The founder of a different religion in this country received visions of a "Half-Indian Peasant of the Seven Crossroads" and in another religion based in this nation, members attempt to gain axe' through the beating of drums. The main cathedral in the capital of this country contains sixteen** (*) parabolas reaching towards the sky to resemble fingers. In a religious festival in this country, people walk around in *blocos* and are led by King Momo during a time period known as the *Entrudo*. During that festival, people sometimes dance the *samba* and dress up in costume. For 10 points, name this home of the Umbanda and Candomble religions, as well as the Carnival festival.
ANSWER: **Brazil**

14. **A player of this instrument left the sessions for** *Money Jungle* **despite his admiration for that album's bandleader, Duke Ellington. A solo album featuring this instrument contains covers of Bach's Chromatic Fantasy and the Beatles' "Blackbird." After the synthesizer introduction, this instrument introduces the main tune of "Birdland." A player of this instrument released a quasi-ballet album with Tracks "A," "B," and "C," and "Modes" "D," "E," and "F." This instrument alternates with** (*) Bill Evans' "Amen" chords on "So What." A player of this instrument included the homages "Bird Calls," "Open Letter to Duke," and "Jelly Roll" on an album that includes the elegy for Lester Young, "Goodbye Pork Pie Hat." That player of this instrument released the albums *The Black Saint and the Sinner Lady* and *[His Name] Ah Um*. For 10 points, name this string instrument played by Jaco Pastorius and Charles Mingus.
ANSWER: upright **bass** [accept any answer with the word **bass**]

15. **In order to leave this empire's lands, Queen Pokou legendarily led the Boule people across a bridge of hippopotamuses after drowning her son. Slaves called Coromantees were from this empire, where elephant tails were used as a symbol of the obirempon status. A king of this empire was exiled to the Seychelles twenty years after signing the Treaty of Fomena. This empire won the battle of Feyiase against the Denkyira people. This kingdom's Queen Yaa led an** (*) uprising in response to demands made by Frederick Hodgson. This empire was home to the Akan people and had a capital at Kumasi. This empire's founder, Osei Kofi Tutu, supposedly received its Golden Stool from heaven. For 10 points, name this West African empire centered in present-day Ghana.
ANSWER: **Ashanti** Kingdom [or **Asante**]

16. **In a novel by this author, an artist ruins her unfinished painting with a blob of red paint, but it is still bought by a man who is killed while fighting a duel in Switzerland over her. The protagonist of a novel by this author takes a train to see a country landscape which reminds him of a Lambinet painting. That character of this author tells a friend "it's not too late for YOU" at a sculptor's garden party. In a novel by this author, the protagonist loses his love interest to a** (*) Carmelite convent and decides not to blackmail the murderous Madame de Bellegarde with a letter provided by Mrs. Bread. This creator of Christopher Newman also wrote about a man who is sent to Paris to bring Chad Newsome back to America. For 10 points, name this author of *The American* and *The Ambassadors*.
ANSWER: Henry **James**

17. **Pliny reports that the Emperor Titus especially valued a bronze sculpture by this artist that depicts two boys playing knucklebones. An idealized statue of Emperor Augustus found at Prima Porta was modeled on this artist's most famous work. A sculpture by this artist depicts the winner of an athletic competition extending his arms toward his head to tie the knot of a diadem. This artist formulated a system of ideal mathematical proportions of the parts of the human body in a now-lost** (*) text on sculptural composition entitled the *Kanon*. In this artist's most famous work, a *contrapposto* athlete looks off to the right and extends his left hand outward to hold a certain weapon, which rests on his left shoulder. For 10 points, name this sculptor from Argos, known for his *Doryphoros*, or *Spear-Bearer*.
ANSWER: **Polykleitos** of Sicyon

18. **Because of this document, Humphrey Marshall was attacked by a stone-throwing mob and nearly thrown in a river. Although almost too sick to stand, Fisher Ames gave a famous speech in favor of this agreement. This treaty, which was supported in the "Camillus" letters, references the non-existent St. Croix River as a boundary. The negotiator of this treaty had signed the "Liberty Treaty" with Diego Gardoqui eight years prior. That** (*) namesake of this treaty said that he could travel across the country by the light of effigies depicting him being burned. This treaty prompted Spain to negotiate the Treaty of San Lorenzo with Thomas Pinckney, and it called for the withdrawal of troops from Western forts. For 10 points, name this 1794 treaty between the United States and Britain which was negotiated by a Chief Justice.
ANSWER: **Jay**'s Treaty of 1794 [or **London** Treaty of **1794**; or Treaty of **Amity, Commerce, and Navigation** before mentioned]

