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 22

Tossups

- 1. Two solutions to homogeneous second order linear differential equations with this property have zeroes that alternate according to the Sturm separation theorem. Sets of the edges of a graph possess an analogous property to this one if they make up a forest; that generalization of this property is called a matroid. Reduction of order takes one solution to a differential equation and produces another solution with this property. The (*) columns of a matrix have this property if the matrix has a nonzero determinant. A set with this property that spans a vector space is said to be a basis for that space. For 10 points, name this property possessed by a family of vectors if no vector can be written as a linear combination of the others. ANSWER: linear independence [accept word forms]
- 2. Beginning with the Battle of Raphia, the fourth ruler of this name heavily employed machimoi, the local militia, when making war. A monarch with this name and the surname Philadelphus was adopted after the first monarch with this name divorced his wife Eurydice and disinherited another son of this name; that latter son of this name was the assassin of Seleucus I. The first monarch of this name used his victory at the Battle of Gaza to control parts of Lebanon not already ceded to him following the Battle of (*) Ipsus in 310 BCE. Most rulers of this name had wives with names like Arsinoe or Berenice. They often fought the rival Diadochi Kingdoms of Seleucia and Macedon, and their namesake dynasty ended with the death of Cleopatra VII. For 10 points, give this common name for Egyptian pharaohs, the first of whom was a general of Alexander the Great.

ANSWER: Ptolemy

<Bentley>

3. One of these compositions draws on folk songs like "Spin, My Spinner" and "Let the Crane Soar." The first of them has a movement subtitled "Land of Desolation, Land of Mists." In scherzo of the fourth of these, the strings play entirely pizzicato. The last completed one of these works, written in B minor, contains a "limping waltz" in 5/4 time followed by a third movement march before closing with a (*) lamenting adagio. The fourth of these was dedicated to Nadezhda von Meck. These works include the "Polish" and "Winter Dreams," and an unnumbered one of these works was based on Lord Byron's *Manfred*. For 10 points, name this set of works, which include the "Little Russian" and "Pathétique," written by the composer of *The 1812 Overture*.

ANSWER: <u>symphonies</u> of Peter Ilyich <u>Tchaikovsky</u> [prompt on partial answer] <Rosenberg>

4. In one work, this poet narrates his experience going into a "long bay" "out of time's monotone," where he "affected" a "day of piracy" and "devoured the very plates Aeneas bore." This poet of "The Mediterranean" built the reputation of the Sewanee Review and described a jaguar who "leaps for his own image in a jungle pool" in a work that prophesies, "you will curse the setting sun." His best known work tells how "the (*) leaves/flying, plunge, and expire," describes "row after row with strict impunity" and cries out "Stonewall, Stonewall" and "Shiloh, Antietam." For 10 points, name this Fugitive poet and Southern Agrarian who wrote "Ode to the Confederate Dead."

ANSWER: Allen Tate

<Ray>

5. This phenomenon is complicated by experimental evidence of a 12.7 eV and a 23 eV band both being present in the photoelectron spectrum of methane. Inaccurate models invoke this phenomenon to explain phosphorus pentachloride's apparent octet rule violation. The results of this phenomenon have adequate (*) overlap and directionality to form linear combinations that give molecular orbitals. A byproduct formed by orbitals that do not participate in this phenomenon is a pi bond. For 10 points, name this phenomenon wherein atomic orbitals mix in order to form bonds and which may be, for example, "sp²" or "sp³."

ANSWER: orbital **hybridization**

<Watkins>

6. A major section of this work criticized books written by James Fordyce and John Gregory, as well as a long segment of *Emile*, while the following section lays out a plan of education to counter Talleyrand's. Another section of this work accuses men of not respecting the sanctity of marriage while claiming that men and women are in fact (*) equal in the eyes of God and therefore subject to the same moral law. It then claims that women should not be mere wives to their husbands, but companions. For 10 points, name this work which argued that women should have equal access to education as men, a work by Mary Wollstonecraft.

