PACE NSC 2011
Edited by Mike Bentley, Matt Bollinger, Rob Carson, Kyle Haddad-Fonda, Hannah Kirsch,
Trygve Meade, Bernadette Spencer, Guy Tabachnick, and Andy Watkins

Packet 3

Tossups

1. **In the opening chapter of *Capitalism, Socialism, and Democracy,* Joseph Schumpeter discusses this man's divergent roles as both an economist and a sociologist. In one work, he wrote that so far, philosophers had merely defined the world, but that the point was to change it. In addition to writing his *The German Ideology* and *Theses on* (*)** *Feuerbach,* this sociologist described a concept that arises when social relationships between people become objectified into a commodity relation, which he termed commodity fetishism. For 10 points, name this man who divided society into the bourgeoisie and the proletariat in his work *Capital*, which he co-wrote with Friedrich Engels.
ANSWER: Karl Heinrich **Marx**
<Meade>

2. **A 2011 *Science* paper produced by the HiRISE project explained how, on Mars, these objects can become destabilized by the sublimation of dry ice. Like yardangs and loess, they are produced via Aeolian processes, which include saltation, surface creep, and suspension. Types of these geologic objects include barkhans and draa, and both (*)** "fossilized" ones and those that "move" are found in ergs. "Reversing" ones are formed where seasonal winds blow in different directions. For 10 points, name these large accumulations of sand.
ANSWER: **sand dune**s
<Wynne>

3. **This figure's son, Polites, was slain in front of his eyes. This man was originally named Podarces before being sold into slavery by Heracles and rescued by Hesione. This man's wife transformed into a rabid dog in her grief. This man's daughter (*)** Polyxena was sacrificed on the tomb of Achilles. This figure was killed on the altar of Zeus by Neoptolemus. His one hundred children included Paris and Hector. For 10 points, name this husband of Hecuba and king of Troy during the Trojan War.
ANSWER: **Priam**
<Angelo>

4. **Serving under the Earl of Essex with John Norreys, this man was responsible for massacring a large contingent of the MacDonnell Clan on Rathlin Island, and he once executed an officer named Thomas Doughty. Early in his career he returned home in defeat on the *Judith* after losing at San Juan de Ulua, and he made his initial fortune after capturing a mule-train during an attack on the city of Nombre de Dios. On a later campaign, he discovered (*)** "New Albion" and attacked Valparaiso before buying spices in the Moluccas. He also "[singed] the king of Spain's beard" in a 1587 raid on Cadiz. He began his most famous expedition on the *Pelican*, which was later renamed the *Golden Hind*. For 10 points, name this sea dog, the first Englishman to circumnavigate the globe.
ANSWER: Sir Francis **Drake**
<Bentley>

5. **People in this work claim twice that "the ear tastes arguments like the palate tastes food." The subject of a 35-volume commentary by Saint Gregory, the *Moralia,* its title figure gives a speech that mentions a mysterious "Pit" four times, and elsewhere in this text he originates the phrase "by the skin of my teeth." Another speech references the first of God's creations, the river-drinking Behemoth, and asks if a fish-hook can lift Leviathan. Set in the land of Uz, this book features Elihu's speech after (*)** Eliphaz, Bildad, and Zophar visit a man stricken by disease after a house collapsed on his seven sons and three daughters. For 10 points, name this poetic Biblical book in which Satan asks God to test the title wealthy man's piety with suffering.
ANSWER: Book of **Job**
<Jackson>

6. **Examples of these entities like geletin and lipid bilayers are sometimes described as *meso*, much as are examples such as the "smectic" and "nematic." Transitions between these entities may include spinodal decompositions and are classified by (*)** Ehrenfest. The number of these entities coexisting in equilibrium is set equal to two plus the number of components minus the number of degrees of freedom in a rule formulated by Gibbs. Two of these entities become indistinguishable at temperatures and pressures above the critical point. For 10 points, name these entities, exemplified by solid, liquid, and gas ones.
ANSWER: **phase**s
<Watkins>

