Marc Swisdak

TOSSUPS

T1. Type 1's of this phenomenon occur in all types of galaxies, show no evidence of hydrogen in their spectra, and are believed to originate with white dwarfs in binary systems. Type 2's are found mainly in spiral galaxies, contain hydrogen in their spectra, and are believed to originate from the collapse of massive stars. FTP, name these celestial phenomena, one of which created the Crab Nebula in 1054 A.D.

Ans.: Supernovae or Supernovas

T2. He, like many of his time, wrote on the Sacco-Vanzetti case in the novel Boston and was concerned with the power of business, which he described in King Coal and Oil! . His socialistic views led him to establish the Helicon Home Colony in New Jersey and to run for governor of California in 1934. However, he is most famous for his 1906 work that told of the Rudkus family working in the Chicago stockyards. FTP, name this author of The Jungle.

Ans.: Upton Sinclair

T3. The episode is treated in the drama Nine Pine Street and the novel The Long Arm; Agnes de Mille even composed a ballet, Fall River Legend, based on the case. In 1985, a biographer tried to show it was her sister Emma who committed the murders. All that is known is that in August 1892 a man and his wife were brutally axed in a Massachusetts town and the killer was never found. FTP, name the woman who became a legend for giving "her mother forty whacks" and "her father forty-one."

Ans.: Lizzie Borden

T4. On Swaps in 1955, Tommy Lee in 1959, and Lucky Debonair in 1965 he won the Kentucky Derby. He barely missed a victory in 1957 on Gallant Man when he stood up in his saddle too soon, holding up his mount. That fourth.title would have to wait until 1986 when he rode Ferdinand to the roses. FTP, name this jockey, winningest of all time, nicknamed "The Shoe".

Ans.: Willy Shoemaker

T5. His life is entwined with Archbishop Turpin of Reims. It is Turpin who blesses he and his companion Olivier before their death. Moreover, Turpin was long considered as the source of the Chronicle of Charlemagne that details many of his adventures. Finally, Turpin, who is also one of the twelve paladins, dies with him at the battle of Roncesvalles. FTP, name this traditional nephew of Charlemagne and greatest of the paladins.

Ans.: Roland

T6. It was the brainchild of radio disc jockey Don Cornelius and debuted in 1971 in Chicago. It has since moved to LA to take advantage of a "new attitude towards dancing" found there. This show was the first on TV to show such street fashions as oversize jewelry, conspicuous sportswear, and Afros. It also featured the talents of artists Chuck Berry, James Brown, and Aretha Franklin long before MTV. FTP, name this show once described as "the black American Bandstand."

Ans.: Soul Train

T7. This school of economics believes the long-term Phillips curve is verticalói.e., there is no permanent tradeoff between unemployment and inflation. Based on the 19th century "quantity of money" theory, this school of economics also feels that the best fiscal policy is one that carefully controls the money supply to ensure gradual growth. FTP, name this school of economics, whose best-known proponent is Milton Friedman.

Ans.: Monetarism

T8. After mastering the techniques of the confessional poets, the work of this American focused on her own life. Her only novel, published under a pseudonym in 1963, was mostly autobiographical as it told of an adolescent's breakdown and suicide attempt. In such works as Ariel and Winter Trees, her poetry followed her plunge into depression and obsession with death. FTP, name this poet married to Ted Hughes, who wrote The Bell Jar.

Ans.: Sylvia Plath

T9. Officially named the Order of Preachers, they are pledged to poverty, study, and itinerant preaching. Known in France as the Jacobins, they are also called the "Black Friars" and, in a Latin pun, "dogs of the Lord." Founded in 1216, 7 years after the Franciscans, they quickly penetrated the Church and played a notable role in the Inquisition. FTP, name this order whose most famous members include Savonarola and St. Thomas Aquinas.

