

Stanford Cardinal Classic 1999
Tossups by Berkeley A - Jason Hong, Jon Pennington, Mike Usher

1. Eleven years after his election to the Parliament seat from Carnarvon Boroughs which he held for next 55 years, he was nearly lynched in Birmingham for his opposition to the Boer War. Appointed Chancellor of the Exchequer by Herbert Asquith, he introduced national health insurance to Britain, and in 1909 he proposed a "People's Budget" calling for high taxes on the rich. FTP, name this Liberal Party politician who was Prime Minister from 1916 to 1922.

Answer David Lloyd George

2. One of his short stories shares its name with a poem by Walt Whitman entitled "I Sing the Body Electric!" He wrote stage plays and several screenplays, including Moby Dick in 1956. FTP, name this American author born in Waukegan, Illinois, whose first book of short stories, Dark Carnival, was followed by his 1950 classic The Martian Chronicles.

Answer: Ray Bradbury

3. Petr Kapitsa coined the term, and Laszlo Tisza attempted to explain it using the *ätwo fluidä* model. It occurs when helium is cooled below 2.19 degrees Kelvin, a value known as the lambda point. There, helium loses all viscosity and gains the ability to flow as a film over the side of a vessel in which it is placed, while its heat conductivity rises enormously. FTP, identify this state of super-cooled liquid.

Answer: Superfluid or superfluidity

4. It is a political organization that, through Herut and Irgun Zvai Leumi, can claim descent from the Revisionist Movement founded by Vladimir Jabotinsky. It was formally founded in September of 1973 and in 1977 it ousted its main opponent, the Labor Party, from office. FTP, name this Israeli political party currently led by Prime Minister Benjamin Netanyahu.

Answer: the Likud

5. After retiring in 1983 from the New York Cosmos, this two-time European footballer of the year coached his national team to two consecutive World Cup finals. He is currently president of the German club Bayern Munich, the team which he led to several league championships in the 1970s. FTP, name this sweeper who led the West Germans to the 1974 World Cup.

Answer: Franz Beckenbauer

6. The achievements of either this leader are believed to include the signing of a treaty with the nearby city of Gabii and the construction of a major sewer, the Cloaca Maxima. He took power after murdering his predecessor and father-in-law, Servius Tullius. Lucius Junius Brutus led a revolt against him in 510 BC partly because of his son's rape of the noblewoman Lucretia. FTP, name this son or grandson of Tarquinius Priscus who was the seventh and last king of Rome.

Answer: Lucius Tarquinius Superbus (also accept Tarquin the Proud)

7. There are around 150 of them, including Metapod, Caterpie, and Zubat. The cartoon series features the trainer Ash and a young one named Pikachu. FTP, what is this Japanese inspired cartoon and game combination which features kids capturing little pets?

Answer: Pokemon (PO-kee-mon)

8. One of his works, painted outdoors as was his custom, is about 2.5 meters high, so a trench had to be dug in the garden and the canvas was raised and lowered by pulleys. The painting, *Women in the Garden*, now hangs in the Musee d'Orsay in Paris. Many of his paintings depict scenes from places where he lived, including Argenteuil and Giverny. FTP, who is this French Impressionist painter known for series of paintings including *Haystacks* and *Rouen Cathedral*?

Answer: Claude Monet

9. This phylum is the most primitive group of invertebrates to have three embryonic layers, and most of its members are hermaphroditic. While some species in the class Turbellaria are less than five millimeters long, lengths up to fifty feet may be reached by members of the class Cestoda. FTP, name this phylum whose parasitic members sometimes live in cattle, dogs, sheep, and humans and include flukes and tapeworms.

Answer: Platyhelminthes (prompt on Flatworms on early buzz)

10. This city first gained importance as a trade center when it was connected by rail to Matadi in 1898, 21 years after it was founded near the village of Kintambo. Air service was opened between this city and Stanleyville in 1920, and in 1923 it took over from Boma as capital. FTP, name this city which served as capital of the Belgian Congo, which exchanged the name of Leopoldville for its current name in 1966.

Answer: Kinshasa (accept Leopoldville before it's mentioned in question)

11. Born with the name Wesley Cook, he was once president of the Philadelphia chapter of the National Association of Black Journalists. In 1996, he sued National Public Radio for 1.5 million dollars for dropping him as a commentator due to political pressure from Bob Dole and the Fraternal Order of Police, which has been calling for his execution. FTP, name this controversial death row inmate from Pennsylvania accused of murdering police officer Daniel Faulkner.