7. **The protagonist of this novel invokes God by saying "*Tixo, tixo,* forsake me not." That protagonist meets a woman pregnant with his son's child when he visits Shanty Town in this novel, which opens with the description of a (*)** "lovely road" to Ixopo. Characters who help the protagonist include the landlady Mrs. Lithebe and the priest Theophilus Msimangu. The protagonist of this novel tries to find his sick sister Gertrude in Johannesburg, where he discovers that his son Absalom has murdered Arthur Jarvis. For 10 points, name this novel about Stephen Kumalo by Alan Paton.
ANSWER: *Cry, the Beloved Country*
<Nediger>

8. **One memoir recounting this period was written by the author of "The Red Carnation," poet and schoolteacher Louise Michel. Several people who appeared in a photograph with a fallen statue by the destroyed Vendôme column during this period were later tracked down; many others involved in this event were executed at the Wall of the Federalists, and thousands were imprisoned on the island of New Caledonia. It attempted to exchange several of its prisoners for Louis Auguste (*)** Blanqui, and, after actions like seizure of cannons on the Butte of Montmartre and burning of Hotel de Ville, the "Bloody Week" led to its defeat by Adolphe Thiers's opposition. For 10 points, name this 1871 Marxist uprising that briefly took over the capital of the newly formed French Third Republic.
ANSWER: Second Paris **Commune** [or **Communards**]
<Jackson>

9. **This man states that morality has a "foothold in the universe" in his essay "The Moral Philosopher and the Moral Life," which appears in a collection with an essay using the example of having faith in crossing a ledge. This man cast aside the notion of a succession of ideas in favor of a "stream of consciousness" (*)** in addition to arguing that the focus of spirituality should lie in what he termed religious "genius." Another of his works contrasts the "religion of healthy-mindedness" with "the sick soul." The most famous work by this author of "The Will to Believe" suggests that one ought to value truth only so much as it is useful. For 10 points, identify this author of *The Varieties of Religious Experience* and *Pragmatism*.
ANSWER: **W**illiam **James** [prompt on **James**]
<Angelo>

10. **This instrument plays the opening theme of Roy Harris's third symphony, and the fifth of Heitor Villa-Lobos's *Bachianas Brasileiras* is written for soprano and eight of these. Tchaikovsky wrote a set of *Rococo Variations* for this instrument, which represents the title knight in Richard Strauss's *Don Quixote*. Twentieth-century masters of this instrument include János Starker. It is the solo instrument in Max Bruch's *Kol Nidrei*. A B minor concerto for this instrument dedicated to Hanus Wihan was written by (*)** Antonin Dvořák. J.S. Bach's six suites for this instrument were recorded by Pablo Casals. For 10 points, name this stringed instrument played by Mstislav Rostropovich and Yo-Yo Ma whose range lies between those of the viola and double bass.
ANSWER: violon**cello**
<Rosenberg>

11. **In oceanography, the proportionality coefficient in this law is denoted alpha and equals 22,400 times this law's namesake constant, while in medicine, the proportionality constant is denoted beta and is equal to one over the law's namesake constant. That constant is the limit as the mole fraction goes to zero of the (*)** fugacity divided by the mole fraction. The van't Hoff extrapolation predicts that constant's value at a different temperature using the enthalpy of solution. This law does not apply to liquid-liquid extraction, in which Raoult's law is more accurate. For 10 points, name this law stating that the concentration of gas dissolved in a liquid is proportional to the partial pressure of the gas above the liquid.
ANSWER: **Henry**'s Law
<Wynne>

12. **The epilogue to this play reveals that one character outgrew the pompousness of Largelady Lane by reading the novels of H.G. Wells. This play opens during a torrential downpour in Covent Garden, where the "Note Taker" is suspected of being a policeman. Characters in this play include the scolding but upright housekeeper Mrs. Pearce and the protagonist's love interest (*)** Freddy Eynsford Hill. In this play, a professor of phonetics makes a bet with his colleague Colonel Pickering that he can change a Cockney girl into a duchess. For 10 points, name this play about Henry Higgins and Eliza Doolittle written by George Bernard Shaw.
ANSWER: ***Pygmalion***
<Bollinger>

