# Harvard B \& C 

Penn Bowl VII:
ROUND 14 TOSSUPS
Harvard B \& C

1. Responsible for more deaths annually than any other substance, like antimony and bismuth, this substance, unlike almost all others in nature, is denser as a liquid than as a solid. A weak acid with a pKa [p-k-a] of 7.0, it has a bent molecular structure with a bond angle of 108.. A liquid at room temperature with a density of $1000 \mathrm{~kg} / \mathrm{m} 3$ [kilograms per cubic meter], FTP, name this "universal solvent." ANSWERE: water or H2O
2. This two or four-player sport was first recognized as an Olympic sport during the 1992 Games in Barcelona. Played either inside or outside, the court (for four players) is 44 feet long and 20 feet wide. A five foot high net crosses the center of the court. Normally, scoring 15 points wins a game, but a side must win by two. FTP, name this sport played with lightweight racquets and shuttlecocks.
ANSWER: badminton
3. Her niece, Lydia Languish, is courted by the impoverished Ensign Beverly, who is actually Captain Absolute disguising himself as a poor ensign to capture Lydia's romantic fancy. She opposes Lydia's marriage, and threatens to take away half of Lydia's fortune if she marries Beverly. FTP, this character from Sheridan's comedy The Rivals, who is much better known for her humorous misuse of words. ANSWER: Mrs. Malaprop
4. One fateful day he finds the gate unlocked, and goes out into the street to accost some girls while "trying to say"; he is then beaten and castrated. Originally named for his uncle Maury, he is renamed following this incident, and his beloved pasture is sold in order to pay for his brother Quentin to go to Harvard. FTP, name this Compson brother, the idiot who narrates the first part of Faulkner's The Sound and the Fury.
ANSWER: Ben jamin Compson or Benjy [prompt on "Compson" or "Maury Compson"]
5. Supposedly caused by dysfunction of the diencephalic reticular system, and seen in some dogs, this ailment is often seen with cataplexy, a sudden and dramatic loss of muscle tone. Afflicting an estimated 125,000 Americans, mostly youths, its attacks it can last from a few seconds to several minutes, and studies indicate that at the attack's onset, REM begins immediately. FTP, name this disorder characterized by sudden sleep.
ANSWER: narcolepsy
6. In July 1954, two Italian climbers, Achille Compagnoni [ah-KEE-lay kon-pah-NYO-ne] and Lino Lacedelli [lah-chay-DEL-ee] made the first successful ascent of this mountain, first scientifically surveyed by T. G. Montgomerie almost a century earlier. Its name denotes that it is one of 35 major summits in the Karakorum Range. FTP, name this mountain, which lent its name to a 1992 motion picture, Earth's second highest.
ANSWER: K2 or Mount Godwin-Austen
7. Overall, he's a pretty shady character. He's a trained assassin, the true killer of JFK and Martin Luther King Jr, a manipulator of information, the quintessential "Man In Black." He appeared a little more human when he struggled to become a writer, but was only able to get published in a porn magazine, which inspired his soliloquy parodying Forrest Gump. FTP, name this nicotine addict who may be the father of Fox Mulder.
ANSWER: The Cigarrette Smoking Man or Cancer Man [prompt on "William B. Davis"]
8. Born in 1547, he saw the Battle of Lepanto, during which he lost a hand, as one of the high points of his life. Despite his success in writing novels and novellas, his morality plays were not as well received. Perhaps that's why he referred to his compatriot Lope de Vega as a "freak of nature." FTP name this author of La Galatea and creator of the famous idealist Don Quixote de la Mancha.
ANSWER: Miguel de Cervantes Saveedra
9. He referred to Fichte, Schelling, and Hegel as "three great windbags," and when he became a lecturer at Berlin, deliberately scheduled his lectures to conflict with Hegel's. Not surprisingly, no one came. He posited a Cosmic Will that manifested itself in ever more advanced forms, culminating in self-aware humanity. FTP, name this pessimist and misogynist who expounded upon these ideas in The World as Will and Representation

