1. It succeeded where Laeding and Dromi had failed. It was attached to Gelgia, which ran through a hole in the rock Gioll on the isle Lyngvi. Skirnir was sent to commission it from the dwarves, who crafted it from the dreams of a bear and the beard of a maiden, among other things. Before its victim agreed to test it, he demanded that one of the gods place their hand in his mouth. FTP, name this bond that holds Fenris until Ragnarok.

## Answer: Gleipnir

2. The existence of R was first hinted at in studies of certain strains of Shigella. F is an episome that facilitates genetic recombination, allowing formation of sex pilli for conjugation. R, built up by complex transposons, can contain code for enzymes that destroy tetracycline or ampicillin. They are generally beneficial and replicate independently, but some do so in synchrony with the chromosome. FTP, name these small, circular DNA molecules separate from bacterial chromosomes.

Answer: plasmids
3. His brother John is a corrupt politician who tries to stir up trouble, and his sister Gertrude is a prostitute. He is inspired by the priest Msimangu, and finds his son's pregnant lover when he visits Shanty Town. After his son Absalom is hung for killing a white man, he leaves Johannesburg. FTP, name this African reverend, the main character in Cry, the Beloved Country.

Answer: Stephen Kumalo
4. The view up into a barrel-vaulted niche shows familiarity with Brunelleschi's architecture and his experiments with perspective. Near the bottom a skeleton rests in a sarcophagus bearing the inscription "I was once what you are, and what I am you also will be." Two donors kneel in front of pilasters, and an unemotional St. John and Mary flank Jesus on the Cross. The dove of the Holy Spirit and the figure of God behind the Cross round out the title group in, FTP, what painting by Massaccio?

Answer: $\quad$ The Holy Trinity with the Virgin, Saint John the Evangelist, and Donors
5. The central character's relationships with Madame Reisz and Alcee Arobin are based on a growing bohemian streak that culminates with the abandonment of her family. The unfulfilled love for Robert Lebrun sparks the title event, a growing disillusionment with the protagonist's role as a wealthy matron in New Orleans society. The novel ends with Edna Pontellier swimming to her death in the waters off Grand Isle. FTP, identify this 1899 novel by Kate Chopin.

Answer:
The Awakening
6. They can be cyclic, as in the solvent tetrahydrofuran. They can be produced by a condensation reaction between two primary alcohols. The smallest possible ring occurs in ethylene oxide, and 3-member rings are called epoxides. They are characterized by an oxygen atom linking two separate alkyl or aromatic groups. FTP, name this class of organic compounds that shares its name with $\mathrm{C}_{2} \mathrm{H}_{5} \mathrm{OC}_{2} \mathrm{H}_{5}$, formerly used as an anesthetic.

Answer: ethers
7. He once cited Shakespeare as one of the three major figures of poetry, along with Dante and Cervantes. His contributions include experimental novels such as Die Griechen und Roemer and Lucinde. His lectures on the Philosophy of History strongly influenced the German Romantic movement, while On the Language and Wisdom of India made critical contributions to linguistics and philology. FTP, name this founder and editor of Athaneum, German Romanticism's literary exponent.

Answer: $\quad$ Friedrich von Schlegel
8. As President of the Commonwealth and Southern Corporation, a utility holding company, he vigorously opposed the creation of the TVA. During World War II his book One World supported Franklin Roosevelt's war policy while the author toured the world as Roosevelt's envoy. FTP name this Republican who, along with running mate Charles McNary, ran unsuccessfully for the presidency in 1940.

Answer: Wendell Lewis Willkie
9. A precursor was supported by Pitt the Younger to gain support for the Crown during the American Revolution, but failed to pass because of George III's opposition. Only with the emergence of Daniel O'Connell and his supporters were the effects of such regulations as the Penal Laws mitigated. FTP, name this 1829 bill passed by Parliament to remove most of the restrictions upon Roman Catholics in the United Kingdom.

Answer: $\quad$ the Catholic Emancipation Bill (or Act) of 1829
10. The mass at which a particle's Compton wavelength equals its Schwarzschild radius. A time of about 10 to the minus 43 seconds, such that physics as we know it is unable to describe the universe at an age less than that time. And a length of about 10 to the minus 20 times the size of a proton. These units are simple combinations of the gravitational constant, the speed of light, and a constant which, FTP, is named for what physicist whose name adorns these units?