13. **At a site forty kilometers southwest of this city, Johan Gunnar Andersson made his most famous discovery in the caves of "Chicken Bone Hill." Natives of this city were expelled from the Legation Quarter after a rebellion was put down by the Eight-Nation Alliance. Students in this city criticized the concessions made in the Treaty of Versailles in the May Fourth Demonstrations. Its Summer Palace was constructed by the (*)** Jurchens, who called it Zhongdu, while it was called Dadu as capital of the Yuan Empire. This city is at one end of a waterway whose other terminus is Hangzhou; that waterway is the Grand Canal. The former capital of the Manchu Dynasty, for 10 points, name this home to the Forbidden City, the capital of China.
ANSWER: **Beijing** [or **Pei-ching;** or **Peking;** or **Yanjing;** or **Cambuluc;** or **Beiping**; accept **Zhongdu** or **Dadu** before mentioned]
<Bentley>

14. **Pools of industrial waste line the banks of this river in Almasfuzito, and sludge from an aluminum plant spill in Ajka reached this river in October 2010. In 2000, two tributaries of this river were devastated by a cyanide spill at Baia Mare, a gold mine on the Somes River. Industrial cities on this river include Novi Sad, the capital of Vojvodina, and (*)** Linz, and this river is joined by the Morava, the Drava, and the Tisza. Rising in the Black Forest, it is dammed on the border between Serbia and Romania. Before it empties into the Black Sea, what river, for 10 points, flows through Budapest, Belgrade, and Vienna?
ANSWER: **Danube** River [or **Duna** River; or **Donau** River]
<Haddad-Fonda>

15. **This artist created a torso of a man with his belly out and the stubs of his limbs splayed in a work depicting Marsyas similar to his full-body *The Falling Man*. One of this man's sculptures shows three nude men with their heads bent together and their left arms limply outstretched together with their hands meeting. This artist of *The Three Shades* also created an armless, headless figure, his (*)** *Walking Man*. He was accused of using a live model for one work, while another was a rejected depiction of an enrobed Honoré de Balzac. He depicted Paolo Malatesta and Francesca di Rimini locked in embrace in another work. For 10 points, name this sculptor of *The Age of Bronze* whose unfinished *Gates of Hell* included versions of *The Kiss* and *The Thinker*.
ANSWER: François-Auguste-René **Rodin**
<Tabachnick>

16. **One story in this work tells of a girl who plants her lover's head in a pot of basil after her three brothers kill him. This work inspired a similar French one by Marguerite de Navarre. In the first story from this work, a wicked notary pretends to be a virgin while giving his last confession to a friar and is revered as a saint after dying. In the final story of this work, a young nobleman pretends to kill both of his children and take a new bride in order to (*)** test his wife, the patient Griselda. In this work's frame tale, a group of youths, including the author's muse Fiammetta, take refuge from the bubonic plague for ten nights. For 10 points, name this collection of one hundred stories by Giovanni Boccaccio.
ANSWER: The **_Decameron_** [or Il **_Decamerone_**]
<Nediger>

17. **One section of this organ is connected to the diaphragm by the ligament of Treitz, and the failure of this organ's omphalomesenteric duct to close after birth causes Meckel's diverticulitis. Brunner's glands secrete alkaline fluid into it. This organ contains clumps of lymphoid tissue called (*)** Peyer's patches, and the liver and pancreas drain into it through the sphincter of Oddi. Enzymes are secreted in its crypts of Lieberkuhn, and mucosal secretions facilitate peristalsis in this organ, whose surface area is increased by fingerlike projections called villi. For 10 points, name this organ of the digestive system, the site of nutrient absorption.
ANSWER: **small intestine** [prompt on **intestine**; prompt on **jejunum**, **ileum**, or **duodenum**]
<Kirsch>

18. **Workers in a sit-down strike in this state were assisted by the Women's Emergency Brigade and were not harassed by Governor Frank Murphy. Its largest city was the site of the 12th Street Riot. A system giving extra admission points to racial minorities was ruled unconstitutional although Affirmative Action itself was not banned in Supreme Court cases appealed from this state named (*)** _Gratz_ and _Grutter v. Bollinger._ A president who had earlier been a congressman from this state ordered an operation to rescue the crew of the Mayaguez and controversially pardoned his predecessor, Richard Nixon. Home to Gerald Ford, for 10 points, name this state where in 1937 UAW workers engaged in a lengthy strike in its city of Flint.
ANSWER: **Michigan**
<Rosenthal>