ANSWER: A <u>Vindication of the Rights of Women</u>: with Strictures on Political and Moral Subjects
<Meade>

7. One building by this architect was designed as a hotel and office block wrapped around an opera theater and had a 17-story tower. Another of his buildings is similar to an earlier edifice, except that its façade has ornamental terra cotta instead of bare brick rectangular columns. This architect and his partner designed the Auditorium Building in Chicago and Buffalo's (*) Guaranty Building. He also made a building with a two-story sandstone base below a brick façade topped with an overhanging terra cotta cornice. That building has a frame made entirely of steel. For 10 points, name this collaborator of Dankmar Adler who designed early skyscrapers like St. Louis's Wainwright Building.

ANSWER: Louis Henry <u>Sullivan</u> [accept Dankmar <u>Adler</u> until mentioned since all of the buildings described were designed by their joint firm] < Tabachnick>

8. During this dynasty, a monk of the Son sect helped secure the release of over 3,000 prisoners of war. The founder of this dynasty erected the 10-mile long Namdaemun Gate to protect his new capital. A hereditary middle class called the chungin were active during this dynasty, which was sometimes called the Hermit Kingdom. Its capital of (*) Hanseong contained many elites called the yangban. This dynasty, once a client of the Ming, is also sometimes named for the family of its founder, Yi Song-gye, and it repelled a 1598 invasion through the use of turtle ships against the Japanese. The successor of the Koryo dynasty, for 10 points, was what final imperial dynasty of Korea?

ANSWER: <u>Choson</u> Dynasty [or <u>Joseon</u> Dynasty; accept <u>Yi</u> Dynasty before Yi Song-gye is mentioned; prompt on <u>Hermit Kingdom</u> before mention] <Bentley>

9. This structure's activity can be measured by the breakdown of ONPG and formation of the yellow orthonitrophenol. One mutation in it is tested for using phenyl-Gal. Two of its structural elements produce a detoxifying transacetylase and a permease. CAP forms a complex with cAMP to allow (*) RNA polymerase to bind to its weak promoter; this allows glucose to downregulate its activity. The repressor produced by this element's *I* gene is inhibited by the allo- form of the sugar that beta-galactosidase, one of its gene products, breaks down. For 10 points, name this operon that regulates the catabolism of a sugar found in milk.

ANSWER: lac operon

<Kirsch>

10. This figure was born from the poison that dripped from eleven rivers. A son and a daughter were born from the sweat out of this figure's armpits. A huge river of blood drowned much of creation after this figure's death, which was partly accomplished by (*) Vili and Ve. This grandfather of Bergelmir was created alongside a cow named Audhumla. He was eventually killed by the sons of Bor, including Odin. For 10 points, name this primordial ice giant from Norse mythology.

ANSWER: <u>Ymir</u> <Bollinger>

11. One of this anthropologist's most influential works, written using fieldwork undertaken in northeast Melanesia, set out to prove that the Oedipus complex was limited only to Western societies. Another work by this author of *The Sexual Life of Savages* contains various rituals designed to bring rain and ensure fertility among certain (*) gardens. In one of his works, he describes an economic system in which red shell necklaces are traded clockwise and white shell bracelets are traded counter-clockwise among islands in the Trobriands. For 10 points, name this author of *Coral Gardens and Their Magic* and *Argonauts of the Western Pacific* who gained fame for describing the kula ring.

ANSWER: Bronislaw Malinowski

<Meade>

12. This entity gained sovereignty over one people through the Treaty of Christburg, while the Samogitians launched two uprisings against this entity. Following one of this entity's biggest defeats, it fought in the small-scale Gollub and Hunger Wars. In an attempt to ward off the Cumans, this group was temporarily given autonomous control of (*) Transylvania by Andrew II of Hungary, although this group's influence was checked by organizations like the Lizard League. During the aforementioned Transylvanian campaign they were led by Hermann von Salza. Their decline is often traced to a decisive loss at the First Battle of Tannenberg in 1410, a battle also called Grunwald. This order was formed during the Siege of Acre to provide relief to the sick and wounded. For 10 points, name this medieval crusading order of German knights.