Ans.: Dominicans

T10. No odd ones are known, but there is no proof demonstrating their impossibility. The even ones are intimately linked to the Mersenne primesó prime numbers that can be written as two to a power minus one. Euclid proved that for every prime of that form, one of these numbers must exist, while Euler showed that Euclid's numbers are all of the even ones that exist. FTP, what are these numbers, such as 6 and 28, which equal the sum of their divisors, excluding themselves.

Ans.: Perfect numbers

T11. In college, she studied anthropology with Franz Boasó an interest she would carry with her later in life. As a folklorist, she wrote such books as Tell My Horse which records the myths of Haiti and Jamaica and others on aspects of black culture. Many of her works were collected in 1979's I Love

Myself When I am Laughing, however she is remembered for her novel that tells the life of the quadroon Jamie and her love, Tea Cake. FTP, name this author of Their Eyes Were Watching God.

Ans.: Zora Neale Hurston

T12. This century saw the flourishing of Arabic science and power as the term algebra is coined, the astrolabe is perfected, and Rome is sacked. Elsewhere, Rurik founds Novgorod while the first settlements are made in Iceland. Finally, Alfred the Great is born and dies and Charlemagne's empire is broken up with the Treaty of Verdun. FTP, name the century AD when all of these events occurred.

Ans.: Ninth century   accept 800's)

T13. Island possessions of this country include Admiralty Island, and New Britain along with Buka and Bougainville. In addition, they own parts of the neighboring Bismarck and Solomon Islands. The northern half was claimed by Germany until WWI when Australia captured it and made it a trustee area, eventually letting it become independent in 1975. FTP, name this nation bordered by the Coral Sea which shares its island home with Indonesia and whose capital is Port Moresby.

Ans.: Papua New Guinea (Note: Do NOT accept New Guinea)

T14. His first feature film was Knife in the Water, however it was his second, 1965's Repulsion, that began building his reputation. Focusing on a sexually-confused woman, the film foreshadows the impact that sex and sexuality have had on his life and career. Sexuality is a prevailing theme in Cul-de-Sac and Macbeth, although it is subdued in one of his best films, Chinatown. FTP, name this Polish-French director, now in self-imposed exile because of charges of statutory rape.

Ans.: Roman Polanski

T15. Located between the stomach and the diaphragm on the left side of the abdomen, this organ was once believed to be the source of black bile, or melancholy. Today, it is known to be a spongy, lymphoid organ that is a center of the endothelial system. FTP, name this organ whose main purpose is to eliminate red-blood cells and recycle their iron.

Ans.: Spleen

T16. The full title of this book notes it is "written in the style of Cervantes," but it is really based on Samuel Richardson's Pamela. The hero is supposedly the brother of Pamela, while Mr B. of Pamela is transformed into Squire Booby. As the title character sinks into the background, Parson Adams rises and eventually rescues the hero and his love Fanny Goodwill, allowing them to marry at novel's end. FTP, name this 1742 novel by Henry Fielding.

Ans.: Joseph Andrews

T17. Freud and Piaget, like many psychologists, felt the critical events of social development occurred in childhood. However, other analysts have disagreed with this view. They are influenced by the work of this psychoanalyst who established his "eight ages of man," lasting from infancy to old age. Each age

involves a confrontation between the person and demands placed by society. FTP, name this German-American psychoanalyst who developed the idea of the identity crisis.

Ans.: Erik Erikson

T18. Beethoven said he was "the greatest composer who had ever lived." In fact, his life paralleled Beethoven's in many respects. Born in Germany, his music was universally acclaimed during his life while the last years of his career where haunted by a crippling disease, in this case blindness. Finally, as Beethoven raised the symphony to its highest form, he, with such works as Saul and Israel in Egypt perfected the oratorio. FTP, name this composer of such works as Water Music and The Messiah.

Ans.: George Frederick Handel

T19. The best translation of this work was made by Edward Fitzgerald in 1859. It soon attracted the attention of the pre-Raphaelite brotherhood which praised it for its grace, musicality and spirit. In translated form, it concerns itself with meditations on the mysteries of existence and counsels to be merry while life lasts. In Fitzgerald's final form, it consists of 101 quatrains translated from Persian. FTP, name this work by Omar Khayyam.