Answer: $\quad$ Max Planck (accept: Planck mass, before "about 10 to the minus 43 seconds")
11. In an earlier work the composer had set several songs from the source drama to music, including Ballad of the King of Thule and Brander's Song of the Rats. The first scene was invented by the composer so he could insert his arrangement of the Rákóczy March. The title event unfolds to the sounds of a demonic chorus greeting the title character while Margarita is saved. FTP, name this Berlioz work in which the title character promises to serve Mephistopheles.

Answer: $\quad$ The Damnation of Faust (or: La Damnation de Faust)
12. In the 1850 's, when he learned he was dying, he said his death would be an irreparable loss to the world. He undertook a systematic survey of all human knowledge, but rejected everything of a speculative or metaphysical nature as illusory. This French philosopher believed that the social sciences should build solely on observable facts in order to advance. FTP, name this founder of positivism.

Answer: Auguste Comte
13. This action was the cause of the landmark 1850 tort case Brown v. Kendall. It names a 1988 album by the industrial rock group Pig. It also names a 1976 Amnesty International benefit album featuring John Cleese among others. Preceded by the words "Love is Like" it names an Alias records album featuring talent like Yo La Tengo. FTP identify this phrase often preceded by "It's Better Than" because who wants a pointy tree branch to gouge one of your body parts out?

Answer: $\quad$ A Poke in the Eye with a Sharp Stick
14. It is minimum for a system in equilibrium at constant pressure in thermal contact with a heat reservoir. The change in this quantity gives the effective work in a reversible process at at constant temperature and pressure. For a singlecomponent system, it is equal to the number of particles times the chemical potential, and in general it equals enthalpy minus temperature times entropy. Named for an American scientist, FTP name this free energy function.

Answer: $\quad$ Gibbs free energy
15. Time magazine attributed the coinage to Walter Mondale, who used a variant with the word "bowl" to make a comparison with the agricultural troubles of the 1930s. At one time, this area stretching from upstate New York to the Missouri River housed one in every three American manufacturing jobs, but it has suffered from foreign and southern competition. Cities such as Buffalo and Detroit saw their populations decline and their decaying factories sit idle. FTP, give this term for the former industrial heartland of the United States.

Answer: the Rust Belt
16. The Methodist Francis Asbury's development of the circuit rider system facilitated its spread in remote rural areas. The Finger Lakes region of New York became known as the "Burned-Over District" from the intensity of the sermons preached there. This movement replaced Calvinist ideas, such as predestination, with a greater focus on personal salvation. FTP, identify this 1830 s upsurge of Evangelical protestantism, best known for its revivals and camp meetings.

Answer: the Second Great Awakening
17. For functions on the real line, it can be defined if the infimum of the upper Darboux sum equals the supremum of the lower Darboux sum. The notion may be applied to all measurable functions via Lebesgue's theory, which generalizes Riemann's version, which defines it as a limit of Riemann sums. FTP, name this construct, which the fundamental theorem of calculus states is the antiderivative.

Answer: $\quad$ integral (accept: $\underline{\text { Riemann integral before "measurable functions") }}$
18. Cleanness, Patience, and St. Erkenwald are three of his lesser-known works. His most famous work tell the story of an adventure gone upon by one of King Arthur's knights, whose titular villain's real name is Bercilak de Hautdesert. FTP, name this author, named for another work, whose real identity is unknown, the poet behind Sir Gawain and the Green Knight

## Answer: The Pearl Poet

19. He believed putrefaction was the only sure sign of death and did not want to be buried prematurely, so when he died his body was left untended in bed until it began decomposing. He diverged from Locke's ideas, arguing in Principles of Human Knowledge that there are no primary qualities. His poem "On the Prospect of Planting Arts and Learning in America" contains the line "Westward the course of empire takes its way." Eventually becoming Bishop of Cloyne, FTP, name this philosopher and author of Three Dialogues between Hylas and Philonous.

Answer: $\quad$ George Berkeley
20. John Thorpe has a horse that will not go slower than ten miles per hour, and professes to love the main character, until he finds out she isn't rich. The main character does not seem at all suited for the role of heroine; she doesn't enjoy reading history, prefering novels such as The Mysteries of Udolpho. For a short time after arriving at the title abode, the main character suspects General Tilney of murdering his wife. FTP, Henry Tilney eventually marries Catherine Morland in what Jane Austen novel?