ANSWER: <u>Teutonic Knights</u> [or House of the <u>Hospitalers</u> of Saint Mary of the Teutons in Jerusalem; or <u>Teutonic Order</u>; or Order of <u>Brothers of the German House</u> of Saint Mary in Jerusalem; or <u>Deutscher Orden</u>; or <u>Deutscher Ritter-Orden</u>; or <u>Haus der Ritter des <u>Hospitals</u> Sankt Marien der Deutschen zu Jerusalem; or <u>Domus Sanctae</u> Mariae Theutonicorum in Jerusalem]

<Bentley></u>

13. The words "Ecce ancilla domini" are written upside-down in this work and are spoken by a woman on whose head rests a dove facing the viewer with wings spread and a halo. One section of this work has a series of four trompe l'oeil arches, in which are contained two donors praying to two simulated statues. Adam and Eve stand covering themselves in painted niches at the top left and top right of this work. In the main scene in this work, two crowds representing (*) Old and New Testament figures surround a fountain with an octagonal base below angels holding chalices to catch the blood of a venerated animal. For 10 points, name this 24-panel polyptych whose central panel depicts the Adoration of the Lamb, painted by Hubert and Jan van Eyck.

ANSWER: *The <u>Ghent Altarpiece</u>* [accept anything indicating an <u>Annunciation</u> scene by Jan <u>van Evck</u> in the first sentence; prompt on missing artist at that point; do not accept or prompt on anything involving the Annunciation thereafter]

<Tabachnick>

14. In this novel, Pamphil kills his wife and children with an ax after meeting a man with his amputated limbs tied to his back. In another scene, a train to Moscow is delayed after the protagonist's wealthy father kills himself. In this novel, a teacher is presumed dead after being captured, but he resurfaces as a killer with a name meaning "shooter"; that name is (*) Strelnikov. At the end of this novel, the protagonist's daughter, Tanya, is found by his friends Nicky and Misha Gordon. Despite being married to Tonya, the protagonist of this novel writes poetry about his love for a woman he sees shooting Komarovsky. For 10 points, name this novel about Yuri's love for Lara during the Russian Revolution written by Boris Pasternak.

ANSWER: <u>Dr. Zhivago</u>

15. On one holiday, these people commemorated the winter deer god shedding his horns by baking cakes in the shape of antlers. These people's healers were called ovates. In one ritual, priests of these people climbed an oak tree and sacrificed two white bulls. In one holiday of these people, Bel is reborn and impregnates his mother; that holiday is six months before their new year celebration, in which they (*) lit bonfires to celebrate the last harvest, called Samhain. These people worshipped the horse goddess Epona, and Julius Caesar described their priests practicing human sacrifice. For 10 points, name this Indo-European group, one branch of whom went from mainland Europe to the British Isles, whose priests were known as druids.

ANSWER: Celts [or Gauls; or Galli]

<Tabachnick>

16. This nation's defense minister was embarrassed in April 2011 by Wikileaks documents in which he begged George Bush to attack Iran. Its prime minister was in the Oval Office for a photo op when Walid Jumblatt caused his March 14 Alliance to lose power, meaning that Najib Mikati will soon replace him. That prime minister's father was a construction magnate who led the (*) Cedar Revolution and has been the subject of an ongoing UN tribunal opposed by Hasan Nasrallah because it will indict Hezbollah members rather than Syrians. For 10 points, identify this nation whose prime minister Saad Hariri is the son of the assassinated Rafic.

ANSWER: Republic of **Lebanon** [or al-Jumhūrīyah al-**Lubnān**īyah] <Haddad-Fonda>

17. An interpretation of electrodynamics that starts from requiring that solutions to the field equations be time-inversion symmetric is named for this physicist and for John Wheeler. Divergences in an approach to quantum mechanics he developed were resolved by a method of renormalization he developed with Schwinger and Tomonaga. He predated the discovery of quarks and gluons in his (*) parton model. One construct named for this physicist provides a way to rewrite a Dyson series and depicts photons as wavy lines. For 10 points, name this physicist responsible in large part for the path integral formulation of quantum mechanics and for a graphical representation of particle interactions, his namesake diagrams.