19. **This artist painted works like _The Herring Net_ and _West Point_ from his studio in Prout's Neck. An unconscious figure is rescued on a zip line in one work, and a solitary farmer holds a scythe in front of a sea of wheat in another. This artist of _The Life Line_ and _The Veteran in a New Field_ painted four men with hats looking left on a tilting sailboat called the _Gloucester_. A group of boys link arms in front of a farmhouse playing the title game in (*)** _Snap the Whip_. One painting by this artist of _Breezing Up_ sees a dark-skinned man resting on a boat as sharks surround him. For 10 points, name this American painter of _The Gulf Stream_.
ANSWER: Winslow **Homer**
<Bentley>

20. **In one poem, this man recalls seeing a "witches' broth" of "assorted characters of death and blight/mixed ready to begin the morning right." Another of this man's poems, titled after a line from Macbeth, sees a young child fatally injured when a saw "leaped out at the boy's hand." This author of "Out, Out—" and (*)** "Design" notes that "one could do worse than be a swinger of" the title trees in "Birches." He criticizes a man who claims that "good fences make good neighbors" in "Mending Wall." For 10 points, name this American poet of "Stopping by Woods on a Snowy Evening" and "The Road not Taken."
ANSWER: Robert **Frost**
<Angelo>

21. **Cohen-Macaulay rings are noetherian local rings with this property with Krull dimension equal to their depth, and only rings with this property have a single nilradical. Diagrams named for this property are studied in (*)** category theory. Groups whose product has this property are called abelian. This property does not hold for matrix multiplication or for subtraction. For 10 points, name this property of an operation such that the order of the operands does not change the result, which holds for addition because *x* plus *y* equals *y* plus *x*.
ANSWER: **commutativity**
<Watkins>

22. **One of this author's characters engages in bizarre money-making schemes and is named StanleyUkridge. In another of his novels, Mike Jackson is the nemesis of the banking executive John Bickersdyke, and befriends one of the recurring characters created by this author. In another novel, that character finds himself against the mob as he takes over a weekly publication, and in another work, he gains entry into (*)** Blanding Castle to steal a necklace for Freddie. This author wrote about a dandy who is a friend of Bingo Little and Tuppy Glossop and is a member of the Drones Club. For 10 points, identify this British author who wrote about Bertie Wooster and his butler Jeeves.
ANSWER: Pelham Grenville **Wodehouse**
<Gautam Kandlikar>

23. **The Battle of Morar in this conflict allowed Hugh Rose to conquer Gwalior. Henry Lawrence died trying to defend a besieged city ultimately relieved twice during this conflict, once by Henry Havelock and once by Colin Campbell. This conflict began in Meerut and featured a massacre at Bibi Ghar. Mangal Pandey was the first person to die in this conflict. Tatya Tope ["*toh-pay*"] led the troops that conquered (*)** Kanpur during this conflict, which also involved two sieges of Lucknow. It was sparked in part by the Enfield rifle, whose cartridges contained animal fat, and it led to the demise of the British East India Company. For 10 points, name this 1857 revolt of Indian officers.
ANSWER: **Sepoy Mutiny**; or **Sepoy Revolt** [or **India's First War of Independence;** accept any plausible answer involving the year **1857** and a word like **revolt** or **uprising** prior to the mention of that year; prompt on **Indian Mutiny** or equivalent before the mention of the word "India"]
<Haddad-Fonda>

PACE NSC 2011
Edited by Mike Bentley, Matt Bollinger, Rob Carson, Kyle Haddad-Fonda, Hannah Kirsch,
Trygve Meade, Bernadette Spencer, Guy Tabachnick, and Andy Watkins

Packet 3

Bonuses

1. The founder of this movement saw the second coming of Christ during a solar eclipse. For 10 points each:
[10] Identify this movement founded by Wovoka.
ANSWER: **Ghost Dance** Religion
[10] The Ghost Dance Religion came to a violent end at this 1890 "battle" in which over 300 Lakota Sioux practitioners were slaughtered by the U.S. Army.
ANSWER: Battle of **Wounded Knee** [or **Wounded Knee** Massacre]
[10] The Wounded Knee Massacre was prompted in part by Native American reaction to the attempted arrest and subsequent death of Sitting Bull, who had earlier defeated George Custer at this battle.
ANSWER: Battle of **Little Bighorn**
<Wynne>