## ANSWER: Arthur Schopenhauer

10. The value of the constant is under some dispute, but most economists would place it between 2 and 3 . Though it is not the Phillips curve, it does state an inverse relationship between inflation and unemployment. It also defines a quantity called NAIRU, the non-accelerating inflationary rate of unemployment. FTP, name this law of economics, named for its discoverer.
ANSWER: Okun 's Law
11. In 1572, he was decapitated by a Spanish viceroy. Legend converted him into a figure called Inkaru, whose his head will someday reunite with his body and return the Incas to their former glory. His name means "resplendant serpent" and is shared with that of a guerilla leader who fought the Spanish in the 1780s. FTP, name this Incan, whose name has been used by many groups of South American revolutionaries.

## ANSWER: Tupac Amaru

12. Once called "Hegel in a hedge fund," in a recent speech at Johns Hopkins, he called for the removal of Malaysian Prime Minister Mahathir Mohamad from office. Mahathir had earlier accused him of devaluating the ringgit through rampant speculation, just as he had successfully speculated on the British pound in 1992 when his Quantum Fund netted $\$ 1$ billion dollars in profit. FTP, who is this financier
13. One of the first chemists to investigate the aldol condensation, he was a professor of chemistry at the Medico-Surgical Academy in St. Petersburg. Knowing that his most famous work was done when he was ill, his musical friends would greet him by wishing him ill health. Name this member of the Moguchay Kuchka and composer of In the Steppes of Central Asia and parts of Prince Igor.

## ANSWER: Alexander Porfiryevich Borodin

14. This inland sea was known as Propontis in ancient times. Located in northwestern Turkey, it divides the European from the Asian portions of Turkey. This sea contains several moderately-sized islands on which are located famous quarries of white marble. FTP, name this sea which is connected to the Black Sea by the Bosporus Strait and to the Aegean Sea by the Dardanelles Strait.
ANSWER: Sea of Marmara
15. He had a single white lock amid a head of jet-black hair, which early earned him the nickname "Chinchilla." His homosexuality was known to everybody and discussed by nobody; likewise his obsessive infatuation with dancer-turned-choreographer Vaslav Nijinski [nuh-ZHIN-skee]. FTP, identify this promoter and impresario, the founder and director of the Ballets Russes in Paris.
ANSWER: Sergei Diaghilev [dee-AH-ghee-lev]
16. The central figure faces the left, looking at a black curtain. In the background, one framed picture and the edge of another hang on the otherwise drab wall. The titular character's feet are on a short footstool and her hands are folded in her lap. FTP, this is a description of what famous portrait by James Whistler?