Ans.: Rubaiyat

T20. His personal research is devoted to one genus of Bahamian snail. However, he has written on subjects as diverse as the history of human intelligence testing, the demise of the .400 hitter, and Darwin's theory of evolution. His essays for Natural History Magazine have been collected in books such as Bully for Brontosaurus and The Panda's Thumb. FTP, name this biologist who, with Niles Eldredge, developed the evolutionary theory of punctuated equilibria.

Ans.: Stephen Jay Gould

T21. His father awoke him each day with a cannon blast and made him learn every command in the drill code by age 5. When he showed his artistic inclinations, his father badly mistreated him and brutally executed one of his friends. Despite this, he became one of Europe's great monarchs. He began the War of the Austrian Succession and the Seven Year's War, both times making territorial gains. At his death, he had doubled his country's area and made it the dominant German state. FTP, name this Prussian king.

Ans.: Frederick II or Frederick the Great

T22. Born Michael Mouskos in 1913, he was exiled from his country by the British for his links to the EOKA terrorist group. After fleeing to the Seychelles in 1956, he returned in 1957 and became the first president of his newly independent country. In 1974 he was deposed in a coup by Greek officers of the National Guard and again temporarily fled. FTP, name this archbishop of the Cypriot Orthodox Church who led the fight for Cyprus' independence.

Ans.: Archbishop Makarios III

T23. This property is measured in units of poise (poiz). It measures the definite resistance to forces causing a change of form shown by all fluidsand many solids. A sort of internal friction, it is strangely absent inhelium cooled below 2 degrees Kelvin which results in a liquid that can climb the walls of a

container. FTP, name this property which measures the thickness of liquids from syrup to motor oil.

Ans.: Viscosity

T24. He ran for President on the Farmer-Labor ticket in both 1932 and 1936. However, his most notable action came while he was mayor of Massillon, Ohio. While in office in 1894, he and revivalist Carl Browne led a living petition to Washington so he could speak in favor of public building programs. But, before speaking he was arrested for walking on Capitol's grass. FTP, name this man who led an army of 20,000 unemployed men to Washington.

Ans.: Jacob Coxey

Marc Swisdak

BONUSES

B1. (30) Ah, Shakespeare. Many people have the plays and main characters down cold, but what about the stage directions? Big Bill didn't use them often, but when he did they were memorable. Identify the plays from the following directions for 10 pts, if you need some help, you'll get 5.

1. (10) "Thunder. First Apparition: an Armed Head"

(5) Another stage direction in the play is "Enter the Three Witches, meeting Hecate."

Ans.: Macbeth

2. (10) "Enter Ferdinand, bearing a log"

(5) Ferdinand is the son of the King of Naples who helped usurp the dukedom of Milan and has been ship-wrecked on an island by a magical storm.

Ans.: The Tempest

3. (10) "Exit, pursued by a bear"

(5) One of the late romances, its main characters include Leontes, Hermione, and Perdita.

Ans.: The Winter's Tale

B2. (30) Ruling countries is an interesting business. Oftentimes, the best things about the country and its rulers never get put into the history books. Identify the following rulers a 10-5 basis.

a. (10) He had a phobia of cockroaches and black beetles. He was also

one of the most inventive taxers in history, fining births, funerals, hats,

beehives, firewood, drinking water, and beards.

(5) He ruled Russia from 1682-1725

Ans.: Peter I or Peter The Great

b. (10) When Princess Elizabeth and Prince Philip were married in 1947,

he sent the young couple a loincloth for their wedding present.

(5) He led the fight for Indian independence and was assassinated in

1948.

Ans.: Mohandas K. "Mahatma" Gandhi   (NOT a ruler!)

c. (10) In October 1921, Lord Inchape of England was informed by a messenger that he had just been offered the throne of this country. For a moment the lord was struck dumb, and then responded "Good heavens, where is it?"