2. It insists women should remain silent in church, claims its author "put away childish things" as a man, and seeks to define *agape,* often translated as "love." For 10 points each:
[10] Identify this work whose thirteenth verse claims we now "see through a glass, darkly."
ANSWER: **1**st Epistle to the **Corinthians** [or **First Corinthians**; or **Corinthians 1**]
[10] 1st Corinthians, like the other New Testament epistles, was written by this apostle, who was imprisoned with Silas and changed his name on the road to Damascus.
ANSWER: Saint **Paul** of Tarsus [prompt on **Saul**]
[10] Paul's epistle to Philemon concerns one of these people named Onesimus. Their status during Biblical times was altered every forty-nine years during the Jubilee.
ANSWER: a fugitive **slave** [prompt on **runaway** or equivalents]
<Jackson>

3. These beings owned a cap of invisibility called the Tarnkappe, and they were bred from the dead corpse of Ymir. For 10 points each:
[10] Name these diminutive beings in Norse myth who include the sons of Ivaldi and are known for their smithing abilities.
ANSWER: **dwarves**
[10] The dwarves forged this beautiful necklace for the goddess Freya.
ANSWER: **Brisingamen**
[10] With his brother Sindri, this dwarf created the boar Gullinbursti and the ring Draupnir, despite the harassment of Loki in the form of a gadfly. After winning his bet against Loki, this dwarf sewed the trickster's mouth shut.
ANSWER: **Brock**
<Bollinger>

4. Graham's law states that the rate at which this process occurs through a small pore is inversely proportional to the square root of the molar mass of the particles undergoing it. For 10 points each:
[10] Name this type of passive transport, the movement of particles from a region of higher concentration to one of lower concentration.
ANSWER: **diffusion**
[10] According to this law, the flux of particles undergoing diffusion is proportional to the concentration gradient of the two regions between which diffusion is occuring.
ANSWER: **Fick**'s first law
[10] The Goldman-Hodgkins-Katz equation is used to find electrodiffusion in the Nernst equation, which relates chemical potential to the log of this quantity. It is the general case of the equilibrium constant for reactions not necessarily at equilibrium.
ANSWER: **reaction quotient**
<Kirsch>

5. He lost an election to Jorge Alessandri before finally creating a winning coalition with Popular Unity in the 1970 election. For 10 points each:
[10] Identify this South American leader who drew the ire of the U.S. when he nationalized the copper industry, leading to his ouster that was possibly backed by Henry Kissinger.
ANSWER: Salvador Isabelino del Sagrado Corazón de Jesús **Allende** Gossens
[10] Salvador Allende was replaced by Augusto Pinochet as ruler of this nation in 1973.
ANSWER: Republic of **Chile** [or República de **Chile**]
[10] One of the justifications for the coup against Allende was that his government was smuggling in weapons from Cuba. During the same time period, Cuba was also supporting the MPLA against the FLNA and UNITA in this war-torn Portuguese-speaking country.
ANSWER: Republic of **Angola** [or República de **Angola**]
<Bentley>

6. In this inset narrative, set within eight concentric spheres of different colors presided over by the three Fates, Orpheus chooses reincarnation for himself as a swan and for Ajax as a lion. For 10 points each:
[10] Name this tale whose namesake man revived after being dead. According to it, each person chooses their next life based on their personality and level of individual justice in the present life.
ANSWER: **myth of Er** [accept fable, story, etc. in place of myth]
[10] Socrates relates the myth of Er in Book X of this work, in which analogies for the theory of Forms include an allegorical cave and the nature of justice in the soul is examined by analogy to a perfect city.
ANSWER: Plato's _**Republic**_ [or _**Politeia**_]
[10] In that same work, Plato argues for the creation of this class of people, who have the power to set the rules for the rest of society without limit because of their wisdom and ability to tell the "noble lie."
ANSWER: **philosopher-king**s
<Angelo>