Answer: Mumia Abu-Jamal

12. He was a professor of metaphysics at the University of Madrid who supported the fall of the Spanish monarchy in 1931, but was very critical of democracy. His most famous book argues that democracy cannot sustain itself, and is destructive because it will lead to the "sovereignty of the unqualified" and the domination of society by "the mass man." FTP, identify this Spanish existentialist who wrote *The Revolt of the Masses*.

Answer: Jose Ortega y Gasset

13. While serving on a privateering expedition in 1704, he was set ashore at his own request on Mas-a-tierra, one of the Juan Fernandez Islands in the Pacific, four hundred miles west of Chile. He was rescued in 1709 and returned to England, where he became a celebrity and soon achieved literary immortality. FTP, name this person upon whom Daniel Defoe based his work *Robinson Crusoe*.

Answer: Alexander Selkirk

14. First produced in Berlin in 1925, it was based on a play by Georg Buchner and is recognized as the first full-length opera written in atonal form. In it, the title character, a nervous soldier, kills his love, Marie, when she fails to submit to his advances. For 10 points, what was this revolutionary opera by Alban Berg.

Answer: Wozzeck

15. He is such a strong opponent of gun control that he was the second-place finisher in the election that awarded Charlton Heston the presidency of the National Rifle Association. Three personal marriages have not stopped him from authoring the Defense of Marriage Act. FTP, identify this Georgia congressman and member of the House Judiciary Committee who was first to submit an impeachment resolution against President Clinton.

Answer: Bob Barr

16. When the American Revolution came about, he commanded the Ranger, and carried the news of British General John Burgoyne's surrender to France. While there, he was given command of a converted merchant ship, which would be involved in one of the most famous naval battles in the Revolution. FTP, name this Scottish-born captain of the Bonhomme Richard who, when called upon to surrender, replied "I have not yet begun to fight!"

Answer: John Paul Jones

17. Born Marvin Lee Aday, he got his start as member of the psychedelic group Popcorn Blizzard. He was a member of the Broadway cast of Hair in a role that thankfully did not require any nudity, but he is probably better known by cult film aficionados for playing Eddie in the Rocky Horror Picture Show. FTP, identify the carnivorous stage name of the performer who sang "Two Out of Three Ain't Bad" and "I Would Do Anything For Love, But I Won't Do That."

Answer: Meat Loaf

18. The 20th of her father's 22 children, this athlete suffered from scarlet fever and polio in her childhood, leaving her in leg braces until age nine. At 16, having been lured to track and field by Tennessee State track coach Ed Temple, she won a bronze medal in the relay at Melbourne, foreshadowing her success four years later. FTP, name this woman famous for her gold medals in the 4x100 meter relay, the 200 meter dash, and the 100 meter dash at Rome in 1960.

Answer: Wilma Rudolph

19. Described in the form of a traveler's tale, it is located somewhere off of the coast of South America. The most worthy goal for the people was the "leisure" to pursue learning and self-improvement. There is no private ownership in this highly democratic republic. FTP, what is this "no place" described by Sir Thomas More?

Answer: Utopia

20. It consists of two lateral lobes and a connecting isthmus. Grave's disease and myxedema are conditions resulting from improper function of this gland, the two lobes of which lie on either side of the trachea. FTP, identify the only gland in the body that stores iodine.

Answer: thyroid gland

21. This part of the human personality supplies the energy for the functioning of conscious mental life, but because it lacks organization and is incapable of reason, it can simultaneously harbor two conflicting ideas. It reveals itself in art and in slips of the tongue, but Freud held that its content is best examined through the analysis of dreams. FTP, name this Freudian construct related to aggression and sex.

Answer: Id

22. His teacher, Girolamo Fabrici, discovered valves along the veins of the legs which were assumed to prevent blood from flowing downward. He himself went on to experiment with animals, tying off a vein or an artery and noting that blood flowed away from the heart in arteries and back to the heart in veins. For 10 points--name this English physician, who in 1628 published "An Anatomical Disquisition of the Movement of the Heart and the Circulation of the Blood."