19. **This philosopher was attacked for writing using a "casual mode of allusion" in the essay "The Professor of Parody." This philosopher claimed that people are only recognized as subjects and persons when they are "culturally intelligible," a theory which she applied in a close study of the case of David Reimer. A book by this philosopher introduces the idea of a "heterosexual matrix" and critiques** (*) Foucault's introduction to the journals of Hercule Barbin in its section "Subversive Bodily Acts." That book by this philosopher argues that gender is not based on an internal identity but is created through repeated expressive acts, a concept which it calls "gender performativity." For 10 points, name this gender theorist, the author of *Bodies that Matter* and *Gender Trouble*.

ANSWER: Judith **Butler**

20. **A receptor for this compound is opposed by a tropane alkaloid that can be extracted from deadly nightshade; that antagonist is called atropine. It binds to either a G-protein coupled receptor or a cys-loop ligand-gated ion channel. Buildup of this molecule can be caused by organophosphate poisoning. This compound originates in the basal optic nucleus of** (*) Meynert. Myasthenia gravis occurs when this compound's nicotinic receptors are blocked by antibodies; its other receptors are muscarinic. This compound's transferase is deficient in Alzheimer's disease. The botulinum toxin prevents this neurotransmitter from being released, causing paralysis. For 10 points, name this primary neurotransmitter for motor neurons that is required for muscle contraction.
ANSWER: **acetylcholine** [or **ACh**]

Bonuses

1. Jasperware, a type of matte porcelain that inverts the typical blue-on-white color scheme, was invented in this country. For 10 points each:
[10] Name this country where Josiah Wedgwood lived. Bone china was invented in its county Staffordshire.
ANSWER: **England** [prompt on "Britain" or "United Kingdom"]
[10] English porcelain tried to compete with Chinese blue-on-white pieces, which developed during this dynasty. Lóngquán produced many celadon pieces during it, and *Along the River During the Qīngmíng Festival* was painted during it.
ANSWER: **Sòng** dynasty
[10] This city was the center of blue-and-white porcelain production starting in the 14th century. During the Ming dynasty, the Imperial kilns were located in this city.
ANSWER: **Jǐngdézhèn**

2. The protagonist of a novel by this author pays for Dr. Merkle's pregnancy test by exchanging a brooch she had been given by her lover at Nettleton. For 10 points each:
[10] Name this author, who depicted the relationship between Lucius Harney and Charity Royall in her novel *Summer*.
ANSWER: Edith **Wharton**
[10] In this novel by Wharton, the title character becomes paralyzed after attempting to avoid crashing into a tree on a sled with his love interest Mattie, who had suggested they commit suicide together. His cat had earlier smashed his ill wife's pickle dish when Mattie took it out. Cats are jerks.
ANSWER: *Ethan Frome*
[10] The protagonist of Wharton's *The Age of Innocence* is engaged to marry May Welland, but those plans are thrown into disarray by the arrival of this character, who captures his heart.
ANSWER: Countess **Ellen** **Olenska**

3. This thinker collaborated with Joseph Nye on the book *Power and Interdependence*. For 10 points each:
[10] Name this thinker, who also authored the 1984 book *After Hegemony*.
ANSWER: Robert Owen **Keohane**
[10] Both Keohane and Nye are members of the Neoliberal school in this academic field. Other schools within this field of political science include the English School and the Realists.
ANSWER: **I**nternational **R**elations theory [or **I**nternational **A**ffairs theory]
[10] Alexander Wendt authored an influential 1992 article with a title claiming that this state "is What States Make of It." Constructivism differs from other approaches to IR in that it disputes that the world system is in this state.
ANSWER: **anarchy**

4. This effect is similar to Rayleigh scattering, but the particles causing it are larger than those used in Rayleigh scattering. For 10 points each:
[10] Name this effect, exhibited by colloids, in which light is scattered by particles in its path.
ANSWER: **Tyndall** effect [or **Tyndall** scattering]
[10] Colloids are substances dispersed in other substances. This type of colloid, in which a gas is dispersed in a solid, includes examples like "solid smoke".
ANSWER: **aerogel**
[10] This rule states that ions with the charge opposite to that of sol particles are capable of causing coagulation in a sol; or equivalently, the coagulating power of electrolytes is directly proportional to the valency of the active ions.
ANSWER: **Schulze–Hardy** rule or law