7. In this novel, David Lurie is fired from his professorship after he begins a sexual relationship with a student. For 10 points each:
[10] Name this novel in which Lurie's daughter Lucy is brutally raped at her farm.
ANSWER: _**Disgrace**_
[10] _Disgrace_ is by this South African Nobel Laureate, the author of _Waiting for the Barbarians_, _The Life and Times of Michael K.,_ and _Elizabeth Costello_.
ANSWER: John Michael **Coetzee**
[10] This novel by Coetzee is about Fyodor Dostoyevsky. This novel, mostly based off of the "At Tikhon's" chapter of _The Demons_, also features Sergey Nechayev.
ANSWER: _The **Master of Petersburg**_
<Rosenthal>

8. This man painted _Parkways_, a series of urban landscapes. For 10 points each:
[10] Name this abstract expressionist who did a series of six paintings of the title figure from the knees up with wide features and prominent breasts, his _Women_ series.
ANSWER: Willem **de Kooning**
[10] This artist once erased a drawing by de Kooning and put the results on display. He's more famous for works like _Canyon_ that mixed painting, collage, and sculpture, his "combines."
ANSWER: Robert **Rauschenberg**
[10] Rauschenberg and de Kooning were contemporaries of this American action painter, derisively known as "the Dripper" thanks to characteristic works like _Lavender Mist_.
ANSWER: Paul Jackson **Pollock**
<Bentley>

9. Identify the following about the daily life in ancient Greece, for 10 points each.
[10] Men of leisure were typically seen discussing topics of interest in this outdoor public assembly, essentially the Greek equivalent of the forum. Markets also took place in this location.
ANSWER: _**agora**_
[10] A typical day for an ancient Athenian may have involved partaking in one of these following athletic activities at a gymnasium. Until the late fifth century B.C.E., steam was not used in them, unlike the later Roman fashion.
ANSWER: public **bath**s
[10] The ancient Greeks often decorated these objects in the black or red figure style.
ANSWER: **pottery** [or **pot**s or **ceramic** ware; accept equivalents like **vases** or **jugs** or **containers**]
<Bentley>

10. Synthesis of this biomolecule involves the condensation of three molecules of acetyl CoA and then reduction to mevalonate. For 10 points each:
[10] Name this steroid whose synthesis in the liver can be inhibited by statins.
ANSWER: **cholesterol** [the usual instructions in the event that someone gives the IUPAC name apply]
[10] Molecules of cholesterol are integrated into this structure to help regulate its fluidity. This structure is a phospholipid bilayer that defines and protects the cell.
ANSWER: cell **membrane** [or plasma **membrane**]
[10] Phospholipids form an effective bilayer because they have this property, meaning that one end of the molecule is hydrophobic and the other is hydrophilic.
ANSWER: **amphipathic**ity [or **amphiphilic**ity]
<Kirsch>

11. Answer these questions about unstable governments in West Africa for 10 points each.
[10] Alpha Condé won a 2010 election in this West African country to take power from a military faction that pulled off a 2008 coup in its capital city of Conakry.
ANSWER: Republic of **Guinea**
[10] Umaru Yar'Adua died in May 2010, allowing Acting President Goodluck Jonathan to formalize his *de facto* rise to power in this country.
ANSWER: Federal Republic of **Nigeria**
[10] Mohamed Ould Abdel Aziz led a military coup in this country in 2008, then resigned from the military to run for president in 2009. Surprisingly, he won!
ANSWER: Islamic Republic of **Mauritania**
<Haddad-Fonda>

12. One man's use of this instrument on "Sing, Sing, Sing" gained him fame, while another had an epic five-minute solo on the track "The Monster". For 10 points each:
[10] Name this instrument whose jazz practitioners included Gene Krupa and Buddy Rich.
ANSWER: **drums**
[10] Krupa's work on "Sing, Sing, Sing" came as a member of the orchestra of this clarinetist, the so-called "King of Swing". He also worked with Charlie Christian and Jess Stacy.
ANSWER: Benjamin David "Benny" **Goodman**
[10] Early in his career, this saxophonist nicknamed "Yardbird" played swing. He's best known for songs like "Koko", "Billie's Bounce", and "Ornithology".
ANSWER: Charlie **Parker**, Jr.
<Rosenthal>

