Tossups:

1. Four political parties have formed governments in this province since its 1905 creation and no party has returned to power after an electoral defeat. It is the only province in its country that does not have a sales tax, primarily due to its revenues from oil mined in the Athabascan tar sands. Politically, this province is dominated by the Progressive Conservatives who control all 28 ridings in the House of Commons and two thirds of the seats in the provincial legislative assembly; it is sometimes referred to as Canada's "Texas" due to its oil wealth and its conservative, western character. For ten points, name this westernmost of the three prairie provinces of Canada with capital at Edmonton.

ANS: Alberta (Too long)
2. One of the sculptures in this series was at the center of a court case when a customs inspector ruled that it was not art and thus subject to duty for the value of its bronze content. Seven of the sculptures are made of marble and nine of bronze. None of the sculptures contain readily recognizable features of the title creature, but instead represent its flight. For ten points, name this 1923 series, the most famous work of Romanian sculptor Constantin Brancusi.

## ANS: Bird in Space

3. This government was repulsed and eventually defeated by the "Ever Victorious Army" initially lead by Frederick Townsend Ward. This theocratic government was founded by two self-proclaimed Hakka mystics. In areas controlled by it, private property was abolished, the solar calendar replaced the lunar one, and the basic texts for the Civil Service examinations were replaced. After the fall of Nanjing, it renamed the city Tianjing and made it its capital. For ten points, name this brief militaristic government that lasted from the early 1850 s to the early 1860 s, which ruled much of China in opposition to the Qing Dynasty.

ANS: Taiping Heavenly Kingdom OR Heavenly Kingdom of Great Peace (do not accept "Taiping Rebellion")
4. Approximately one in every 2000 Americans has undergone this medical procedure, with more possibly having undergone it in Thailand. John Brown was imprisoned for performing them while unlicensed, and Trinidad, Colorado is known as the world capital of this operation. It is highly sexist, as phalloplasty is currently not at a working level, but $90 \%$ of the recipients claim to be satisfied with the results. For ten points, what is this medical procedure, the surgical manipulation of a person's genitalia to look like that of the other biological sex?

ANS: Sex Reassignment Surgery (SRS) (accept equivalents)
5. In this 1993 novel, Dr. Hornicker makes an ominous statement that foreshadows more deaths to come after the initial tragedy. A tree on the family lot infected with Dutch elm disease symbolizes decay of the suburban family after the death of Cecilia. Trip Fontaine, a neighborhood boy, falls in love with Lux, the prettiest of the sisters. By the climax of the novel, the boys found Bonnie's dead body hanging in the basement. Therese dies from overdose of pills, Lux asphyxiates herself, and Mary nearly dies from putting her head inside the oven. For 10 points, identify this Jeffrey Eugenides novel about the self-killing of the five Lisbon girls, which was adapted into a 2000 film by Sofia Coppola.

## ANS: The Virgin Suicides

6. This important category of words is not one of the traditional parts of speech. In languages which decline adjectives, these words also decline to agree with their associated noun. In English, singular count nouns must be limited by one of these, and plural nouns and mass nouns optionally are. Including the traditional categories of personal pronouns, quantifiers, articles, and demonstrative pronouns-for 10 points-what category of words derives its name from its ability to specify the reference of noun phrases?

## ANS: determiners

7. The existence of these particles is important to the standard model, though they are the only particle predicted by the model which has not been observed. They have spin zero because their associated field is scalar. They have a positive mass which is not predicted by the model, but which must be fairly large to account for the lack of observations. For 10 points, what are these bosons which give rise to mass?

ANS: Higgs boson
8. The album's title is explained in the track "We Major", where the artist justifies the name by saying "cause we takin these muh'fuckers back to school". "We major", according to Wikipedia, is Jay-Z's favorite track, who teamed up with the artist on "Diamonds Are Forever", the first single from the album. The album's third single, "Heard Em Say", features Maroon 5's Adam Levine. The second single, and the album's biggest hit, features Jamie Foxx performing a sample from a Ray Charles song, in which he refers to a woman as a "Gold Digger". For ten points, name this second album by Kanye West.