5. Answer the following about random titles held by German noblemen. For 10 points each:

[10] The Holy Roman Empire, the Austro-Hungarian Empire, and most notably the unified German Empire, all used this title for their emperors. Like the Russian "tsar," it is an allusion to a title adopted by many Roman emperors.
ANSWER: **Kaiser**

[10] Originally a title for "free knights," this term came to refer to the Prussian class of landed aristocracy, whose interests were represented by the Agrarian League after unification.
ANSWER: **Junker**s

[10] This Saxon prince declared himself the first Margrave of Brandenburg before joining the Wendish Crusade with Henry the Lion.
ANSWER: **Albert** the **Bear** [or **Albrecht** der **Bar**; prompt on "Albert"]

6. This room was covered by the Veil, and it could only be entered by the High Priest on Yom Kippur. For 10 points each:

[10] Name this room in the Holy Place of the Tabernacle, a perfect cube with side lengths of 20 cubits.
ANSWER: **Holy of Holies** [or *Kodesh Hakkodashim*]

[10] The Holy of Holies once contained this object, a chest that contained the Tablets of Stone on which the Ten Commandments were inscribed, as well as Aaron's Rod.
ANSWER: **Ark of the Covenant** [or *Aron Habrit*]

[10] In the Apocrypha, this man is said to have hid the Ark of the Covenant on Mount Nebo before the Babylonian invasion. In an Old Testament book, this man asked, "Is there no balm in Gilead?"
ANSWER: **Jeremiah**

7. The main female character repeatedly has a dream in which her husband forces her and other women to do calisthenics around a pool at gunpoint. For 10 points each:

[10] Name this most famous novel of Milan Kundera, which follows the lives of Tomas and Tereza in post-Prague Spring Czechoslovakia.
ANSWER: *The **Unbearable Lightness of Being*** [or *Nesnesitelná lehkost bytí*]

[10] Kundera also authored this novel composed of seven vignettes, including "Lost Letters" and "The Angels." In its last section, Tamina is trapped on an island inhabited by nudist children.
ANSWER: *The **Book of Laughter and Forgetting*** [or *Kniha smíchu a zapomnění*]

[10] Kundera's writing owes much to this other Czech author, whom he praised highly. This man wrote *Closely Watched Trains* and the one sentence-long novel *Dancing Lessons for the Advanced in Age*.
ANSWER: Bohumil **Hrabal**

8. This kingdom eventually conquered the Baekje and Goguryeo kingdoms, ending the Three Kingdoms Period. For 10 points each:

[10] Name this ancient kingdom of South Korea that ruled much of the southern part of the Korean peninsula during the first millennium.
ANSWER: **Silla** Kingdom

[10] The Silla Kingdom used a social ranking system based on these objects. These objects, particularly those from oxen and turtles, were used by oracles during the Chinese Shāng Dynasty.
ANSWER: **bone**s

[10] Silla's elite military units, which were known for crazy costumes and makeup, were known as Hwarang, or boys of these objects.
ANSWER: **flower**s [or **flower boys**]

9. The creators of this show perhaps lost their minds when they introduced the character Poof, a baby who is terrible at magic. For 10 points each:

[10] Name this long running Nickelodeon show created by Butch Hartman that features ten-year-old Timmy Turner, who dreads having his babysitter Vicky come over and deals with her with the help of Wanda and Cosmo.
ANSWER: The *Fairly OddParents*
[10] This character, an obvious parody of Arnold Schwarzenegger, is the strongest fairy in the universe. He shows up whenever Timmy breaks "Da Rules," and is apparently married to the Tooth Fairy.
ANSWER: **Jorgen** von Strangle
[10] In a move that can only signify their further insanity, the creators of the show introduced this fairy dog who Timmy adopts in the first episode of season 9. His activities include summoning fire hydrants and chewing on Poof.
ANSWER: **Sparky**