Answer: $\quad$ Northanger Abbey
21. He was voted the title "Felix", and started out as a quaestor under his eventual rival during the Jugurthine War. He restricted the tribunes' power and instituted proscriptions. He laid succesful siege to Rome twice--the second time after the demagogue Cinna welcomed his rival back to Rome. His generals included Crassus and Pompey, and he had himself declared dictator in 82 BCE. FTP, name this opponent of Marius.

Answer: $\quad$ Lucius Cornelius Sulla
22. Kant used them to show that the rationalist project to identify knowledge was undermined because of the way in which the human mind experiences the universe. For example, a validly proven statement that the universe is infinite bears this relation to a correctly proven statement that the universe possesses a limit. FTP, identify this term for logically proven statements that contradict each other.

## Answer: <br> antinomies

23. His son Sinchi Roca was an historical figure who lived between 1105 and 1140 C.E. According to one story, he was created by the Sun on an island in a lake and given a golden staff, which he was to use to determine the site of his capital. Another account has he and his three brothers and four sisters gathering the surronding tribes at Paccari-Tampuand and launching an attack that captured the Cuzco valley. FTP, name this semilegendary founder of the Inca Empire.

Answer: Manco Capac

1. Identify the following paintings by American artists for 10 points each.
2. This Thomas Eakins work shows a surgeon performing an operation in front of several young medical students at the Jefferson Medical College.

## Answer: Gross Clinic

2. This George Bingham work shows a French trapper and his son with their pet in a dugout canoe. Answer: Fur Traders Descending the Missouri
3. This John Singleton Copley work depicts a group of men in a boat in Havana harbor. One of the men reaches down to rescue one of the title characters, while another man raises a harpoon to attack the other title character.

## Answer: Watson and the Shark

2. Name these European forests where notable events have taken place, 5-5-10-10.
3. (5) This forest in southwest Germany, named for its dark pine trees, is the source of the Danube and is named for its dark pine trees.

Answer: Black Forest (or: Schwarzwald)
2. (5) This forest in Westphalia was the scene of the Roman legate Varus' defeat by Arminius in 9 CE.

Answer: Teutoberg Forest or Teutobergerwald
3. (10) This forest in southwestern England was created by William the Conqueror. His son William Rufus was killed in mysterious circumstances here during a hunt in 1100.

Answer: New Forest
4. (10) This small wilderness on the outskirts of Paris was converted into a park during the time of Napoleon III.

Answer: Bois de Boulogne
3. Answer the following questions for 10 points each.

1. She took the silver medal in the 2000 and 2001 Figure Skating world championships as well as the silver medal in the 2002 Salt Lake City Olympics.

Answer: Irina Slutskaya
2. This early 20th century economist is now most famous for his equation which decomposes the total change in demand into the income and substitution effects.

Answer: Eugene Slutsky
3. On Saturday Night Live's Weekend Update, Dan Aykroyd would regularly use this four word phrase to refer to Jane Curtin.

Answer: Jane, you ignorant slut!
4. Philosophical system, 30-20-10.
30. Porphyry edited its putative founder's works, after working with him in Rome.
20. Its origins lay in the meeting of mysticism, Greek rational thought, and the translated Hebrew texts of the Septuagint. 10. Its founding is most commonly ascribed to the Egyptian Greek philosopher Plotinus in his Enneads.

Answer: Neoplatonism
5. Identify these works of Fyodor Dostoevsky 5-10-15.

1. (5) In this work Raskolnikov kills a pawnbroker and her sister.

Answer: Crime and Punishment (or: Prestuplenie i nakazanie)
2. (10) The narrator of this work declares that two times two is the beginning of death. He then pays a prostitute named Liza for consensual sex.

Answer: $\underline{\text { Notes from }}$ the Underground (or: $\underline{\text { Zapiski iz podpol'ia) }}$
3. (15) In this early work the female narrator tells of her life as an orphan in the house of a Prince.

Answer: Netochka Nezvanova
6. Identify these Holy Roman Emperors, for 10 points each.

1. Often considered to be the first Holy Roman Emperor, he conquered northern Italy. He was crowned by Pope John XII, whom he later replaced with Leo VIII.