## ANS: Late Registration

9. By forming stable oxysulfides and tying up trace elements such as lead and antimony, this alloy removes free oxygen and sulfur in steel foundries. Consisting of variable proportions of constituent metals, it was first marketed when its discoverer had leftover metal after thorium had been extracted to make lantern mantles. This alloy can be blended with iron oxide and magnesium oxide to form a harder material known as ferrocerium, which is commonly used as the "flint" ignition device in lighters and torches. For 10 points, identify this alloy, typically consisting of $50 \%$ cerium and $45 \%$ lanthanum, with small amounts of neodymium and praseodymium.

## ANS: mischmetal (accept "cerium mischmetal")

10. It served as the inspiration to the Yes song "Close To The Edge", in reference to the titular character's awakening close to the edge of the river. Among other characters, is Kamala, a beautiful courtesan from whom the main character learns the pleasures of a materialistic life. The aforementioned awakening takes place after the main character, a Brahmin's son, along with his companion, Govinda, leaves his home to join the ascetics . For ten points, name this novel, whose titular character is not Buddha, a novel by Herman Hesse.

ANS: Siddlıartha
11. The novel follows the main character and family friends, the Allens, as they visit Bath, England. She is pursued by two men, John Thorpe and Henry Tilney. While Catherine Morland finds John repulsive, she is attracted to Henry's knowledge of literature, which mirrors her own. The Tilneys invite Catherine to the titular estate, which, due to her reading of Anne Radcliffe's "The Mysteries of Udolpho", she expects to be full of terrible secrets. For ten points, name this novel by Jane Austen.

ANS: Northanger Abbev
12. The name of this structure was coined by Addiego in 1881, and he named it for the German doctor who first hypothesized its existence. George Costanza once called it a myth, and a "Time" article in 1983 quoted J Jones Stewart as saying there is no evidence for its existence, due to the lack of nerve endings in the purported region of the vaginal wall. The Skenes gland, or "female prostate" is the best candidate for, for ten points, what anatomical structure, the supposed source of the female orgasm?

ANS: Grafenberg Spot
13. It begins with Brutus, Aeneas's grandson, being told by the goddess Diana about a deserted island, which he names after himself. Among the notable monarchs are Vortigern, who was betrayed by the Saxon mercenaries Hengist and Horsa. The combatants in the ensuing chaos included Uther Pendragon, who would eventually father a son, Arthur. FTP, name this work by Geoffrey of Monmouth, which tries to provide an ancient lineage for the people of Britain.

ANS: Historia Regum Britanniae OR The History Of The Kings Of Britain
14. Prior to this engagement, Santa Anna put over 350 Texans, whom he had captured in previous battles, to death. His forces marched northeast and caught up to Sam Houston's forces near Lynch's Ferry and planned to rest for two days before attacking. However, Houston devised a plan to attack the Mexican forces a day earlier in the afternoon, during the Mexican army's traditional siesta. When Houston's forces launched the attack, the Mexican soldiers were ill-prepared and unarmed as Texan soldiers charged at them while crying "Remember the Alamo" Name, for ten points, this decisive 1836 battle that ended the Texas Revolution.

## ANS: Battle of San Jacinto

15. Despite ruling for twenty-fives years, only ten verses of 1 Kings are dedicated to his reign. In 2 Chronicles it is noted that the reason why surrounding kingdoms did not attack Judah during his reign was because of fear of the Lord. Even though surrounding kingdoms gave him many gifts instead, he fortified cities throughout Judah, and he is also known for ridding the rest of the male shrine prostitutes who remained after his father's reign. Name this son of Asa, for
ten points, who is most noted for displeasing God by allying with the wicked King Ahab of Israel to take Ramoth Gilead from the kingdom of Aram.