13. This play opens, following a prologue delivered by a book-keeper, as three men plot to win Dame Purecraft from Zeal-of-the-Land Busy. For 10 points each:
[10] Name this play featuring Littlewit, Quarlous, and Winwife, which ends when Justice Overdo's wife vomits and he forgives everyone for their "enormities."
ANSWER: *__Bartholemew Fair__*
[10] In this other work by the author of *Bartholemew Fair*, Face, Subtle, and the prostitute Dol Common deceive Sir Epicure Mammon into thinking they possess the philosopher's stone.
ANSWER: *The __Alchemist__*
[10]This 16th-century British playwright wrote *Every Man in his Humour* and *The Alchemist*, in addition to *Volpone*.
ANSWER: Ben __Jonson__
<Bollinger>

14. The Battle of Kazan took place during this rebellion. For 10 points each:
[10] Identify this rebellion whose namesake claimed to be Peter III.
ANSWER: __Pugachev__'s rebellion [or __Pugachov__'s rebellion]
[10] Pugachev's rebellion took place during the reign of this Russian tsar. This wife of the actual Peter III formed the first League of Armed Neutrality and sponsored intellectuals like Voltaire.
ANSWER: __Catherine the Great__ [or __Catherine II__; or __Sophie__ Friederike Auguste von Anhalt-Zerbst-Dornburg; or __Yekaterina II__ Velikaya]
[10] This general was one of Catherine's many lovers. He lends his name to some artificial villages created along the Dnieper River, and to a ship whose crew notably mutinied in 1905.
ANSWER: Prince Grigory Aleksandrovich __Potemkin__-Tavricheski
<Cohen>

15. Georg Cantor proposed two "cardinalities" for this concept, one called "aleph-null" for sets that can be put into one-to-one correspondence with the natural numbers and another called "aleph-one" for sets that cannot. For 10 points each:
[10] Name this conceptual value ascribed to the secant of pi over 2 and the cosecant of 0, which is greater than all other values.
ANSWER: __infinity__
[10] This hypothesis, unprovable with or without the axiom of choice, literally drove Cantor insane. It states that aleph-one is the cardinality of real numbers, that the power set 2 to the aleph-null equals aleph one, and that no set has cardinality between aleph-null and aleph-one.
ANSWER: __continuum__ hypothesis
[10] Cantor used an argument with this name to show the existence of uncountably infinite sets. In a matrix of this type, all entries are 0 unless the row number equals the column number for the entry.
ANSWER: __diagonal__ argument [or __diagonal__ization argument; or __diagonal__ matrix]
<Jackson>

16. Name these medieval and Renaissance composers, for 10 points each.
[10] This man apocryphally saved polyphonic music with his *Pope Marcellus Mass*. This choirmaster of the Cappella Giulia wrote over one hundred masses.
ANSWER: Giovanni Perluigi da **Palestrina**
[10] This Englishman composed a forty-part motet called *Spem in alium*, and the third of his *Nine Psalm Tunes for Archbishop Parker's Psalter* was used as a theme for a countryman's work over three hundred years later.
ANSWER: Thomas **Tallis**
[10] This twelfth-century German woman, known as the "Sibyl of the Rhine," composed the liturgical drama *Ordo Virtutum* on the struggle of Anima, or the soul. Her many visions were probably the result of migraines.
ANSWER: **Hildegard** **von Bingen** [accept either underlined part]
<Rosenberg>

17. At several points in this story, the central characters wonder, "Why, in the name of the name of the seven mad gods, was I allowed to come thus far?" For 10 points each:
[10] Name this story, which begins "None of them knew the color of the sky."
ANSWER: "The **Open Boat**"
[10] This author of *Maggie: A Girl of the Streets* and *The Red Badge of Courage* wrote "The Open Boat."
ANSWER: Stephen **Crane**
[10] This other Crane story ends with Scratchy Wilson saddened that Sherriff Jack Potter can no longer chase him due to his recent marriage.
ANSWER: "The **Bride Comes to Yellow Sky**"
<Cohen>