## ANSWER: Arrangement in Grey and Black No. 1: Portrait of the Artist's Mother or Whistler's Mother

17. The wounding of Edward Sieff. Massacring 11 Israeli athletes. A 1976 hijack of an Air France plane. Taking 70 hostages in a 1975 assault on OPEC headquarters. All these actions have at one time been considered linked to this man, a thorn in the world anti-terrorist effort for years. FTP, identify this man, who is currently serving a life sentence for the murder of two French counter-agents.
ANSWER: Ilich Ramirez Sanchez or Carlos the Jackal
18. The author of this work repeatedly rewrote an intended volume 2, but in his will he ordered all copies of it burned. Volume 1 contains the outrageous tale of Captain Kopeikin [koh-PAY-kin], and caricatures the gross Russian-ness of miserly landowners like Plyushkin [PLOOSH-kin] and stubborn ones like Manilov [mah-NEE-lov]. FTP, Pavel Chichikov [CHEE-chih-kov] is the "hero" of what satirical novel by Nikolai Gogol?
ANSWER: Dead Souls or Myortvye dushi
19. This religious figure spent his early adulthood as an accountant for a Mogul administrator. Around his 30th birthday, he experienced a religious calling, and with a bard named Mardana, he set off in search of enlightenment. He taught that self-interest prevented union with god, but that asceticism was the wrong path, because there is spirituality in everyday activities. FTP, identify this man, the founder of Sikhism.
ANSWER: Guru Nanak
20. Its name means "the mound of the dead," and it was once the largest city in the Indus valley civilization, about two miles from the Indus River. However, when Sir John Marshall excavated it in 1922, he found evidence that the city had been devastated by flood several times. FTP, name this ancient city which may have been succeeded as the capital the Indus civilization by Harappa.
ANSWER: Mohenjo-Daro
21. This new class of biological molecule was first discovered in 1983 while studying self-splicing introns of Tetrahymena . Since this initial discovery, many different examples have been discovered in eukaryotes, and their existence is considered convincing proof of the "RNA world" hypothesis, which suggests that RNA predates both DNA and proteins in the development of life. FTP, name this class of catalytic RNA molecules.
ANSWER: ribozyme s [accept "catalytic RNA" on early buzz]
22. The name of this language means "perfected." Its history extends about three thousand years but it has largely been used only for written scholarly and reglious work for the last 1500 years. Rules for its strict grammar were compiled authoritatively by Panini probably between 400 and 200 BC. Notable literature in it includes the work of Kalidasa and Valmiki. FTP, name this language of ancient India. ANSWER: Sanskrit or Samskrta [in Sanskrit]
23. He belonged to the Northern Kingdom and began his prophesies in the last years of Jeroboam II, in the 8th century BC. His prophesy focuses on images of infidelity, comparing Israel to an unfaithful wife. This was a topic he was familiar with, as his own wife was a harlot and adulteress. FTP, name this minor prophet of the Old Testament, whom God commanded to marry Gomer.

## ANSWER: Hosea

25. This delectable dessert was invented in 1832 by the Viennese hotelier for whom it is named. A rich chocolate cake filled with apricot jam and covered in chocholate glaze it is generally served with copious quantities of shlag or whipped cream. FTP, name this fattening Viennese speciality.
ANSWER: Sachertorte [ZAH-shur-tohr-tuh]
26. Freshman Senator dies in hazing accident. Clinton threatens to drop "Da Bomb" on Iraq. Rash of high-speed chases threatens local fruit stand. Sexual harrasment victims tell their sizzling tales. Midwest peace talks shattered by Illinois toll booth bombing. Area Bassist Fellated. FTP, these headlines are all taken from what publication, "America's Finest News Source," a newspaper parody named for a vegetable?
ANSWER: The Onion
27. In foosball, it is a European-style front-pin wrist shot, also called the monkey or wrist-rocket. On Saturday Night Live , a 1995 sketch urged you to "ride" it. On The Simpsons , it's the name of the man who spoke the words, "Oh, no: Beta!", Springfield's most notorious outlaw. FTP, what is this five-letter word, the nickname of pro wrestling's Jake Roberts and pro football's Jake Plummer.

## ANSWER: snake

28. The orbital form of this measurement derives a distance by determining the spectroscopic and visual orbits of a binary star system. The spectroscopic form involves taking a spectrum of a star from which its luminosity is estimated, and deriving its distance from its apparent brightness. FTP, name this astronomical measurement, used to determine distances by the apparent motion of a star on the sky as the earth moves its orbit.
ANSWER: parallax
29. In the designs for this work, its creator altered the Gothic-style cathedral almost beyond recognition with his method of "equilibration." Although the artist was commissioned to build it in 1883, only one transept with one of its four towers had been completed when he was fatally struck by a trolley car in 1926. For ten points, name this Barcelona landmark, which was left unfinished by Antoni Gaudi (GOW-dee).
ANSWER: Templo Expiatorio de la Sagrada Familia or Church/Temple of the Holy Family
30. This process, which derives its name from the French for "to speak the truth," involves the interview of members of panel known as a venire to determine their competency and level of bias. If these members are determined to possess pre-conceived notions of guilt or innocence, a judge may dismiss them. FTP, identify this law term used to describe the questioning of potential members of a jury. ANSWER: voir dire [vwahr dear]