10. In 2013, doctors at The Miami Project to Cure Paralysis performed the first FDA-approved transplant of these cells to treat a spinal cord injury. For 10 points each:
[10] Name these cells that produce myelin sheath and wrap it around nerve cells at neuromuscular junctions.
ANSWER: **Schwann cells** or **neurolemmocytes** [prompt on "glia," "neuroglia," or "glial cells"]
[10] Schwann cells and oligodendrocytes are myelin-producing variants of these cells that support neurons in the brain and the peripheral nervous system.
ANSWER: **glia** [or **neuroglia** or **glial** cells]
[10] Action potentials in neurons and other cells with ion channels may be achieved using this method in which the tip of a micropipette is covered with a channel and the current through the channel is measured.
ANSWER: **patch-clamp** recording

11. This playwright produced William Churchill deMille's play *The Warrens of Virginia*, which helped launch the career of Mary Pickford. For 10 points each:
[10] Name this author of the play *The Girl of the Golden West*. In *The Great Gatsby*, Owl Eyes compares Gatsby to this playwright after realizing that the books in his library aren't fake.
ANSWER: David **Belasco** [or "a regular **Belasco**"]
[10] Belasco is credited with popularizing this European theatrical movement in the United States. August Strindberg's *Miss Julie* is in this realistic genre, which had its roots in the novels of Emile Zola.
ANSWER: **naturalism** [accept word forms]
[10] This German naturalistic dramatist authored the play *The Weavers*. Mother Wolff steals the title object from Kruger to sell to Wulkow in this author's play *The Beaver Coat*.
ANSWER: Gerhart **Hauptmann**

12. This composer's piano works include a set of six *Romanian Folk Dances*. For 10 points each:
[10] Name this Hungarian 20th century composer of *Concerto for Orchestra*; *Mikrokosmos*; and *Music for Strings, Percussion, and Celesta*.
ANSWER: Béla **Bartók**
[10] Bartók wrote this many string quartets. Haydn's string quartets were usually published in sets of this many. Beethoven's Opus 18 contains this many quartets, and Mozart wrote this many "Haydn" quartets.
ANSWER: **six**
[10] In 1937, Bartók wrote an extremely difficult sonata for this unusual combination of instruments. He later orchestrated that work as a concerto for this ensemble.
ANSWER: **two pianos** and **percussion** [accept *Sonata for Two Pianos and Percussion*; accept *Concerto for Two Pianos and Percussion*; accept the instruments in either order, but do not accept or prompt on a partial answer; accept answers listing all of the specific percussion instruments, or indicating that the work requires two percussionists]

13. During this war, a newspaper headline reading "Gotcha" was quickly changed to "Did 1,200 Argies Die?" For 10 points each:

[10] Name this war fought by the UK under Margaret Thatcher against Argentina over some South Atlantic islands.
ANSWER: **Falklands** War
[10] The "Gotcha" headline was printed by this tabloid newspaper. It claimed to be "wot won it" after mocking Labour Party leader Neil Kinnock during the 1992 election.
ANSWER: *The **Sun***
[10] Kelvin Mackenzie, editor of *The Sun*, supposedly warned John Major that their coverage of this event would not be positive. On this day, Major withdrew the pound from the European Exchange Rate Mechanism.
ANSWER: **Black Wednesday** [or **September 16, 1992**]

14. This boundary lies at approximately 100 kilometers above sea level. For 10 points each:
[10] Identify this "line" named for a Hungarian-American mathematician that represents the boundary between outer space and Earth's atmosphere.
ANSWER: **Kármán** line
[10] Kármán also names a "street" of these entities, which form above a critical Reynolds number. These are the areas where fluid is rotational, so they give rise to a namesake term that is the curl of the velocity field.
ANSWER: **vortex** [or **vortices**; accept **Kármán vortex street** or **sheet**; accept **vorticity**]
[10] This physicist and Kármán name a set of periodic boundary conditions under which a wave function must be periodic on a Bravais lattice.
ANSWER: Max **Born**

15. Answer some questions about the *Nicomachean Ethics*. For 10 points each:
[10] *Nicomachean Ethics* is the premier work of ethical philosophy written by this student of Plato.
ANSWER: **Aristotle**
[10] In Book VIII of the *Nicomachean Ethics*, Aristotle championed a form of this concept based on the good. He claimed that that form of this concept was superior to those based on pleasure or utility.
ANSWER: **friend**ship
[10] Aristotle also explicates this belief, which states that all virtues of character lie in between two extreme vices. As an example, he defines bravery as a virtue existing between the vices of cowardice and rashness.
ANSWER: **doctrine of the mean** [or **golden mean**]