## ANS: Jehoshaphat

16. Business transactions and even manual labor are allowed on this holy day; however, restrictions on work are imposed in certain places. During the morning, afternoon, and evening prayers, as well as in the Grace after meals, a special prayer is inserted into the Shemoneh Esrei. Events leading to the celebration of this day are recorded in the last of the 24 books of the Tanakh. Celebrated annually on the $14^{\text {th }}$ day of the Hebrew month of Adar, for ten points, identify this holiday that celebrates the deliverance from Haman's plot to annihilate the Jews in the Persian Empire, described in the Biblical book of Esther

ANS: Purim
17. On the bottom right is a child clothed in red with the left leg on top of the center figure's mastiff. Standing to the child's left is a dwarf who stands immediately to the right of one of two ladies in waiting. Sandwiched between two ladies in waiting is the Infanta Margarita in a white dress. To the left of them is the artist, painting on a large easel. In the center of the background situates a mirror showing the reflection of King Philip IV of Spain and Mariana of Austria. For ten points, identify the 1656 painting, the masterpiece of Diego Velazquez.

## ANS: Las Meninas

18. Originally produced in the zaju form, this four-act play contains a xiezi ("wedge") for prologue. The main action concerns a famous judge who hears a case of two women, both claiming to be the mother of a child. Judge Pao draws the titular object on the ground, places the child in it, and asks both women to pull the child opposite ways. Pao says whoever pulls the child out is the real mother. Of course, the real mother wouldn't hurt the child, and releases the child's hand. Judge Pao then makes his final ruling. For 10 points, identify this Yuan-dynasty drama by Li Qianfu, whose "Caucasian" version was adapted in 1948 by Bertolt Brecht.

## ANS: The Chalk Circle or Huilan ii

19. In a January 2006 article in The Independent, this scientist warned that global warming could result in mass extinction for humanity; he hypothesized that relatively few people would survive in the Polar Regions. His concern over global warming has lead to his ardent support for nuclear energy as a mitigation measure, and he developed his most famous hypothesis while working for NASA to develop instrumentation to measure extra-terrestrial atmospheres. His major hypothesis is widely accepted in the environmental community but remains controversial in the Earth Sciences and Ecology. For ten points, name this British scientist who formulated the Gaia Hypothesis.

## ANS: James Lovelock

20. In 1978, this man's first wife, Ann Cherrington, was killed in a Learjet crash at an airport now named in his honor. This man is noted for wearing an Incredible Hulk tie when discussing issues that are especially important to him, including oil drilling and pork-barrel projects for his home state. Along with Robert Byrd, he placed a hold on a 2006 bill that would allow the public to search federal expenditures and grants online. He was derided for his poor understanding of technology after describing the Internet as a "series of tubes", and threatened to resign if money for the "Bridge to Nowhere" was redirected from his home state. For ten points, name this senior U.S. Senator from the State of Alaska

ANS: Ted Stevens
21. Antonio de Herrera y Tordesillas refers to this man's supposed origins in Portugal while historian Harry Kelsey writes that he was probably born in Seville. He journeyed to Havana as a young adult and eventually joined the forces of Hernan Cortez in Mexico. In 1539 he was commissioned by New Spain viceroy Antonio de Mendoza to lead an expedition to find the Northwest Passage or a route to China. In 1542 he set out from current day Acapulco, sailed around Point Conception, and reached as far north as the Russian River. For ten points, identify this Pacific Coast conquistador that "discovered" San Diego Bay and present-day California.

ANS: Juan Rodriguez Cabrillo
22. Gauge fixing in the Lagrangian forces creates the need for these virtual particles and they only exist as internal lines in Feynman diagrams. These particles violate spin statistics, and are spin-zero particles that obey the fermionic anticommutation relationships. Certain gauges do not require these particles as they are only useful in eliminating overcounting of fields related by gauge transformations. For ten points, what are these particles that only exist in the
world of mathematics, named for the two Russian physicists who developed them?
ANS: Fadeev-Popov ghosts
uc. Irvine A
Bonuses:

1. For ten points each, name the nation from a list of four states or provinces.
(10) Uttar Pradesh, Tamil Nadu, Orissa, Rajasthan.