(5) After Lord Inchape refused, this country considered a number of other candidates before the country's president Ahmed Bey Zegu ascended to the throne as King Zog.

Ans.: Albania

B3. (30) Biology pop quiz! Answer the following concerning last night's reading on protein synthesis for the stated number of points.

a. (5) Proteins can have molecular weights running into the millions. However, their structure became much easier to understand when Emil Fischer discovered they are made of long chains of smaller molecules called what?

Ans.: Amino acids

b. (10) Amino acids need a place to link together to form proteins. What is the name of the granules found in the cytoplasm where other proteins and a special form of RNA form the site of protein synthesis.

Ans.: Ribosomes

c. (15) Ribosomal RNA links the separate amino acids together to form a

protein with a special type of bond. Name this bond which joins the acids

and releases water.

Ans.: Peptide bond

4. It said that there are over 200 million Hindu deities. Luckily, we won't ask you to name them all on an all or nothing basis. Instead you only have to name the following three for the stated number of points.

a. (5) A member of the Hindu equivalent of the Trinity, he has anywhere from 4 to 22 avatars. He is probably the most popular of the Hindu deities.

Ans.: Vishnu

b. (10) One of the avatars of Vishnu, he is often portrayed as dark blue or black in color. He plays a central role in the Bhagavad-Gita.

Ans.: Krishna

c. (15) A god of wisdom, he is a son of Shiva and is said to be the scribe of the Mahabharata. He is depicted as having an elephant's head on a man's body.

Ans.: Ganesa or Ganesh or Ganapati

B5. (30) The most important anniversary in 1995 may be the ending of World War

II. However, other significant events in American history have anniversaries in 1995. Identify them for the stated number of points.

a. (5) In 1970, President Nixon appointed this Minnesotan to the Supreme Court. He would write the majority opinion in Roe v. Wade.

Ans.: Harry Blackmun

b. (10) In 1945, along with the end of WWII, this former Secretary of

State won the Nobel Peace Prize for his work in getting the United States to

join the United Nations.

Ans.: Cordell Hull

c. (15) From January-May 1920, a Red Scare swept the nation as this Attorney General made mass arrests of subversives.

Ans.: Alexander Palmer   [A. Mitchell Palmer]

B6. (30) While most of the questions in this packet are academic in nature, here's one to test how often you skipped class and stayed home watching TV. Identify the following soap operas from a brief description for 10 points each.

a. (10) Set in Pine Valley, New York this ABC soap features Susan Lucci as Erika Kane who once had 20 men in her past all come back to haunt her.

Ans.: All My Children

b. (10) One of the very first soaps, this CBS favorite is set in Springfield, Illinois and revolves around the Bauer family.

Ans.: Guiding Light

c. (10) This NBC soap has been anchored by the characters of Dr. Tom Horton and his wife. During the 1970's it was the top daytime show.

Ans.: The Days Of Our Lives

B7. (30) The name that we know an artist by may not be the name that he was born with. Identify the artist off their real name for 10 pts, off some other clues for 5 pts.

a. (10) Tommaso di Giovanni

(5) This Florentine probably did more than Giotto to usher in Renaissance art since he had more influence on his contemporaries. His works include the fresco The Expulsion from Paradise in the Brancacci Chapel.

Ans.: Masaccio

b. (10) Jacopo Robusti

(5) The works of this Venetian mannerist are characterized by dramatic viewpoints, movement, and rich colors. He is known for his frescoes in the Scuola di San Rocco.

Ans.: Tintoretto

c. (10) Lorenzo di Cione di Ser Buonaccorso

(5) This Florentine was a sculptor, painter, goldsmith, and writer. One of the leading figures of the early Renaissance, he is famous for the second pair of bronze doors for the Florence baptistry.