16. Joseph McCarthy once suggested that striking members of this profession be drafted into the army and court-martialed for insubordination. For 10 points each:
[10] Name this profession whose members joined John L. Lewis's UMW. In 1902, members of this profession who harvested anthracite in Pennsylvania went on strike.
ANSWER: **coal** miners [prompt on "miners"]
[10] During this incident in West Virginia, thousands of coal miners clashed with the Logan Defenders and Baldwin–Felts detectives for several days. This confrontation was preceded by a shootout at Matewan.
ANSWER: Battle of **Blair Mountain**
[10] This secret society of Irish coal miners used the Ancient Order of Hibernians as a front and was infiltrated by Pinkerton agent James McParland.
ANSWER: **Molly Maguire**s

17. A hag in this location was distracted by a headdress that turned into a bunch of grapes. For 10 points each:
[10] Izanagi went to this Shinto underworld to bring back Izanami, but he broke a promise to not look at her, resulting in his having to clean out his eyes.
ANSWER: **Yomi**-no-kuni [do not accept "Yami"]
[10] The kami responsible for this phenomenon is accompanied by a creature whose body is made of lightning. That kami, Raijin, uses drums to create this phenomenon.
ANSWER: **thunder**

[10] This imperial relic of Japan was moved to Atsuta Shrine after being blamed for the illness of Emperor Temmu. Yamato Takeru used it to extinguish a fire and control the wind.
ANSWER: **Kusanagi**-no-Tsurugi [or **Grass-Cutting** Sword; or **Ama-no-Murakumo**-no-Tsurugi]

18. In this play, Hippolita attempts to poison Soranzo at his wedding feast, but is poisoned herself by Vasquez. For 10 points each:
[10] Name this play by John Ford which ends with the Cardinal making the title declaration about Annabella, who was killed by her brother and lover Giovanni.
ANSWER: *'Tis Pity She's a Whore*
[10] Ford also wrote a play about Perkin Warbeck, who plans to usurp a holder of this position. This position is held by a Shakespeare character who gives the St. Crispin's Day speech, Henry V.
ANSWER: **King** of **England** [or anything indicating the monarch/ruler of **England**]
[10] In the last scene of *'Tis Pity She's a Whore*, Giovanni appears with one of these objects on his knife. A Ford play titled for one of them ends with Calantha dancing as she learns of the death of her father, her lover, and Penthea.
ANSWER: **heart**s [or *The Broken **Heart***]

19. A painting in this series features a woman in a white dress and red robe floating over several people on horseback approaching a tabled mountain. For 10 points each:
[10] Name this collection of paintings now held in the Prado, whose entries include *Fantastic Vision* and *Atropos*.
ANSWER: *Black Paintings* [or *Pinturas Negras*]
[10] The most famous of Goya's *Black Paintings* features this mythological Titan taking a massive bite out of his son.
ANSWER: **Saturn** [or **Cronus**]
[10] In this other painting from the series, two men up to their knees in a swamp flail wildly at one another with the title objects.
ANSWER: *Fight With Cudgels* [or *Duel with Cudgels* or *Duelo a garrotazos*]

20. Caesar used this type of cipher in which the letters of the alphabet were rotated by three places. For 10 points each:
[10] Name this primitive encryption scheme in which the namesake operation is carried out on each letter in the plaintext. For example, the key 3 and the plaintext "HI" results in the ciphertext "KL."
ANSWER: **shift** cipher

Commented [4]: make this easier

[10] Given a cyclic group and generator g, the decisional version of this doubly-eponymous problem is to distinguish between a random group element and g raised to the quantity discrete log of x times discrete log of y for randomly chosen x and y.
ANSWER: decisional **Diffie–Hellman** problem [accept D**DH**P or variants]
[10] This public-key encryption scheme relies on the hardness of the Diffie–Hellman problem. Given a cyclic group, generator g, and message m, the ciphertext is (c_1, c_2) where c_1 is g to the y, and c_2 is m times g to the xy, where x and y are random group elements. The decryption algorithm merely computes c_2 divided by c_1 to the x.
ANSWER: **Elgamal** encryption scheme