Answer: William Harvey

23. Did she work eight months a year on coffee and cotton plantations or was she attending a boarding school run by Catholic nuns? This is one of the questions posed by anthropologist David Stoll in his recent book that cast doubt on the authenticity of this woman's autobiography. FTP, name this Guatemalan human rights activist who won the 1992 Nobel Peace Prize partially on the basis of her now disputed autobiography.

Answer: Rigoberta Menchu (also accept: Rigoberta Menchu Tum)

24. Marco Polo claimed that this person had once existed but was killed in a great battle with Genghis Khan. He also appears in Ariosto's Orlando Furioso. In the twelfth century he is supposed to have reigned over a wonderful country somewhere in the heart of Asia. FTP, who is this legendary Christian king and priest?

Answer: Prester John

25. The name comes from Sanskrit for "Abode of Snow." The three great rivers of India: the Ganges, the Brahmaputra, and the Indus, all begin there. They run for about 1500 miles, extending from northwest Pakistan and across Kashmir, northern India, Tibet, Nepal, Sikkim, and Bhutan to the borders of China in the East. FTP, what is this triple-ridged mountain chain?

Answer: Himalayas

26. Early in her teens she determined to write about the rapidly disappearing traditions of provincial life about her, and by the age of 28 she was an established writer. Her books include realistic sketches of aging Maine natives, whose manners, idioms, and pithiness she recorded. FTP, name this American writer of regional fiction, whose works include Deephaven and The Country of the Pointed Firs.

Answer: Sarah Orne Jewett

27. He was the editor of the journal The Crisis for a quarter-century. The dissertation "The Suppression of the African Slave-Trade to the United States of America, 1638-1870" earned him a Ph.D. from Harvard in 1895. For 10 points, who is this person, the trumpeter of "manly agitation" that was a forceful voice for blacks in the early 20th century?

Answer: W. E.

B. Du Bois

28. It is a term meaning "learned man." When the English surveyors reached the Himalayas, they could go no farther than the Tibetan border by order of the Chinese emperor. Instead, the British recruited local men who were trained in surveying skills and equipped with measuring chains disguised as prayer beads. These natives were teachers and educated men called "panditsā, but, for 10 points, their name has been corrupted to what form that we know today?

Answer: Pandit (accept pandit before mention)

29. In a famous painting, he is depicted making a treaty under the elm tree at Shackamaxon, a treaty that didn't exist. Part of the deal was known as the "Walking Purchase" in which he vowed to take only as much land as a person could walk in three days. FTP, who is this person whose colonial "holy experiment" was centered in the city of brotherly love, Philadelphia?

Answer: William Penn

30. In the U.S. large deposits of this mineral are found around the great lakes and it crystallizes in the rhombohedral system with the corundum structure. It is used in paints as ochre and polishes as rouge. FTP, identify this hard red mineral with the formula Fe_2O_3 .

Answer: Hematite

1. During the Spanish-American war, this ship, originally stationed off the coast of California, was ordered to Cuba. Steaming around South America, it was closely followed in the press, taking two months to reach Cuba.

Answer: Oregon

2. In 1880, a French group led by this chief architect of the Suez Canal failed in digging the canal due to floods, earthquakes, yellow fever, and malaria.

Answer: Ferdinand de Lesseps

3. He was the US Army doctor and health officer in Panama, and carried out the plan of mosquito control, effectively eliminating the problems with yellow fever.

Answer: William Gorgas

27. Identify the artist from works, 10 points each.

1. Weymouth Bay, Borrowdale, White Horse

Answer: John Constable

2. Massacre of the Innocents, The Triumph of Death

Answer: Pieter Breughel the Elder

3. Girls on the Banks of the Seine, Peasants of Flazey, Funeral at Ornans

Answer: Gustav Courbet

28. Answer the following about the founding of Jamestown.

1. On December 20, 1606, 104 colonists left port aboard three ships. Name any two of them for five points each.

Answer: Susan Constant, Goodspeed, and Discovery

2. He was the chief of the Indians who shared food with the Englishmen, and was the father of Pocahontas.

Answer: Powhatan

3. He was the Englishman that crossed Virginia tobacco with seed from a milder Jamaican leaf, creating Virginia's first cash crop. Name this person who later on married Pocahontas.

Answer: John Rolfe

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Bonuses by Berkeley A - Jason Hong, Jon Pennington, Mike Usher

1. Answer the following about electromagnetic energy, 5-10-15:

1. For five, identify the law which states that the rate of energy loss in a wire carrying a steady current is equal to the product of the current and the voltage drop across the wire.