## Answer: Otto the Great or Otto I

2. Often referred to as Stupor Mundi, or the "Wonder of the World," this son of Frederick I Barbarossa was excommunicated by Pope Gregory IX and captured a large portion of the Papal States.

Answer: Frederick II
3. This last Holy Roman Emperor renounced the title and instead chose rule over Austria after the creation of the Confederation of the Rhine.

## Answer: Francis II (accept: Francis I of Austria)

7. Identify the following parameters important in astrophysics, for 10 points each.
8. The inverse of this constant gives a good estimate of the age of the universe. It is the ratio of a galaxy's recessional speed to its distance.

Answer: Hubble constant
2. The universe is bound if the average value of this property is greater than the critical value, and unbound if it is less. The critical value is 3 times Hubble's constant squared, divided by 8 times pi times the gravitational constant.

## Answer: density

3. This term in the equations of general relativity represents a repulsive force that increases in strength with distance. It was discarded by Einstein upon the discovery that the universe is expanding.

Answer: cosmological constant
8. Identify these Jacksonian politicians for 10 points each.

1. Known as the Young Hickory of the Granite Hills, he defeated Winfield Scott for the Presidency in 1852.

Answer: Franklin Pierce
2. The youngest senator in history at 28 years and five months, he became Jackson's Secretary of War. His wife scandalized many other cabinet wives.

Answer: John Eaton
3. He was governor and senator from New Hampshire before serving as Secretary of the Navy under Jackson and of the Treasury under Jackson and Van Buren. Polk appointed him to the Supreme Court.

Answer: Levi Woodbury
9. Identify the D.H. Lawrence novel from characters for 10 points each.

1. Michaelis, Oliver Mellors, Constance

Answer: Lady Chatterly's Lover

1. Clara Dawes, Miriam Leivers, Paul Morel

Answer: Sons and Lovers

1. Hermione Roddice, Gerard Crich, Rupert Birkin, Ursula and Gudrun Brangwen.

Answer: Women in Love
10. These things from geology all start with the same letter, 5-10-15.

1. (5) The chief component of oceanic plates, this igneous rock is largely made up of the mineral olivine.

Answer: basalt
2. (10) This sedimentary rock is composed of angular fragments that were lithified.

> Answer: breccia
3. (15) This is a solitary sand dune shaped like a crescent with its tips pointing downwind.

Answer: barchan dune
11. Identify the following satirical poems for 10 points each.

1. This poem by John Dryden ridicules Thomas Shadwell as the successor of an Irish priest noted for his bad verse.

Answer: MacFlecknoe
2. Alexander Pope used MacFlecknoe as a model for this work which depicts the victory of the goddess of Dullness. In the final version Colly Cibber is the main target of the satire.

## Answer: The Dunciad

3. This Samuel Butler mock-heroic poem ridicules the Puritans. The hero is a quixotic figure who sets out with his squire Ralpho to correct injustices.

Answer: $\boldsymbol{H u d i b r a s}$
12. Identify the artist responsible for each of the following altarpieces 5-5-10-10.

1. (5) Ghent altarpiece

Answer: Jan van Eyck
2. (5) Isenheim altarpiece

Answer: Matthias Grunewald
3. (10) Portinari altarpiece

Answer: Hugo van der Goes
4. (10) Merode altarpiece

Answer: Master of Flemalle (accept: Robert Campin)
13. Identify the following Christian heresies for 10 points each.

1. It held that only those living a blameless life belonged in the church and that the validity of any sacrament depended upon the personal worthiness of the priest administering it.

Answer: Donatism
2. British supporters of this heresy were denounced by St. Germanus of Auxerre in 429. It stated that man is born morally neutral, denying the inheritance of both original $\sin$ and of righteousness due to Christ's crucifixion.

Answer: Pelagianism
3. These eastern Christians believed that Jesus had only one nature. Their teachings were rejected by the 451 Council of Chalcedon.

Answer: Monophysites
14. Identify early winners of the Nobel Prize in Chemistry for 10 points each.

1. His work in osmotic electrical conductivity led to Arrhenius's theory of ionization, and, with his work in chemical dynamics, earned him the first prize in 1901.

Answer: Jacobus Hendricus van't Hoff
2. He received the 1909 prize for his work on catalysis and the principles governing equilibrium and rates of reaction. His namesake process produces nitric acid.