ANS: India
(10) Flevoland, Groningen, Zeeland, Limburg.

ANS: Netherlands (accept Holland)
(10) Anambra, Rivers, Oyo, Kano.

ANS: Nigeria
2. For 10 points each, name these structural elements of a gothic cathedral:
(10) It is the turret which serves as the crown to the dome or roof of a structure.

Answer: cupola
(10) Also known as the presbytery, it is the area east of the choir which contains the high altar. It is usually the part of the cathedral reserved for the clergy.
Answer: sanctuary
(10) These are elegant, tapering structures that are set atop a tower. The smaller forms of these structures are called steeples.
Answer: spires
3. Given the year it was signed and a brief description, name the "treaty" involving the United States and a Native American nation for ten points each.
(10) 1832-This treaty lead to the forcible relocation of the Seminoles and the second Seminole war.

ANS: Treaty of Pavne's Landing
(10) 1835-This treaty was never signed by the leadership of the Cherokee nation but was used to forcibly remove the Cherokee from Georgia to Oklahoma.
ANS: Treaty of New Echota
(10) 1868 - This treaty ended Red Cloud's War and was supposed to forbid whites from entering the Black Hills. In 1980, the Supreme Court awarded the Lakota $\$ 100$ million for violations of this document.
ANS: Treaty of Fort Laramie
4. For ten points each, name these plays by Aristophanes.
(10) This play revolves around Bdelycleon's attempts to help his father, Philocleon, with his addiction to the court. ANS: The Wasps
(10) A group of women, led by the titular protagonist, withhold sex from their husbands in an attempt to end the Peloponnesian War.
ANS: Lysistrata
(10) Two slaves try to replace Demos's steward with a sausage seller.

ANS: The Knights
5. Answer these questions about similarities between elementary particle and solid state physics for ten points each.
(10) Elementary charged particles interact with photons, but in solids electrons can also interact with this mass less quasi-particle which is a manifestation of lattice vibrations.
ANS: Phonon
(10) Positrons are seen as an emptiness in the Dirac sea, and these solid-state particles are the absence of an electron from a totally filled band.
ANS: holes
(10) The Higgs mechanism was first proposed as a method by which magnetic field lines are expelled from this metallic phase.
ANS: Type 1 superconductor (accept "superconducting phase" and equivalents involving the term "superconduct")
6. Time for everyone's favorite Scandinavian film movement, Dogme 95! Answer the following questions for the stated number of points:
(10)This 1998 film, filled with unsimulated sexual intercourse, shows a group of "anti-bourgeois" adults running around and acting mentally retarded in public. Name this movie for 10 points.
Answer: The Idiots or Idioterne
(10) In this 1999 movie, the first non-European Dogme film, Werner Herzog plays a sadistic drunken father to Ewen Bremmer, whose sister (played by Chloë Sevigny) is pregnant with his child. Name this Harmony Korine film for 10 points.
Answer: Julien Donkey-Boy
(10) Identify directed the film Breaking the Waves and the other directed the film The Biggest Heroes.