Answer: Joule heating law or Joule's law

2. For ten, give the term for the vector, usually denoted by "S," which represents the energy per unit time per unit area transported by electric and magnetic fields and is given by the formula, "S equals E cross B."

Answer: Poynting vector

3. For fifteen, name the formula which says that the power radiated by an accelerating charge is proportional to the square of the charge times the square of the acceleration.

Answer: Larmor formula

2. Identify these key geographic places that led to historical battles being fought over them, FTPE.

1. It was a village in Apulia on Italy's southeast coast as well as the site of a Roman defeat at the hands of Carthage.

Answer: Cannae

2. It was an open plain in Greece lying northeast of Athens. It was there that an Athenian army under Miltiades defeated the Persian forces of King Darius.

Answer: Marathon

3. It was a hill-fort built by the Mandubii where Caesar squelched a great Gaulish rebellion in 52BC

Answer: Alesia

3. Identify the holders of the following somewhat unimpressive records in sports, FTP given the year it was set, or FFP if you need another clue about the recordholder:

1st 10 pts: Most times hit by a pitch in a major-league baseball career, 1987.

1st 5 pts: He managed the Colorado Rockies from 1993 until he was replaced by Jim Leyland at the end of last season.

Answer: Don Baylor

2nd 10 pts: Most strikeouts in a single major-league baseball season, 1970.

2nd 5 pts: He spent the first half of his career with the San Francisco Giants, and he and his son are two of the only four players in major-league history to hit 300 home runs and steal 300 bases.

Answer: Bobby Bonds

3rd 10 pts: Most fair catches on punt returns in an NFL career, 1998

3rd 5 pts: He has led the NFL in all-purpose yards twice as kick returner and running back for the Washington Redskins.

Answer: Brian Mitchell

4. Identify the following heroes from Irish legend, FTPE.

1. Hero of the Fenian cycle and leader of the Fenians, his profound wisdom came from his having tasted the salmon of knowledge

Answer: Finn MacCool (or Finn mac Cumhail or Fionn mac Cumhail)

2. Name the son of Finn and father of Osca

Answer: Oisín (pron. o-SHEEN) (accept Ossian)

3. Originally named Sentata, he is the Irish warrior of the Ulster cycle. The son of the sun god Lugh, he deters the invading army of Queen Maeve.

Answer: Cu Chulainn (pron. kuh-HOO-lan, but accept close pronunciation)

5. Name the island on which the following cities lie, for the stated number of points:

1. FFP, Auckland

Answer: North Island (New Zealand)

2. FFP, Port-au-Prince

Answer: Hispaniola

3. FTP, Port Louis

Answer: Mauritius

4. FTP, Willemstad

Answer: Curaçao

6. Identify the composers of the following works about Faust, FTP each:

1. The opera Faust, first performed in 1859.

Answer: Charles Gounod

2. A Faust Symphony (1834)

Answer: Franz Liszt

3. The Damnation of Faust (1846)

Answer: Hector Berlioz

7. Identify the following plays by Molière, FTP each:

1. One of Molière's earlier successes, in which a character named Arnolphe is so afraid of femininity that he arranges to have his beloved Agnes raised in total innocence so that she won't prove unfaithful.

Answer: The School for Wives (accept The School of Wives or L'Ecole des Femmes)

2. The 1666 play in which a high-principled fool named Alceste fails to find any "honest" men in the world to agree with him.

Answer: The Misanthrope (Le Misanthrope; also translated "The Plain-Dealer")

3. The play, whose last edition was written in 1669, about a lecher who poses as an ascetic and establishes himself so firmly in a bourgeois household that its master promises him his daughter and disinherits his son.

Answer: Le Tartuffe, ou l'imposteur (accept "The Imposter")

8. Identify the following mathematical functions, FTP each:

1. This function, which generalizes the factorial function to non-integer values, is defined as the integral from zero to infinity of $t^x e^{-t}$ dt.

Answer: Gamma function

2. This function of a possibly complex argument x is defined as the sum, for n from one to infinity, of $(1/n^x)$. The celebrated Riemann hypothesis states that zeros of this function occur only for complex numbers whose real part is one-half.