Ans.: Ghiberti

B8. (30) One of the causes of the American Revolution was the insensitivity of England's leaders in the years leading up to the war. Identify these leaders of England from the period for the stated number of points.

a. (5) Prime minister from 1770 to 1782, his actions were a major cause of the break with the colonies. In answer to the Boston Tea Party, he pushed for the Intolerable Acts of 1774 which led to the calling of the first Continental Congress.

Ans.: Lord Frederick North

b. (10) He was actually chancellor of the exchequer when he originated the acts that bear his name. Passed in 1767, the acts imposed duties on lead, glass, and tea and closed the Massachusetts Assembly.

Ans.: Charles Townshend

c. (15) Prime Minister from 1763-1765, he started the entire mess by imposing the Stamp Act in 1765 on legal and commercial documents.

Ans.: George Grenville

B9. (30) Canada¢our neighbors to the north. Home of hockey, ice fishing, and Alex Trebek. See if you can identify the Canadian province from the following brief description, for ten points each.

a. (10) The second largest province, it was originally called New Caledonia when it was explored by such men as Simon Fraser and Alexander Mackenzie. Gold was discovered in 1858, leading to a population boom and admission to Canada in 1871.

Ans.: British Columbia

b. (10) One of the four original provinces to join the Dominion of Canada, Champlain founded the first settlement here in 1604 in the region now known as French Acadia. The Webster-Ashburton Treaty finalized its border with Maine in 1842.

Ans.: New Brunswick

c. (10) Linked to the mainland by the Chingecto Isthmus, it was also one of the four original Canadian provinces. The first permanent settlement in Canada was established here at Annapolis Royal in 1605.

Ans.: Nova Scotia

B10. (30) While the theory of plate tectonics may be accepted scientific knowledge now, it wasn't as short as 30 years ago. Answer the following questions about it for the stated number of points.

a. (10) While Francis Bacon had remarked on the jigsaw fit of South America, it was this man who first seriously proposed the concept of continental drift.

Ans.: Alfred Wegener

b. (5) According to Wegener, who traced the continents backwards 200

million years in time, all of he land on Earth was once united in one

supercontinent called what?

Ans.: Pangaea

c. (10) The edges of the plates are constantly being created and

destroyed. What is the name for the process where magma upwells from the

earth's mantle and builds new crustal material, as is happening near Iceland.

Ans.: Sea-floor spreading (take reasonable alternatives)

d. (5) What is the name for the process where one plate is bent under

another, causing the lower one to melt and become part of the mantle.

Ans.: Subduction

B11. (30) Literary themes are often borrowed from a number of sources, including the Bible. Identify the following interrelated answers for the stated number of points.

a. (5) This king of the Old Testament was the youngest son of Jesse and the reputed author of many of the Psalms.

Ans.: David

b. (5) He was the handsome young son of David who rebelled against his father. After being caught by his hair in an oak tree, he was slain by one of David's soldiers.

Ans.: Absalom

c. (10) He was a counselor of David who deserted him to join Absalom's revolt. After Absalom disregarded his advice, he hanged himself.

Ans.: Achitophel

d. (10) "Absalom and Achitophel" is the also the name of a political satire that attacks attempts to exclude the future James II from the English throne because of his Catholicism. Name the author of this 1681 work.

Ans.: John Dryden

B12. (30) In the span of fifty years, the Mongols grew from sparring tribes of nomads to rulers of one of the greatest empires the world has ever seen. Identify the following from the Mongol conquest for the stated number of points.

a. (15) The third son of Genghis Khan, he was the second Supreme Khan. It was only his death in 1241 that halted the Mongol advance into Europe at the Danube after the invasions of Poland and Hungary.

Ans.: Ogedai or Ogotai (or other similar variant) Khan

b. (5) This grandson of Genghis Khan was the founder of the Yuan dynasty of China. It was his court that Marco Polo visited in his Eastern travels.