ANSWER: Richard Phillips Feynman

<Watkins>

18. After making light of his ill fortune, this character realizes that "the worst is not / so long as we can say 'This is the worst." This character pretends to lead his suicidal father to the edge of a cliff and tells him to jump off, although they are on level ground. He claims to be possessed by five "foul fiends," including Flibbertigibbet, when three other characters take refuge from a storm in his hovel. After he stops pretending to be (*) Tom O'Bedlam, this character kills the treacherous Oswald in a duel. At the end of the play, Albany declares this man king along with Kent. This man's father had his eyes ripped out by Cornwall before being stripped of his title as the Duke of Gloucester. For 10 points, name this virtuous brother of Edmund from King Lear.

ANSWER: Edgar

- 19. The winning candidate in this election was supported by the rallying cry "Two dollars a Day and Roast Beef." The phrase "keep the ball rolling" was coined in this election year to describe one party's practice of rolling enormous balls made of twine and paper from town to town. The losing candidate in this election was hurt by a speech by Charles Ogle attacking him as an effete, aristocratic dandy, which contrasted his tastes with the winning candidate's supposed liking for (*) hard cider. The victor in this election was the first Whig elected president, and had earlier won the Battle of the Thames. That victor in this year subsequently gave the longest inaugural address in history. For 10 points, name this election where incumbent Martin Van Buren lost to the ticket of "Tippecanoe and Tyler, Too." ANSWER: presidential election of 1840 < Magin>
- 20. The title character of this novel helps Eppler deliver a message to Irwin Rommel inside the novel *Rebecca*. In this novel, a sapper trained under Lord Suffolk befriends the title character while checking a piano for bombs. Under the influence of morphine, the title character reveals how his friend, Geoffrey (*) Clifton, died attempting to kill him for having an affair with his wife. After his plane crashes, the title character of this novel is interrogated by the thief Caravaggio while in the care of the nurse Hana. For 10 points, name this novel about the burn victim Almasy written by Michael Ondaatje.

ANSWER: *The English Patient* <Bollinger>

21. One pope of this name promulgated the doctrine of "the peace of Christ in the Kingdom of Christ," while another attacked the rule of the "pretended Queen of England," Elizabeth I, in Regnans in Excelsis. A later pope of this name agreed to the Concordat of 1801, which re-established relations with France. Perhaps the most prominent pope of this name attacked modernism in the (*) Syllabus of Errors and invoked papal infallibility to proclaim the doctrine of the Immaculate Conception. That pope with this name was a "prisoner of the Vatican" during Italian Reunification. The twelfth man to take this name agreed to the Reichskonkordat and is sometimes accused of being "Hitler's Pope." For 10 points, give this common name for these popes, including the longest-serving pope, the ninth.

ANSWER: <u>Pius</u> <Bentley>

22. One character in this work repeats, "He could do so much for me if he just would" and says that "everything in the world...is inside a tub of guts." Another character in this novel goes out every night for five months, making his brothers think he's "rutting," but he is actually working for Lon Quick in order to buy a horse. In this novel, one character is raped by (*) Skeet Macgowan while seeking an abortion. It is revealed that the matriarch of the central family had an affair with Reverend Whitfield, who is the real father of Jewel. This novel follows Cash, Darl, Anse, and others as they travel to Jefferson. For 10 points, name this novel about the Bundrens' attempts to bury Addie written by William Faulkner.

ANSWER: <u>As I Lay Dying</u> <Bollinger>

23. Many examples of this relationship involve components that may be separated by reaction with tartaric acid. This relationship, first discovered between cyanic and fulminic acid, may emerge when steric effects prevent a compound from rotating around otherwise freely rotating bonds. (*) Tautomers are rapidly interconverting examples of one form of this relationship. Another example of this relationship occurs between cis and trans examples of the same alkene, a type of diastereomerism (die-ah-STARE-ee-AH-mer-ism). Another example of this relationship, called "constitutional," exists between tert- and n-butane. For 10 points, name this relationship describing molecules with different structural formulas but the same molecular formula.