Answer: Riemann Zeta function

3. In their non-associated form, these polynomial functions are defined as e^{-x} times the n th derivative of x^n . Their associated form is used in quantum mechanics to represent the radial part of solutions to Schrödinger's equation for the hydrogen atom.

Answer: Laguerre polynomials

9. Answer the following about Nigerian politics, FTP each:

1. Name the dictator whose five-year reign ended with his death last June.

Answer: Sani Abacha (SUN-ee A-bah-CHA)

2. Name the general who will continue as the head of government in Nigeria until national elections are held in May.

Answer: Abdulsalami Abubakar

3. Name the centrist political party, which dominated both the local elections in December and the state elections in January and is expected to win the national elections.

Answer: People's Democratic Party (or PDP)

10. Identify the directors of these classic films given film title, FTPE.

1. The Last Will of Dr. Mabuse, Metropolis

Answer: Fritz Lang

2. Lady from Shanghai, Touch of Evil, The Magnificent Ambersons

Answer: Orson Welles

3. La Strada, La dolce vita, 8 1/2

Answer: Federico Fellini

11. Identify the authors of the following unrelated works, five points each:

1. The Heart of Midlothian Answer: Sir Walter Scott

2. Heart of Darkness Answer: Joseph Conrad

3. The Heart of the Matter Answer: Graham Greene

4. Heartbreak House Answer: George Bernard Shaw

5. The Heart is a Lonely Hunter Answer: Carson McCullers

6. The Tell-Tale Heart Answer: Edgar Allen Poe

12. Identify these rebellions in American history FTPE.

1. The leader of this rebellion led an attack on the federal arsenal at Springfield, Massachusetts, in January 1787.

Answer: Shays's Rebellion

2. He led a rebellion against the Virginia Governor in 1676 in order to get more land from the Indians.

Answer: Bacon's Rebellion

3. Taking place in New York in 1689, it was spill over from the Glorious Revolution of 1688,

Answer: Leisler's Rebellion

13. If you've been wasting time watching The Cartoon Network, you'll love this bonus. Identify the show, ten points each.

1. A kid genius is plagued by his Mom, Dad, his sister Deedee, and his arch-rival Mandark

Answer: Dexter's Laboratory

2. Defending Townsville, USA, are Blossom, Bubbles, and Buttercup, a superhero trio still in kindergarten

Answer: Powerpuff Girls

3. The author cannot stand to watch this so-called sister and brother pair and their troubles with school, classmates, hardened criminals, and a little red guy with horns and a pointed tail.

Answer: Cow and Chicken

14. Identify the authors of these muckraking works, FSNOP.

For 5: How the Other Half Lives

Answer: Jacob _Riis_

For 5: The Shame of the Cities

Answer: Lincoln Steffens

For

10: Twenty Years at Hull-House

Answer: Jane _Addams_

For

10: History of Standard Oil Company

Answer: Ida _Tarbell_

15. Identify these international alliances for 10 points each.

1. Lasting from 1949 to 1991, its purpose was the economic integration of the Eastern Bloc as a counterbalance to the economic powers of the European Community.

Answer: COMECON (or Council for Mutual Economic Assistance)

2. It was founded in 1963 by representatives of thirty-two African governments and was dedicated to the eradication of all forms of colonialism in Africa.

Answer: OAU (or Organization of African Unity)

3. Established in 1952 as advisory body on economic and social cooperation, it is comprised of parliamentary delegates from Denmark, Iceland, Norway, Sweden, Finland, Greenland, and Faroe and Aland Islands.

Answer: Nordic Council

16. Identify the following "Flying Dutchmen" from sports, FTP each:

1. This 8-time National League batting champion who played for the Pittsburgh Pirates from 1900-1917 was nicknamed "the Flying Dutchman."

Answer: Honus Wagner

2. This is the only school in NCAA Division I whose sports teams are nicknamed "the Flying Dutchmen."

Answer: Hofstra University

3. This graduate of Hofstra made a name for himself in the NFL this past season as a rookie wide receiver for the New York Jets.

Answer: Wayne Chrebet

17. Identify the following novels by Toni Morrison, FTPE:

a) The 1981 novel about a model named Jadine who chooses life in Paris over her uneducated Floridian lover, Son.

Answer: Tar Baby

b) In this 1992 novel set in the 1920s a girl named Dorcas has an affair with and then is shot by a middle-aged married man named Joe.