Answers: Lars von Trier and Thomas Vinterberg
7. Answer the following about recent court cases involving constitutional law for ten points each.
(10) In March 2007, the Supreme Court heard Morse vs. Frederick about the free speech rights of high school students. The petitioner was punished for unfurling a banner with this four word slogan as the Olympic torch passed by.
ANS: "Bong hits 4 Jesus"
(10) A March 2007 decision by a U.S. Court of Appeals in Parker vs. District of Columbia was the first to invalidate a law based on this amendment to the U.S. Constitution.
ANS: $\quad \underline{\underline{2}}^{\text {nd }}$ Amendment
(10) This 2005 Supreme Court decision held that the $8^{\text {th }}$ Amendment prohibited capital punishment for offenders under the age of 18 .
ANS: Roper vs. Simmons
8. Answer these questions about the discovery of DNA FTSNOP:
(5PE) The 1962 Nobel Prize in Medicine or Physiology was awarded to what three men? You must get all three answers to receive 10 points.
ANS: Francis Crick, James Watson, and Maurice Wilkins
(10) What woman also shared responsibility for the discovery of DNA, but died of cancer before the Nobel Prize was awarded?
ANS: Rosalind Franklin
(5) Watson and Crick make the discovery of DNA while working in the Cavendish Laboratory, located in what British university?
ANS: University of Cambridge
9. Identify these contemporary women authors for 10 points each:
(10) This Canadian short-story writer produced a novel entitled Lives of Girls and Women. Her short stories like "The Found Boat" are published in such collections as The Progress of Love and Dance of the Happy Shades.
ANS: Alice Munro
(10) This American novelist's most recent work is the nonfiction book Animal, Vegetable, Miracle: A Year of Food Life. Her novels include The Bean Trees, Animal Dreams, and The Poisonwood Bible.
ANS: Barbara Kingsolver
(10) This American writer of mystery novels created an "Alphabet Series" that includes A Is for Alibi, B Is for Burglar, and-most recently-S Is for Silence.
ANS: Sue Grafton
10. Identify the following works by Søren Kierkegaard from descriptions for 10 points each:
(10) In this book, Kierkegaard discusses the nature of faith, using Abraham as an example.

Answer: Fear and Trembling or Frygt og Baven
(10) In this book, Kierkegaard argues that the title concept is despair, which is the archetypal sin.

Answer: Sickness unto Death or Sygdommen til Doden
(10) Kierkegaard's doctoral thesis, this book concerns Socrates and the title concept, a hallmark of Socratic Method. Answer: The Concept of Irony or Om Begrebet Ironi med stadigt Hensyn til Socrates
11. Answer these questions about cosmology for ten points each.
(10) This constant gives the ratio of the current scale factor's rate of change to its current value

## ANS: Hubble Constant

(10) This equation, named for three men, a solution to Einstein's field equations in a uniform, homogeneous, expanding universe, gives the equation of motion for the scale factor in terms of the energy density of the universe.
ANS: Friedman-Robertson-Walker equation (accept FRW equation)
(10) In an expanding universe with constant dark energy density, the two main laws of this subset of physics and chemistry are violated.
ANS: thermodynamics
12. The English system of units is bad, and the metric system is just as bad, according to theoretical physicists.
(10) For five points each, give the three physical constants that are equal to exactly one in the so-called "God's units" or "natural units"
 of light), $\underline{\mathbf{G}}$ (or big $\mathbf{G}$ or the gravitational constant or equivalents)
(10) If h -bar, c , and G are all equal to one, and the fine structure constant is $1 / 137$, what is the value of the elementary charge e? You will receive five points for correct units and ten points for the number. You have five seconds
ANS: square root of $1 / 137$, or $\underline{1 /(\text { square root of } 137 \text { )(ten points) (note to moderator: the fine structure constant }=~=~}$ $\mathrm{e}^{\wedge} 2 /\left(\right.$ hbar $^{*} \mathrm{c}$ ) and

There are no units, or unitless, or dimensionless, or equivalents (five points)
13. Identify the novel on a $30-20-10$ basis:
(10) This novel's magical realism is evident in the appearance of the ghost of the family matriarch, Mama Elena, who curses her youngest daughter and her unborn child.
(10) After eating food containing rose petals, Gertrudis falls into a lustful state and elopes with a revolutionary soldier. She later returns to the family ranch with a regiment of fifty men.
(10) The central conflict of this novel by Laura Esquivel lies between Tita De La Garza, Dr. John Brown, and Tita's first true love Pedro Muzquiz, who marries Tita's sister Rosaura in order to remain close to Tita.
ANS: Like Water for Chocolate or Como agua para chocolate by Laura Esquivel
15. There have been nine English monarchs from the House of Plantagenet. For five points each, name any six of the nine Plantagenet monarchs.
ANSWERS: Matilda. Henry II, Richard I (Richard the Lionheart), John "Lackland", Henry III, Edward I "Longshanks", Edward-II, Edward III, Richard II
16. For 10 points each, given the current president (as of April 1, 2007), name the country that held a general election in March or April of 2007.
(10) Olesegun Obasanjo