Penn Bowl VIII:
ROUND 14 BONI
Harvard B \& C

1. Identify these Chinese writers, 15 points each.
a. This Taoist thinker's only known work shares his name. In one section, upon waking from a dream, he cannot tell whether he's a man who dreamt he's a butterfly, or a butterfly dreaming he's a man.
ANSWER: Chuang Tzu
b. This poet of the Tang dynasty has been translated by Ezra Pound, as in "The River Merchant's Wife: A Letter." He supposedly died while drunk, trying to embrace the moon's reflection in the water.
ANSWER: $\boldsymbol{L i}$ T'ai $\boldsymbol{P o}$
2. Ten points each, given a holiday, name the month that it occurs in.
a. Flag Day ANSWER: June
b. Guy Fawkes Day ANSWER: November
c. Boxing Day ANSWER: December
3. Identify these Springfield stores frequented by the Simpsons, 10 points each.
a. Bart was caught attempting to shoplift the video game "BoneStorm" from this aptly-named store.

ANSWER: Try-' $N^{\prime}$-Save
b. Otto the bus driver came out of this store complaining that its name was "flagrant false advertising" due to the fact that only crockery is sold at this store.
ANSWER: Stoner's Pot Palace
c. Homer had to sit through the waiting period before purchasing a firearm from this establishment.

ANSWER: Bloodbath and Beyond Gun Shop
4. Answer these questions about the Mexican revolution, 10 points each.
a. This man won the election to the presidency, but Porfirio Diaz annulled the election. He took power in 1911 but was assassinated two years later by his own minister of war.
ANSWER: Francisco Madera
b. This man, Madera's war secretary, was in power from 1913 until July 1914, when he was forced to leave the country.

ANSWER: Vicoriano Huerta
c. One of the major leaders of the peasant revolutinary movement, he initially fought for Madera but then turned against him. He was assasinated by partisans of Carranza, Huerta's successor.
ANSWER: Emiliano Zapata
5. 30-20-10. Name the woman.
[30] Her father, according to tradition, was an animal trainer. While still young, she gained acclaim as an actress through her beauty and intelligence. She was also a devout Monophysite.
[20] Later in life, she was known for her activism. She defended womens' rights, helping pass laws prohibiting female slavery, and altering divorce laws to give greater benefits to women.
[10] She is credited with saving Justinian's empire by persuading him not to abandon Constantinople during the Nika Revolt. She was perhaps the most powerful Byzantine woman.
ANSWER: Theodora
25 POINT BONUS
6. Answer these questions about Angola's civil war for the stated number of points.
[10]This rebel leader started the insurrection in the 1970s against Angola's Marxist government with the aid of the US and South Africa?
ANSWER: Jonas Savimbi [suh-VIHM-bee]
[15] For fifteen, what is the name of Savimbi's guerrilla group, who immediately resumed armed conflict following their defeat in the 1992 elections?
ANSWER: UNITA or National Union for the Total Liberation of Angola

## 25 POINT BONUS

7. Given an English monarch, name his royal house, 5 points each, and a bonus five for all correct.
a. Edward IV ANSWER: York
b. Edward I ANSWER: Plantagenet
c. Edward VII ANSWER: Saxe-Coburg-Gotha
d. Edward VI ANSWER: Tudor
8. Conjoin these unlikely unions of literature and pop music. Ten points per part.
a. Ezekiel feeds the chickens, Jacob plows, and Lucifer orchestrates the Fall of Man, fool. It's unclear whether the narrator will actually be laughing his head off when they're burning in hell.
ANSWER: Amish Paradise Lost ["Amish Paradise" by Weird Al Yankovic]
b. From the band that brought you "James K. Polk" and "Meet James Ensor," this new release might feature Per Hansa and his wife Beret.

ANSWER: They Might Be Giants In The Earth [Giants in the Earth by Ole Rolvaag]
c. George Meredith's sequence of 50 sonnets on a failed marriage might include a section on "livin' it up when you're going down."