Ans.: Kublai Khan

c. (10) He claimed descent from Genghis Khan and reconquered Persia, Syria, and the Ottoman Turks from 1387-1402. He died planning to invade China, and his empire rapidly dissolved.

Ans.: Tamerlane or Timur the lame

B13. (30) Some names seem to pop up in literary circles more frequently than they do in real life. Identify the following literary figures with the surname "Lewis" for the stated number of points.

a. (5) This American satirized small town America in Main Street , businessmen in Babbitt , science in Arrowsmith , and religion in Elmer Gantry .

Ans.: Sinclair Lewis

b. (5) This Englishman wrote many essays on Christian theology but is perhaps best known for his "Narnia Chronicles"

Ans.: C live S taples Lewis

c. (10) This Englishman was an artist and a novelist. As an artist, he was a leader in the vorticist school before WWI. After the war, he wrote on his neo-Fascist views in essays like "Time and the Western Man."

Ans.: (Percy) Wyndham Lewis

d. (10) This former poet laureate of Britain is probably more famous because his son has starred in a number of films including Last of the Mohicans .

Ans.: Cecil Day Lewis

14. Once religion used to be simple. However, now it is hard to tell the players without a scorecard. Identify the following world religions from a description for 10 pts each.

a. Founded in 1863 in Baghdad, it grew out of the older faith Babism. It emphasizes the unity of all religions, equality of the sexes, and world peace.

Ans.: Baha'i

b. The origins of its beliefs are unknown. It stresses belief in many gods called "kami" and ancestor worship. Adherents should remain pure and enjoy life

Ans.: Shinto

c. Begun in 1868, it claims ties to the Society of the Rose and Cross founded in 1413. Members are empowered with cosmic forces through the unveiling of secrets of the laws of nature.

Ans.: Rosicrucianism

B15. (30) Scientific jargon causes consternation and confusion. Not to mention chaos and clutter. Cut through the clouds and your team will get points for citing the correct terms commencing with "c."

a. (5) It is a substance that accelerates a reaction without itself being consumed.

Ans.: Catalyst

b. (10) A beam or girder firmly attached at one end but free at the other.

Ans.: Cantilever

c. (15) Part of an animal or plant organ shaped like a cup. Examples are found in the kidneys and the outer parts of most flowers.

Ans.: Calyx

16. (30) People often say that I have an eclectic taste in music - a taste that extends to classical music as well. Identify the composers of the following works found in my CD collection for 5 pts each.

a. Capriccio Italien   Peter Tchaikovsky

b. Carmina Burana   Carl Orff

c. Roumanian Rhapsody No. 1   Georges Enesco or Enescu

d. Luonnotar   Jean Sibelius

e. American Festival Overture   William Schumann

f. Adagio for Strings (1936)   Samuel Barber

B17.(30) Although European and American history get all of the press, we shouldn't forget about neighbors to the south. Answer the following questions for the stat3ed number of points about the exciting history ofóChile.

a. (5) When President Salvador Allende was overthrown in 1973 by a military junta, this man took control and instituted economic reforms.

Ans.: Augusto Pinochet

b. (10) He and Bernardo O'Higgins led the successful war for independence. After O'Higgins became the first ruler, he left to rule Peru after it broke from Bolivar's Gran Colombia.

Ans.: Jose de San Martín

c. (15) This 1879-1884 war was fought by Chile against Bolivia and Peru over control of the nitrate-rich Atacama Desert. Chile won.

Ans.: War of the Pacific

B18. (30) Darwin's theory of evolution proposes that the fittest organisms are those which succeed in passing on their genes. Since Darwin, evolution has been applied to an incredible number of fields. Answer the following questions about one such field for 10 pts each.

a. (10) This field developed to determine the biological basis of all behavior. In other words, it tries to determine the degree to which genetics dictates the interactions of animals, including humans, with their environment. Name it.

Ans.: Sociobiology

b. (10) Sociobiology was thrust into the forefront of scientific debate in 1975 when this man published his Sociobiology: The New Synthesis . Name this Harvard professor who controversially applied sociobiological principles to explain human behavior.