Answer: Wilhelm Ostwald
3. His research on the structure and synthesis of sugars and of purines and purine base derivatives such as caffeine earned him the prize 1902.

Answer: Hermann Emil Fischer
15. Identify the following short stories by American authors for 10 points each.

1. The reclusive title character in this Faulkner story kills her lover Homer Barron with arsenic and sleeps every night with his corpse until she dies.

Answer: A Rose for Emily
2. In this Flannery O'Connor story, Mrs. Crater marries her retarded daughter Lucynell off to the one-armed Mr. Shiftlett, who immediately abandons Lucynell.

Answer: The Life You Save Mav Be Your Own
3. This Hemingway short story focuses on a young couple; the man tries to convince the woman to have an abortion. The story takes place at a train station across the valley of the Ebro from the title objects.

Answer: Hills Like White Elephants
16. Identify these institutions and incidents from Reconstruction for 10 points each.

1. In 1873, Justice Miller wrote for the majority of the Supreme Court in ruling that a monopoly granted by the City of New Orleans to certain establishment owners did not violate the due-process clause of the 14th Amendment. Name this set of 3 cases.

Answer: the slaughterhouse cases
2. This agency was established in 1865 and headed by former Union general Oliver Howard. It gave free medical care, dispensed food, and created educational institutions. Congress ended it in 1872.

## Answer: the Freedman's Bureau

3. Booker T. Washington made this 1895 speech stressing the importance of education and freedom of economic opportunity for African-Americans. It proved unpopular with W.E.B. du Bois and the founders of the NAACP.

Answer: The Atlanta Compromise
17. Identify the George Bernard Shaw plays for 10 points each.

1. Raina Petkoff hides the Swiss mercenary Bluntschli in her room before later marrying him. Her ex-fiance Sergins pairs off with Raina's maid Louka.

## Answer: Arms and the Man

2. Set in the future, the play documents the struggle between King Magnus and Prime Minister Proteus, and their joint battle against Breakage's Ltd.

Answer: The Apple Cart
3. Shaw adapted an Aesop fable by to the days of early Christianity to create this play, about a Christian whose earlier kindness to an injured animal saves his life.

## Answer: Androcles and the Lion

18. Answer the following about Chinese literature, for the stated number of points.
1.(10) This Yuan Dynasty novel by Lo Kuan-chung describes the bloody strife that followed the collapse of the Han.

Answer: The Romance of the Three Kingdoms (or: San-kuo chilh ven-I)
2. (5 each) Now for five points each and a bonus five for all three, name those three title kingdoms.

Answers: Wei, Wu, and Shu
19. Identify these women who recently posed nude in Playboy for 10 points each.

1. Formerly an actress on the TV show For your Love, her more famous sister recently co-starred in I Am Sam.

Answer: Dedee Pfeiffer
2. A former teenage pop star, now she's thirty and embarking on a second music career more oriented towards rock. Answer: Tiffany
3. She is best known for appearing on a show called Flex Appeal on which she shows you how to bulk up and be fit. Answer: Kiana Tom (accept either part)
20. Reproductive parts of flowers for 5 points each and a bonus 5 for all correct.

1. (5) Located at the tips of filaments, these structures contain chambers where the pollen grains develop.

Answer: anther
2. (5) Often called the flower's male reproductive organ, these structures consist of a filament and an anther.

Answer: stamen (accept microsporophyll)
3. (5) Located at the tip of the style, these sticky structures serve as a landing platform for pollen.

## Answer: stigma

4. (5) Pollen tubes grow down through these highly modified leaves consisting of a stigma and a style, with an ovary at the base.

Answer: carpel
5. (5) Usually called the flower's female reproductive organ, they consist of one or more carpels, each containing one or more ovules.

Answer: pistil
21. Characters in Greek mythology with shared names, 15-10.

1. (15) This was the name of a Trojan king who was the father-in-law of Dardanus.
(10) It was also the name of a son of Telamon and Hesione. He was the greatest archer in the Trojan War and was the half brother of Ajax the Greater.

Answer: Teucer
2. (15) This was another name for Glauce, who married Jason after he abandoned Medea.
(10) It was also the name of Aeneas's first wife, whom he lost after the fall of Troy.

Answer: Creusa