18. Name these novels by Vladimir Nabokov, for 10 points each.
[10] This novel follows the title immigrant, who finds happiness at a retreat called The Pines but is ultimately fired by Dr. Hagen.
ANSWER: ***Pnin***
[10] In this novel, Humbert Humbert pursues the title nymphet, whose real name is Dolores Haze.
ANSWER: ***Lolita***
[10] This novel consists of a 999-line poem by John Shade and commentary on it by a man who may or may not be named Charles Kinbote.
ANSWER: ***Pale Fire***
<Nediger>

19. Internal forces are generally not included on them because they do not affect motion. For 10 points each:
[10] Identify these diagrams from Newtonian mechanics that display all the external forces acting on an object to aid in solving Newton's second law.
ANSWER: **free-body** diagrams [or **FBD**s]
[10] These forces that act to move an object away from the center of rotation are fictitious and generally not includeed on FBDs, but they still must be accounted for in non-inertial reference frames for Newton's laws to hold.
ANSWER: **centrifugal** force
[10] This man reformulated classical mechanics through two equations that relate position and momentum through a namesake quantity equal to the total energy of the system, thus eliminating the need for FBDs.
ANSWER: William **Hamilton** [accept equivalents like **Hamiltonian** mechanics]
<Rosenberg>

20. Alfred Binet was one of the first people to measure this quantity, resulting in a widely used "quotient." For 10 points each:
[10] Name this psychological quantity that refers to how good people are at thinking.
ANSWER: **intelligence**
[10] IQ tests generally measure this quantity, which refers to generalized intelligence. It was first proposed by Charles Spearman.
ANSWER: Spearman's **g** factor
[10] This test evaluates not intelligence, but personality. It possesses ten clinical scales including hysteria and hypomania, totalling hundreds of items in all. It was developed by Hathaway and McKinley at the namesake university..
ANSWER: **MMPI** [or **Minnesota Multiphasic Personality Inventory**]
<Meade>

21. This poem recounts that "I go among your body as among the world" and that "you go as naked as my thoughts go naked." For 10 points each:
[10] Name this poem, which begins with an image of a "willow of crystal, a poplar of water."
ANSWER: "**Sun Stone**"
[10] The author of "Sun Stone" hailed from this country, which is also home to the author of *The Death of Artemio Cruz*, Carlos Fuentes.
ANSWER: **Mexico** [or United **Mexican** States; or Estados Unidos **Mexicanos**]
[10] This Mexican poet of "Sun Stone" and author of *The Labyrinth of Solitude* and *The Bow and the Lyre*.
ANSWER: Octavio **Paz** Lozano
<Nediger>

22. Identify the following about the revolutions of 1848, for 10 points each.
[10] The February Revolution in France brought down this final French king and successor to Charles X.
ANSWER: **Louis Philippe** I [or **Louis Philippe** III, Duke of Orleans]
[10] This modern-day country witnessed a failed 1848 to 1849 revolution. It was briefly led by President Lajos Kossuth before Franz Joseph regained control.
ANSWER: **Hungary**
[10] A ruler of this name was on the throne of Denmark when the First Schleswig War broke out in 1848. A Holy Roman Emperor of this name, called the Antichrist by Pope Gregory IX, was known as "stupor mundi."
ANSWER: **Frederick**
<Bentley>

23. [Note to moderators: do not read the "accept" line in the first part of this bonus to teams, since it contains an answer that is also the third part of this bonus.]
One of these laws, in its currently most accepted form, excludes the existence of magnetic monopoles. For 10 points each:
[10] Name this set of four laws of electromagnetism, which also includes Ampère's Law.
ANSWER: **Maxwell**'s equations [accept any of the three names in "Maxwell-Heaviside-Hertz equations," or combinations thereof in any order]
[10] Maxwell refined the original formulation of Ampère's Law by adding this term to it, equal to the vacuum permittivity times the time-derivative of the electric flux.
ANSWER: **displacement** current
[10] Maxwell's equations were refined by this English engineer, whose name is sometimes applied to them. He changed the equations' notation from being quaternion-based to vector-based.
ANSWER: Oliver **Heaviside**
<Greenthal>