ANSWER: Modern Love In An Elevator ["Love in an Elevator" by Aerosmith]
9. Name the famous trails based upon their terminal locations, 10 points each.
a. Mount Katahdin and Springer Mountain ANSWER: Appalachian National Scenic Trail
b. San Antonio, Texas and Abilene, Kansas ANSWER: Chisholm Trail
c. Independence, Missouri to New Mexico ANSWER: Santa Fe Trail

## 25 POINT BONUS

10. 1998 was the year of blockbuster mega-mergers. For the stated number of points, name the two companies involved in each of these mergers.
[10] In the biggest industrial merger ever, this German conglomerate and this Big Three automaker merged to create the first truly global car giant.
ANSWER: Daimler-Benz (prompt on "Mercedes" or "Mercedes-Benz") and Chrysler
[15] This German publishing giant and this well-known US publishing house merged to create the world's biggest publisher.
ANSWER: Bertelsmann Media Group and Random House

## 25 POINT BONUS

11. Five each, and five for all correct, given the words, state the language from which they were borrowed.
a. poem, theatre, zeal ANSWER: Greek
b. coffee, sugarANSWER: Arabic
c. galleon, caravel, yamANSWER: Portuguese

## d. boss, golfANSWER: Dutch

12. 30-20-10. Name the man.
[30] Early in 1998, Speaker Newt Gingrich named him to chair the Speaker's Steering Committee on Health and the Resource Group on Health.
[20] As of December 31, he was the Chief Deputy Majority Whip in the House, following his service during the last session of Congress as a regional whip for the Northeast and Midwest.
[10] This Illinois representative was sworn in as the newest Speaker of the House.
ANSWER: J. Dennis "Denny" Hastert
13. What do you want on your tombstone? Identify these scientists from a description of their grave markers, 10 points each.
a. His tombstone bears a 17-sided regular polygon, a figure he proved "constructible."

ANSWER: Karl Friedrich Gauss
b. Somewhat more familiar to students of geometry is this man's tombstone, etched with a sphere inscribed in a cylinder. He was the first to prove that the ratio of their volumes was $2 / 3$.

## ANSWER: Archimedes

c. This man's tombstone bears the inscription "S =k log $W$ "--even though Max Planck was the first to express entropy that way.

ANSWER: Ludwig von Boltzmann
14. Answer these questions about bonding in amino acids, ten points each.
a. What type of bond joins the amine group of one acid to the carbonyl group of the next?

ANSWER: peptide bond
b. Which amino acid can form disulfide bonds?

ANSWER: cysteine
c. Hydrogen-bonding between every fourth member of a poly-peptide chain brings about what secondary structure?

ANSWER: alpha helix
15. 30-20-10. Name the concept.
[30] It crystallized around Sefer ha-zohar or The Book of Splendor.
[20] Later, through its Lurianic branch, this religious philosophy was transformed into a popular movement, which generated Sabbatian messianism and Polish Hasidism.
[10] Its name, Hebrew for "received tradition", is today often applied to all Jewish mysticism.
ANSWER: Kabbalah or Kabala [kuh-BAH-lah or KAH-buh-luh]
16. Identify the composers of these piano sonatas with subtitles for the stated number of points.
[5] Sonata No. 23 in F minor, Op. 57, "Appassionata" ANSWER: Ludwig van Beethoven
[10] Sonata No. 2, "Concord, Mass., 1840-1860 "ANSWER: Charles Ives
[15] Sonata No. 4 in C minor, Op. 29, "From Old Notebooks" ANSWER: Sergei Prokofiev
17. Identify this chain of philosophers, 10 points each.
a. This man, whose most vocal proponent and friend was John Steuart Mill, originated the term "the greatest good for the greatest number."