ANSWER: **isomer**s

<Watkins>

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 22

Bonuses

- 1. This religious practice involves blending beliefs from one or more contradictory faiths into a coherent new whole. For 10 points each:
- [10] Name this practice that, for example, explains the adoption of the Pagan Eostre festival as the date for the Christian Easter.

ANSWER: syncretism

[10] One syncretic religion is this one from Vietnam, which blends Catholic teachings with worship of saints like Jules Verne.

ANSWER: Cao Dai

[10] Another syncretic religion is this Syrian sect of Islam that blends Gnosticism with more traditional Islamic teachings.

ANSWER: Druze

<Meade>

- 2. Name these translators of Homer into English, for 10 points each.
- [10] He was said to be the first man to become rich by writing English poetry, based on his time spent from 1715 to 1726 translating the *Iliad* and *Odyssey*. His translations demonstrate similar techniques to his original poem *The Rape of the Lock*.

ANSWER: Alexander Pope

[10] Translations of Homer's work by this playwright of *The Gentleman Usher* and *Sir Giles Goosecap* inspired John Keats to write of "realms of gold" and "western islands...which bards in fealty to Apollo hold."

ANSWER: George Chapman

[10] Commonly read contemporary translations of Homer are often by this late Princeton professor, who between 1990 and 2006 translated the *Iliad*, *Odyssey*, and *Aeneid* singlehandedly.

ANSWER: Robert Fagles

<Weiner>

- 3. The first ruler of this line signed the Treaty of Krewo to unite his nation with Poland. For 10 points each:
- [10] Name this dynasty, first established when a certain king married Queen Jadwiga. It held power in a country long united with Poland.

ANSWER: <u>Jagellion</u>ian dynasty [or <u>Jogailaicai</u>; or <u>Jagioellonowie</u>; or <u>Jagello</u>]

[10] Jogaila was the Grand Duke of what became this Baltic nation with a capital at Vilnius.

ANSWER: Republic of **Lithuania** [or **Lietuva**]

[10] In a namesake civil war, this confederation helped destabilize the Polish-Lithuanian Commonwealth prior to the First Partition of Poland. Led by men like Adam Krasinski, members of this confederation were united in their desire to dethrone Stanislaw II.

ANSWER: the <u>Bar</u> Confederation [or Confederation of the <u>Bar</u>; or Konfederacja <u>barska</u>] <Bollinger>

4. This quantity refers to a measure of water pressure above a certain surface. For 10 points each: [10] Name this quantity, differences of which over a flow path over the path's length give the Darcy slope.

[10] A description describing how head decreases due to a sudden flow expansion is named for Borda and this man. This scientist also names the move efficient possible cycle for turning thermal energy into work.

ANSWER: Nicolas Léonard Sadi Carnot

[10] For a thermodynamic process, like a leg of the Carnot cycle, this quantity symbolized capital Q is given by the temperature integral with respect to entropy between the initial and final states.

ANSWER: <u>heat</u> energy [or <u>thermal energy</u>; prompt on <u>energy</u>] <Watkins>

- 5. The points on this curve, typically concave, represent the different combinations of goods that a society can produce. For 10 points each:
- [10] Name this depiction, each point of which is Pareto optimal if no movement along the curve can change total utility.

ANSWER: <u>production possibilities</u> curve [or <u>production possibilities</u> frontier; or <u>product transformation</u> curve; accept synonyms]

[10] Pareto optimality is more easily attainable in the absence of this condition in which one side has greater access to knowledge about the position of the parties.

ANSWER: information asymmetry

[10] *The Market For Lemons*, an essay by this economist, describes how information asymmetry can prove Gresham's law to be true with respect to used cars.

ANSWER: George Akerlof

<Meade>

- 6. People mentioned in this poem include a "hapless soldier," "youthful harlot," and "new-born infant." For 10 points each:
- [10] Name this poem in which the speaker hears "the mind-forged manacles" "in every voice" while wandering the title location.

ANSWER: "London"

[10] This poet of "London" also included "The Lamb" and "The Tyger" in his *Songs of Innocence and Experience*.

ANSWER: William Blake

[10] The speaker of this Blake poem is able to kill his foe when his wrath, "watered...in fears" and with tears, grows into the title object.