Ans.: E.O. Wilson

c. (10) Finally, E. O. Wilson said that explaining actions of this type is the fundamental problem of sociobiology. One example is a robin warning of an approaching hawk, drawing attention to itself, but saving the rest of the flock. What term describes these actions which decrease an individual's reproductive chances for the benefit of others.

Ans.: Altruism

B19. (30) Fresco and chiaroscuro aren't the only Italian art termsóeven if it sometimes seems like it. Identify the following art terms taken from the Italian for the stated number of points.

a. (5) This sculptural form faces the upper body in a different direction than the legs and places the weight over one leg instead of both.

Ans.: Contrapposto

b. (10) This technique uses thick layers of oil paint to create an 3-D effect on the canvas. Earlier artists used it to create highlights while later artists used it for textural purposes.

Ans.: Impasto

c. (15) This term derives from the Italian word for repentance and refers to evidence that an artist changed his mind and tried to hide a mistake by painting over it. Sometimes, the outer paint will become transparent, allowing the older work to show through, thus creating strange effects.

Ans.: Pentimento

B20. (30) Thermodynamics is a subject which impacts every field of science. Identify the following terms from the field for the stated number of points.

a. (5) The Second Law of Thermodynamics is one of the most important ideas in science. It states that in a closed system, this quantity tends to a maximum. Name this quantity that measures the amount of disorder in a system.

Ans.: Entropy

b. (10) Entropy is proportional to the natural logarithm of the number of states that a system can be in. What Austrian physicist discovered this fact and felt so strongly about it that he had it engraved on his tombstone?

Ans.: Ludwig Boltzmann

c. (5) The proportionality constant of the previous question is Boltzmann's constant. To two significant figures, what is the value of Boltzmann's constant in units of Joule per Kelvin?

Ans.: 1.4 times 10 to the -23

d. (10) The Third Law of Thermodynamics can also be stated in terms of entropy. It states that the entropy difference between all states in a system becomes zero when the system does what?

Ans.: Reaches Absolute Zero in temperature (or equivalent)

B21. (30) As the recent book The Bell Curve proves, intelligence testing is still a controversial issue. For the stated number of points, answer the following questions about intelligence testing.

a. (10) One attempt to measure intelligence was made by this Frenchman in the early 1900's. His test was designed to separate mentally-retarded children for schooling purposes. His name is now part of one of the standard intelligence tests. Name him.

Ans.: Alfred Binet

b. (5) Binet's test was awkward since it indicated intelligence by the difference between mental and chronological age. Psychologist William Stern modified Binet's figure into a ratio, creating what measure of intelligence?

Ans.: IQ or intelligence quotient

c. (15) Later researchers noticed that someone who scored high on one type of test, scored high on other types. Psychologist Charles Spearman used the technique of factor analysis to extract the common factor which the tests share. What was his name for this factor that measured intelligence?

Ans.: G factor or General Intelligence factor

B22. (30) The number three is the center of many of our daily rituals. It is also prevalent in many works of literature. You will be given three characters which form a natural trio in a work. Name the work for the stated number of points.

a. (5) Goneril, Regan, Cordelia   King Lear

b. (10) Olga, Masha, and Irina Prozorov   The Three Sisters

c. (15) Dan Fuselli, Chrisfield, John Andrews   Three Soldiers

B23. (30)   Identify the following related scientific terms for the stated number of points.

a. (5) An assembly of charged and neutral particles whose motion is governed by electromagnetic interactions, it is sometimes called the fourth state of matter.   Ans.: Plasma

b. (10) When a plasma or any charged particle moves in a constant magnetic field, its orbit traces a path in what three-dimensional shape.

Ans.: Helix (Note: If spiral is given, ask for more info)

c. (15) This length is the maximum separation at which a given charge will be influenced by the electric field of another charge. It is also known as the shielding distance.

Ans.: Debye length