ANS: Nigeria
(10) Bashar al-Assad

ANS: Syria
(10) Tarja Halonen

ANS: Finland
17. Name the architect given a building (and the city that the building is located in) they designed for 30 points after one clue, 20 for two, 10 for three, and 5 for four.
(30) Dancing House in Prague
(20) Weisman Art Museum in Minneapolis
(10) Walt Disney Concert Hall in Los Angeles
(5) Guggenheim Museum in Bilbao

ANS: Frank Gehry (check for repeat)
18. Name the biblical prophet from clues for ten points each. (too easy?)
(10) This prophet served in both the courts of the Babylonian and Persian Empires and interpreted a mysterious message on a wall that told of the fall of King Belshazzar
ANS: Daniel
(10) This prophet warned King Ahab and Queen Jezebel of Israel of the violent deaths they would die as a result of their disobedience to God.
ANS: Elijah
(10) This prophet refused to go to Ninevah, disobeying God, and was swallowed by a giant fish for his disobedience. ANS: Jonah
19. For ten points each, answer these questions about the Crimean War:
(10) In 1854, Allied troops besieged this city, home of the Tsar's Black Sea fleet. ANS: Sevastopol
(10) The war began in 1853 with the destruction of the Ottoman fleet at this Turkish port city.
ANS: Sinope or Sinop
(10) The war was ended by this 1856 treaty.

ANS: Treaty of Paris of 1856
Answer the following about recent court cases involving constitutional law for ten points each.
(10) In March 2007, the Supreme Court heard Morse vs. Frederick about the free speech rights of high school students. The petitioner was punished for unfurling a banner with this four word slogan as the Olympic torch passed by.

## ANS: "Bong hits 4 Jesus"

(10) A March 2007 decision by a U.S. Court of Appeals in Parker vs. District of Columbia was the first to invalidate a law based on this amendment to the U.S. Constitution.
ANS: $\quad \underline{\mathbf{2}^{\text {nd }}}$ Amendment
(10) This 2005 Supreme Court decision held that the $8^{\text {th }}$ Amendment prohibited capital punishment for offenders under the age of 18 .

## ANS: Roper vs. Simmons

20. Answer the following about potential geo-engineering technologies to mitigate anthropogenic global warming for ten points each.
(10) Nobel laureate Paul Crutzen has proposed injecting aerosols of this group-16 element into the upper atmosphere to reflect sunlight back into space.
ANS: Sulfur
(10) This four syllable term is used to describe the permanent removal of carbon from the atmosphere to reduce the greenhouse effect.
ANS: sequestration
(10) One example of carbon sequestration is fertilizing particular regions of the Earth's oceans where this group 8 element is a limiting nutrient. It may be especially efficient as one ton of it could potentially sequester hundreds of thousands of tons of carbon.
ANS: Iron
21. Given a description, identify these relatives of Antigone as described by Sophocles, for ten points each.
(10) The sister of Antigone, she refused to follow Antigone in burying their brother Polynices

## ANS: Ismene

(10) The uncle of Antigone, he is the king of Thebes who decrees that Antigone shall be buried alive for disobeying the law in Sophecles' Antigone.
ANS: Creon
(10) The cousin and fiancé of Antigone, he commits suicide after discovering Antigone has hung herself.

ANS: Haemon
22. Given a brief description, identify these treaties relating to East Asian history for ten points each.
(10) This treaty ending the first Opium War committed the Qing government to nominal tariffs on British goods as well opened Canton, Amoy, Foochow, Shanghai, and Ningbo to all traders
ANS: Treaty of Nanking
(10) This treaty ended the Russo-Japanese War and ceded the southern half of Sakhalin Island to Japan.

ANS: Treaty of Portsmouth
(10) This treaty is the popular name of the Treaty of Peace with Japan that ended World War II and put the Ryukyu Islands under US trusteeship
ANS: Treaty of San Francisco
23.