ANSWER: "A Poison Tree"

<Angelo>

- 7. One of the earliest and most important examples of these entities was run by Madame de Rambouillet. For 10 points each:
- [10] Identify these intellectual gatherings popular in France during the Old Regime that share their name with an annual French art exhibition.

ANSWER: salons

[10] One popular eighteenth-century salon was the one run by Suzanne Curchod, the wife of this Swiss man. He claimed a budget surplus of 10 million livres when the actual deficit was 46 million livres before resigning as Louis XVI's finance minister in 1781.

ANSWER: Jacques Necker

[10] One frequenter of French salons was this mathematician, who wrote the "Preliminary Discourse" espousing the Enlightenment for the *Encyclopedia*.

ANSWER: Jean-Baptiste le Rond d'Alembert

<Bentley>

- 8. The *Bagatelle without Tonality* was originally conceived as the fourth of these pieces, while the difficult first one begins with an imitation of a violin tuning. For 10 points each:
- [10] Name this set of four piano pieces, the first of which represents the title sinister character playing a dance melody.

ANSWER: the Mephisto Waltzes

[10] These nineteen pieces by the composer of the *Mephisto Waltzes* are based on gypsy melodies from its composer's native land. The famous second one, like many of the others, consists of a slower *lassú* and quicker *friss* section, like a traditional *csárdás*.

ANSWER: the Hungarian Rhapsodies

[10] This piano virtuoso composed the Mephisto Waltzes and the Hungarian Rhapsodies.

ANSWER: Franz Ritter von **Liszt** [or Ferenc **Liszt**]

<Tabachnick>

- 9. Transactions in these entities must be atomic and isolated, and they're often organized into tables containing rows and columns. For 10 points each:
- [10] Identify these constructs that can be queried against using SQL.

ANSWER: relational databases

[10] Databases can be stored using the "B" type of these data structures. Other variants include the red black and binary search types, and nodes in them with no children are often called "leaves."

ANSWER: tree

[10] Some developers advocate using GUIDs ("goo-ids") for primary keys in databases. GUIDs originally were based off of this hexadecimal number from a network card, which contains 48 bits rather than IPv4's 32 bits.

ANSWER: <u>MAC address</u> [or <u>media access control address</u>] <Bentley>

10. Answer these questions about "passing for white" in American books for 10 points each. [10] This man wrote about Coleman Silk, a light-skinned black man who pretends to be Jewish, in *The Human Stain*. His other works about the Jewish experience include *American Pastoral*, the short story collection *Goodbye Columbus*, and *Portnoy's Complaint*.

ANSWER: Philip Roth

[10] This white memoir author and journalist used UV light and anti-vitiligo drugs to darken his skin and travelled to the South to experience the horrors of Southern segregation for his 1961 book *Black Like Me*.

ANSWER: John Howard Griffin

[10] This author of *God's Trombones* wrote about a black man who admires the activist Shiney but decides to "pass" after witnessing a lynching in *Autobiography of an Ex-Colored Man*.

ANSWER: James Weldon Johnson

<Jackson>

- 11. Identify the following about the Trail of Tears for 10 points each.
- [10] Along with the Choctaw, this was the main tribe forced to travel the Trail of Tears. A written version of their language was developed by Sequoyah.

ANSWER: the **Cherokee** [or **Tsalagi**]

[10] Part of the impetus for the Cherokee Trail of Tears was this 1836 treaty signed in Georgia that set the terms for the removal of the entire Cherokee tribe.

ANSWER: Treaty of **New Echota**

[10] Earlier, Cherokee Chief John Ross brought the issue of Indian removal to the Supreme Court, selecting this attorney general under Monroe and Quincy Adams to represent the tribe. He ran with Amos Ellmaker as an Anti-Masonic candidate for president in 1832.

ANSWER: William Wirt

<Cohen>

- 12. One of this man's albums included songs like "So What," "Freddie Freeloader," and "Flamenco Sketches." For 10 points each:
- [10] Those songs all appear on this trumpeter's album *Kind of Blue*. He also recorded albums like *Bitches Brew* and *Birth of the Cool*.