ANSWER: Jeremy Bentham
b. Bentham may have been influenced by this ancient thinker, the founder of an eponymous philosophical school devoted to maximizing pleasure, which he considered to be the "highest good."
ANSWER: Epicurus
c. Epicurus himself was influenced by this earlier hedonistic founder of the Cyrenaic school. His motto was "I possess, I am not
possessed."
ANSWER: Aristippus of Cyrene

1. Name these items from Norse mythology, for the stated number of points.
[5] Thor's hammerANSWER: Mjolnir [MIH-yohl-near]
[10] Odin's spear ANSWER: Gungnir [GOON-gnear]
[15] Heimdall's horn ANSWER: Gjallarhorn [GYAH-lur-horn]
2. Given a list of works, name the prominent American painter on a 15-5 basis.
a. [15] Clam Diggers, Rosy-Fingered Dawn at Louse Point, Gotham News, Pink Angels
[5] Woman I [one]
ANSWER: Willem de Kooning
b. [15] Woman with Plants, Daughters of Revolution
[5] American Gothic
ANSWER: Grant Wood
3. How much do you remember about the infamous coin-toss incident on Thanksgiving Day?
[ $2 \times 5$ ] Five points each, name the two teams involved in this game which went into overtime.
ANSWERS: Detroit or Lions and Pittsburgh or Steelers
[10] This Steelers captain's call of "tails" during the overtime coin-toss was misheard by the referee.
ANSWER: Jerome Bettis
[10] He once mistaked Vinny Testaverde's helmet for the ball during a Jets game. This referee botched that call, and many others all season long.
ANSWER: Phil Luckett
4. Identify these famous operatic trouser roles (male characters sung by women), 10 points each.
a. This page from Mozart's The Marriage of Figaro loves love, and every woman on the stage, including Barbarina, Susannah, and the Countess Almaviva.
ANSWER: Cherubino
b. This nobleman appears in the second act of Johann Strauss's Die Fledermaus plying his party guests with cries of "More vodka!"

ANSWER: Prince Orlofsky
c. This Roman emperor in Monteverdi's The Coronation of Poppea was originally written for a male soprano, presumably a castrato ; however, modern productions often use a woman.
ANSWER: Nero
22. Given a description of a national flag, identify the nation, for the stated number of points.
[5] This nation's flag has vertical bands of red, yellow and green, and a large black " R " in the center.
ANSWER: Rwanda
[10] The flag of this nation has a solid yellow star in the center of a red background
ANSWER: Vietnam
[15] Five for one, or fifteen for both, name the two nations that share the same flag, a horizontal band of red on top of a horizontal band of white.
ANSWER: Republic of Indonesia and Monaco [Poland is white above red]
23. Answer these questions on game theory, for the stated number of points.
[5] This simplest of games involves two players who will, in the absence of collusion, always make decisions which are detrimental to both of them.
ANSWER: prisoner's dilemma
[10] This two-word phrase refers to the best action for a player to follow regardless of the actions pursued by other players.
ANSWER: dominant strategy
[15] He published Papers in Game Theory, and many other works. He is also a proponent of utilitarianism.
ANSWER: John C. Harsanyi [har-SHAN-yee]
24. Answer these questions about actresses who moved from a mundane Aaron Spelling drama to a more supernatural series, 10 points each.
a. This former 90210 star now plays in another Spelling production, as one of the witches in Charmed

ANSWER: Shannon Doherty
b. This actress moved from Spelling's Sunset Beach to a supporting role on Buffy the Vampire Slayer .

ANSWER: Charisma Carpenter
c. This Melrose Place actress left that den of iniquity to become another of the witches of Charmed .

ANSWER: Alyssa Milano
25. Many human diseases are auto-immune in nature. Given the targets, name the disease, 15 points each.
a. DNA, nuclear protein, and the membranes of red blood cells and platelets.

ANSWER: Systematic lupus erythematosus
b. Thyroid-stimulating hormone receptor

ANSWER: Graves ' disease
26. Given the first line of a poem, give the second line, for 15 points, or the title of the poem for 5.
a. "Two roads diverged in a yellow wood,"

ANSWER: [15] And sorry I could not travel both
[5] "The Road Not Taken " by Robert Frost
b. "Had we but world enough and time,"

ANSWER: [15] This coyness, lady, were no crime
[5] "To His Coy Mistress" by Andrew Marvell
27. So how well do you know your country music related geography? Identify these places, 10 points each.
a. Alan Jackson sings that he "never knew how much those muddy waters meant to me."