Answer: Jazz

c) Morrison's first novel, in which a girl named Pecola, who prays to God each night to become more beautiful, is raped by her father and goes insane.

Answer: The Bluest Eye

18. Answer the following about a recent scandal involving the International Olympic Committee, or IOC, for the stated number of points:

1. FFP, name the city whose Olympic Organizing Committee reportedly offered such gifts as cash, scholarships, and female escorts to IOC members in an effort to bring the Olympics to the city.

Answer: Salt Lake City

2. FTP, name the IOC president, who received firearms as gifts from the Salt Lake Organizing Committee but said that such gifts were common practice.

Answer: Juan Antonio Samaranch

3. F15P, name the president of the Salt Lake Organizing Committee who resigned his position on January 8 as a result of the scandal.

Answer: Frank Joklik

19. A best-selling book, describing the families of eight leukemia victims whose disease was caused by carcinogens in their drinking water, has recently been turned into a movie starring John Travolta.

1. First, for five points, what is the name of this book, the same name of the movie?

Answer: A Civil Action

2. For ten, who wrote the book A Civil Action?

Answer: Jonathan Harr

3. Ten for one, fifteen for both, name the companies involved in the lawsuit.

Answer: W. R. Grace and Beatrice Foods

20. Identify the following order of mammalia given a description, 10 each.

1. The largest and longest living mammals belong to this order, as do the largest animals known.

Answer: Cetacea

2. They have reduced dentition, long sticky tongues, and powerful forefeet, and include tree sloths and armadillos.

Answer: Edentada

3. These ruminants include giraffe, deer, and pigs

Answer: Artiodactyla (accept Even-toed Ungulates)

21. Identify these early leaders in colonial America, ten points each.

1. He was the Dutch leader who met with local Indian chiefs in the spring of 1624 to purchase Manhattan Island for the famous twenty-four dollar figure.

Answer: Peter Minuit

2. In 1636 he led a group of Puritan followers into Connecticut and founded Hartford.

Answer: Thomas Hooker

3. The key mover in the French era of exploration was this person, who founded Quebec only one year after Jamestown was founded.

Answer: Samuel de Champlain

22. Answer the following questions about chemical solutions, FTP each:

1. Give the term for the negative of the base 10 logarithm of the hydrogen ion concentration in a solution.

Answer: pH

2. At constant temperature, the product of the concentrations of the two ions of a salt in a saturated solution is constant. Give the term for this constant.

Answer: Solubility product or KSP

3. To one significant figure, give the product of the concentrations of hydronium and hydroxide ions in water at room temperature in moles-squared per liters-squared.

Answer: 10^{-14} (ten to the minus fourteen)

23. Identify the following art movements, ten points each.

1. It aims for pure art using pristine geometrical shapes, particularly the square. It devotes itself to the notion that art should be non-utilitarian, and was propounded by the Russian artist Kazimir Malevich.

Answer: Suprematism

2. Founded by an Italian poet and novelist, it was inspired by modernity, speed, machines, and the sights and sounds of the twentieth century. Practitioners include Balla, Carra, and Severini.

Answer: Futurism

3. Emerging in Italy in reaction to High Renaissance art in the 16th century, proponents included Parmigianino.

Answer: Mannerism

24. Answer the following about ancient events in Egyptology.

1. Ruling for 66 years, he built more temples and monuments than any other pharaoh. For ten, name him.

Answer: Ramses II

2. For ten, this is the burial place of New Kingdom pharaohs who ruled Egypt at the peak of its military power, between 1539 and 1078BC.

Answer: Valley of the Kings

3. This tomb is the largest ever found in the Valley of the Kings, the burial place of many of the sons of Ramses II. For ten, what is this tomb designated as?

Answer: KV5

25. Name the physical constant described for ten points.

1. It is the ideal gas constant divided by Avogadro's number or the energy per degree of freedom divided by one half T.

Answer: Boltzmann Constant

2. It is equal to 8.854×10^{-12} Coulomb squared per Newton times square meter, and when multiplied by μ_0 , the permeability of free space, it yields one over the speed of light squared in SI units.

Answer: Permittivity of free space or vacuum

3. It is equal to 0.528 angstroms, or $4\pi\hbar^2$ squared epsilon not over the electron mass times the electron charge squared; it's commonly used as an atomic length scale.

Answer: Bohr radius

26. Answer the following about the Panama Canal.