ANSWER: Miles Dewey **Davis** III

[10] Bill Evans played this instrument on Kind of Blue. Other practitioners included Art Tatum.

ANSWER: pianoforte

[10] Davis regularly collaborated with Joe Zawinul, who founded this jazz fusion band. Its other prominent members included bassist Jaco Pastorius and saxophonist Wayne Shorter.

ANSWER: Weather Report

<Rosenthal>

- 13. They are less muscled than their partner chambers. For 10 points each:
- [10] Name these chambers of the heart that receive blood from either the pulmonary veins or the vena cavae.

ANSWER: atrium [or atria]

[10] Passage of blood from the left atrium to the left ventricle is controlled by this valve. Blood flow across this valve late in atrial systole causes the appearance of the A wave on an EKG.

ANSWER: **mitral** valve [or **bicuspid** valve]

[10] The heart is surrounded by this two-layered sac that lubricates and protects the heart muscle and anchors the organ in place.

ANSWER: pericardium

<Kirsch>

- 14. Giuseppina becomes obsessed with the returned soldier Nanni in this man's story "The She-Wolf." For 10 points each:
- [10] Name this author of *Mastro-Don Gesualdo*. The Malavoglia family declines after the wreck of the *Provvidenza* in this man's novella, *The House by the Medlar Tree*.

ANSWER: Giovanni Verga

[10] Giovanni Verga set *The House by the Medlar Tree* on this island, which is also the setting for his story, *Cavalleria Rusticana*.

ANSWER: Sicily [or Sicilia]

[10] Another Sicilian writer was a Hermetic poet of this last name who wrote *Day after Day*. He shares this name with a character who hurls Claude Frollo off of a tower.

ANSWER: **Quasimodo** [or Salvatore **Quasimodo**]

15. Soviet housing may have been bland, but Soviet war memorials were often gaudy. Answer these questions about attempts to deal with them in the post-communist era for 10 points each.

[10] Russian residents of this country rioted in 2007 after its government relocated a Soviet war memorial from downtown Tallinn to a remote military cemetery.

ANSWER: Republic of Estonia

[10] The over-the-top Soviet war memorial in Schwarzenbergplatz in this country's capital city has been targeted by vandals, but it is protected by the 1955 treaty by which Soviet troops ended their occupation of part this country.

ANSWER: Republic of Austria

[10] In December 2009, two onlookers in this country's second most populous city of Kutaisi were killed when engineers messed up the explosives in their demolition of a Soviet war memorial.

ANSWER: <u>Georgia</u> <Haddad-Fonda>

16. Under this system, trade was dominated by the "Honorable" East India Company and a series of hong merchants. For 10 points each:

[10] Identify this trade system named for a Chinese city alternatively called Guangzhou. This name is also sometimes given to the Guangdong province in Southeastern China.

ANSWER: Canton system

[10] The Canton system was made much more favorable to Western merchants through the Treaty of Nanking, which ended the first of these nineteenth-century conflicts.

ANSWER: **Opium War**s [prompt on **Anglo-Chinese Wars**]

[10] Opium had first started coming into China during the rule of the Yongzheng Emperor, the son of this man. This second Qing emperor is credited with opening China to the West, and he faced the Revolt of the Three Feudatories during his reign.

ANSWER: <u>Kangxi</u> Emperor [or <u>K'ang-hsi</u>; or <u>Xuanye</u>; or Qing <u>Shengzu</u>] <Bentley>

17. Taxanes used in chemotherapy disrupt these structures by stabilizing their GDP-bound subunits. For 10 points each:

[10] Name this cytoskeletal component along which dynein and kinesin move and which shortens at the kinetochore to pull chromatids apart during anaphase. These structures also appear in cilia and flagella in their 9+2 configuration.

ANSWER: microtubules

[10] Tubulin subunits of microtubules are constantly being added and removed on the + end of a microtubule, a process known as this. This process consists of alternating "catastrophe" and "rescue" periods in which a microtubule's rapid depolymerization is halted.