ANSWER: Chattahoochee
b. Releasing "Southern Star" and "In Pictures," they started off playing South Carolina beach parties.

ANSWER: Alabama
c. In George Strait's "Oceanfront Property," he laments his lost love. If you think he's happy, he'll sell you some oceanfront property in this southwestern state, and throw in the Golden Gate Bridge too.

## ANSWER: Arizona

28. If you don't like it, you can get the Balzac. Answer these about the works of Honoré de Balzac for the stated number of points.
[5] Balzac's main body of work bears this name, showing his desire to create a panorama of Parisian life similar in scope to works of Dante Aligheri.
ANSWER: The Human Comedy or La Comédie humaine
[10] This French literary critic discussed Balzac's short story "Sarrasine" in his analytical text, $S / Z$
ANSWER: Roland Barthes [bart]
[15] Henry James' The Bostonians is loosely based on this Balzac short story about secrecy, incest, lesbianism, and a dangerous liaison. It's title comes from Paquita's most striking feature.
ANSWER: The Girl With the Golden Eyes or La Fille aux yeux d'or
29. Identify these volumes of the Prydain chronicles by Lloyd Alexander, 10 points each.
a. In this first volume, after getting some nasty burns from the title object, Taran leaves his job as caretaker to an oracular pig in order to save the world.

ANSWER: The Book of Three
b. Taran searches for his place in life among the people of the free cantrevs.

ANSWER: Taran Wanderer
c. Taran kills Arawn and destroys the cauldron-born using Dyrnwyn, the magic sword. Eilonwy gives up immortality to stay with him, and finds his true destiny as ruler of Prydain.
ANSWER: The High King
30. 30-20-10. Name the architect.
[30] This architect graduated from the Copenhagen School of Architecture in 1942, and he soon began to gain widespread acclaim for his highly innovative designs.
[20] Commissioned to design his most famous work in 1956, he would ultimately resign from the project in 1966 after engineers informed him that his bold design was structurally impossible to build.
[10] He designed the Sydney Opera House.
ANSWER: Jorn Utzon
31. The sun still never sets on the French colonial empire, now just far-flung small islands. Ten points each.
a. This lush island of the Lesser Antilles was the birthplace of Empress Josephine. The capital is Fort-de-France.

ANSWER: Martinique
b. A mountainous, volcanic island located in the Indian Ocean not far from Mauritius, it was uninhabited when first discovered. Today, however, it is densely settled.
ANSWER: Réunion [RAY-yoo-nyon]
c. Mining of nickel is the most important economic activity in this western Pacific island somewhat larger than Connecticut. The native Melanesian population is currently agitating for independence.

## ANSWER: New Caledonia

Answer these questions about Maxwell's equations, 10 points each.
a. Gauss' law states that the flux of the electric field through a closed surface is equal to 1 over the permittivity times what quantity?

ANSWER: total charge enclosed by the surface [accept equivalents]
b. Maxwell himself gets credit for only part of one of the four equations. Whose law did he modify to include a "displacement current"?

ANSWER: Andre-Marie Ampère 's law
c. The equivalent of Gauss' law for magnetic fields says that all magnetic fields have divergence zero. This prohibits the existence of what particle predicted by super-symmetric gauge theory?
ANSWER: magnetic monopole
31. The illegitimate son of Pepin of Herstal, he ascended the throne by 719 and immediately took the battlefield. He earned his fame by driving back a Muslim force at Poitiers [PWAH-tee-ay] in 732, although the battle was called the Battle of Tours. His short son, whose name was Pepin, became the father of Charlemagne. FTP, name this Frankish king who earned his nickname "The Hammer" at Tours. ANSWER: Charles Martel or Carollus Martellus [accept Charles the Hammer on early buzz]