ANSWER: dynamic instability

[10] One important microtubule organizing center is this structure that usually consists of nine microtubule triplets and that helps organize the mitotic spindle. Two of them arranged perpendicular to each other are the main components of a centrosome.

ANSWER: centriole

<Kirsch>

- 18. For 10 points each, answer some questions about illuminated manuscripts.
- [10] Depending on the time period, such manuscripts generally used uncial or blackletter forms of this. Printed books tend to use the roman form, although Germany used blackletter, also known as Gothic, until the twentieth century.

ANSWER: the Latin <u>alphabet</u> [accept equivalents like <u>writing system</u>]

[10] This famous Irish illuminated manuscript in the Trinity College library contains the Book of Columba as well as the Four Gospels, and its decorations include an extremely intricate chi-rho monogram.

ANSWER: the **Book of Kells** [or **Leabhar Cheanannais**]

[10] This group of Flemish siblings decorated the *Very Rich Hours of the Duke of Berry* with lavish illuminations for each month of the year.

ANSWER: the **Limbourg** brothers

<Tabachnick>

- 19. This expatriate looked back to ancient Greece, dividing life into the *vita activa* and *vita contemplativa* in her work *The Human Condition*. For 10 points each:
- [10] Name this female German philosopher of Jewish descent. Her work with The New Yorker in covering the trial of a Nazi became *Eichmann in Jerusalem: A Report on the Banality of Evil*.

ANSWER: Hannah Arendt

[10] Besides "the banality of evil," Arendt also coined the phrase "radical evil" in her work on *The Origins* of this system of limitless central government.

ANSWER: totalitarianism

[10] This fellow German expat and member of the Frankfurt school claimed along with Max Horkheimer that the Enlightenment led to the Holocaust in *Dialectic of Enlightenment*. He claimed that "to write a poem after Auschwitz is barbaric."

ANSWER: Theodor Adorno

<Jackson>

- 20. This god is the son of Asase Ya and the sky god Nyame. For 10 points each:
- [10] Name this West African trickster god who takes the form of a spider.

ANSWER: Anansi

[10] Anansi captured three animals and in exchange received a number of these, which he put into a calabash.

ANSWER: **stories** [or equivalents]

[10] Anansi performed that task for, and received those stories from, this father of his and creator god.

ANSWER: Nyame

- 21. This event was quashed after the rebels were spotted by a group of men traveling with William Bull, the state's Lieutenant Governor. For 10 points each:
- [10] Identify this rebellion organized by a man known as Jemmy.

ANSWER: Stono Rebellion [or Cato's Conspiracy; or Cato's Rebellion]

[10] The Stono Rebellion took place in this state. Another incident in its history incolved Blackbeard's blockade of its chief harbor, Charleston.

ANSWER: South Carolina

[10] This January 1781 victory of American Daniel Morgan over Banastre Tarleton in northwest South Carolina allowed the Continentals to reverse previous disasters, such as the defeat at Camden, and recover the Carolinas.

ANSWER: Battle of Hannah's Cowpens

<Jackson>

- 22. In the final act of this play, Dudard and Daisy decide to follow the title animals. For 10 points each:
- [10] Name this play by Eugène Ionesco in which the inhabitants of a town are transformed into the title creatures.

ANSWER: **Rhinoceros**

[10] This character, who also appears in *Exit the King*, is the only character in *Rhinoceros* to successfully resist the transformation.

ANSWER: **Bérenger**

[10] This earlier French absurdist created a gluttonous coward who conspires with Captain Bordure to kill King Wenceslas and conquer Poland in *Ubu Roi*.

ANSWER: Alfred Jarry

<Nediger>

- 23. Answer these questions about game theory, for 10 points each.
- [10] This is the term for a game in which any gain by one participant is balanced by the losses of the other participant or participants.

ANSWER: **zero-sum** game [or **strictly competitive** game]

[10] Chess is an example of this type of game, since at any point in the game, both players known all the moves which have occurred.

ANSWER: game of **perfect information**

[10] This game, created by Martin Shubik, is an auction in which the second-highest bidder also has to pay the amount they bid, but they receive nothing in return.

ANSWER: dollar auction

<Nediger>