

T01. It is given by subtracting the product of temperature and entropy change from the change in enthalpy in a system. For ten points, identify this quantity of energy, designated with a capital G, available for doing useful work.

**Answer:** Gibb's Free Energy or Gibb's Function or Free Enthalpy

T02. On May 30, 1958, two more persons joined its original occupant who had been there since a 1921 ceremony attended by President Warren G. Harding. For ten points, identify this monument in Arlington National Cemetery which honors the unidentified war dead of the United States.

**Answer:** Tomb of the Unknown Soldier

T03. He helped write speeches for Franklin D. Roosevelt and later won the Pulitzer Prize for his *Roosevelt and Hopkins: An Intimate History*. For ten points, identify this ardent pacifist playwright whose works include *The Road to Rome*, *The Petrified Forest*, *Idiot's Delight*, and *Abe Lincoln in Illinois*.

**Answer:** Robert E. Sherwood

T04. The Frankfurt Assembly proposed that his father, Frederick William IV assume the leadership of the German people and form a federal empire. His father refused, but this man with aid of his Chancellor Otto von Bismarck, was undaunted by the power of Austria and led the wars necessary to create a unified Germany. For ten points, identify this founder of the German Empire.

**Answer:** Kaiser Wilhelm I

T05. You might expect to find a *Kangaroo*, *The White Peacock*, and *The Plumed Serpent* in an extraordinary zoo. Actually these are lesser known titles of one of England's most notorious twentieth century writers. For ten points, identify this novelist whose *Lady Chatterly's Lover* involved him in some of the most controversial censorship cases of this century.

**Answer:** D(avid) H(erbert) Lawrence

T06. Following an inelastic collision, the total kinetic energy of the two objects decreases, while for an elastic collision, kinetic energy remains constant. However, for both types of collisions, another quantity is conserved. For ten points, identify this quantity which is the product of mass and velocity.

**Answer:** Momentum

T07. Born in Chicago in 1942, he began his acting career on the small screen, appearing in episodes of *Gunsmoke*, *Ironside* and *Leave It to Beaver*. His first movie role came with "Dead Heat on a Merry-Go-Round" but he really didn't get much notice until he played a wise-guy drag-strip king in a cowboy hat in "American Graffiti." For ten points, who is this actor who went on to appear in "Apocalypse Now" and "Working Girl", as well as a couple of little-notice trilogies: "Star Wars" and "Indiana Jones."

**Answer:** Harrison Ford

T08. It is the home of the Prince Albert National Park as well as the Vermilion Hills, the Thunder Hills, and the Great Sand Hills. Its main river separates into north and south branches and shares its name. And, its towns include Uranium City, Moose Jaw and Saskatoon. For ten points, what is this Canadian province which borders Montana and North Dakota, and has its capital at Regina?

**Answer:** Saskatchewan

T09. A four-string musical instrument, it was invented by Manuel Nunez and introduced into the Pacific region by the Portuguese in the 18th century. For ten points, identify this small, guitar-like instrument that, since its invention, has mainly come to be associated with Hawaii.

**Answer:** Ukulele

T10. Satirized in Gilbert and Sullivan's *Patience*, he attracted a great deal of attention by wearing long hair, dressing eccentrically, and carrying flowers in his hands while lecturing. For ten points, identify this Irish-born writer best remembered for his witty plays such as *An Ideal Husband*, *Lady Windermere's Fan*, and *The Importance of Being Earnest*.

**Answer:** Oscar Wilde

T11. Born in 106 B.C., he saw his first military action in the Roman Civil War. Later, he led the Roman legions against Mithradates VI and earned the title Magnus. For ten points, who was this father-in-law of Julius Caesar who was defeated by his son-in-law at the 48 B.C. battle of Pharsalus?

**Answer:** Pompey

T12. Born in 1840, this French artist attempted, through a use of plasticism, to affect a sense of movement in his works. In 1880, he was commissioned to make a bronze door for the Musée des Arts Decoratifs -- entitled "The Gates of Hell" -- which was to depict scenes from Dante's *Inferno*, but he died before he could finish it. For ten points, who is this artist whose best-known work was actually a bronze of Dante in repose -- called "The Thinker."

**Answer:** Auguste Rodin

T13. Upon its first introduction, it was known as the "Two Million Bill" and in a later incarnation, it became the "Three Million Bill." For ten points, identify this failed amendment to the federal appropriations bill of 1846 that attempted to outlaw slavery in territories acquired in the Mexican-American War.

**Answer:** Wilmot Proviso

T14. Its chemistry is analogous to that of sulfur and is obtained as a by-product of copper processing. Used to make photoelectric cells, solar cells, and xerography, it is also used to make ruby glass and to vulcanize rubber. For ten points, identify this metalloid with atomic number 34 that takes its name from a goddess of the moon.

**Answer:** Selenium

T15. It is located west of Lower Hutt on the southern tip of the North Island, just across the Cook Strait from the South Island. For ten points, identify this city named after a British Duke and Prime Minister that currently serves as the capital of New Zealand.

**Answer:** Wellington

T16. Published in England as *Fiesta*, it derives its American title from a passage in Ecclesiastes. Concerned with the travels of Lady Brett Ashley and her entourage of American friends, it is set in Paris and Pomplona. For ten points, identify this 1926 Hemingway novel featuring the character Jake Barnes.

**Answer:** The Sun Also Rises

T17. They fought the Bolsheviks during the Russian Civil War and under the new regime, they lost their special privileges and had their villages collectivized. In the 15th century, they were escaped serfs from Poland and Russia who formed independent settlements on the Ukrainian frontier. For ten points, identify this noted group of cavalymen in the Russian Imperial Army.

**Answer:** Cossacks

T18. In the French Revolutionary calendar, the majority of the month Pluviose occurred during this "rain-month" that the Anglo-Saxons referred to as "sprout-kale" from the sprouting of cabbage. For ten points, identify this month of purification among the ancient Romans that contains the modern celebrations of Candlemas and Ground Hog's Day on its second.

**Answer:** February

T19. In the novels of Sir Walter Scott, you would find a "Dangerous" one. In a Gothic novel by Horace Walpole, you would find one at Otranto. And in Monty Python's Holy Grail, you would find a group of nuns in one called "Anthrax." For ten points, identify these large stone fortifications of the Middle Ages.

**Answer:** Castles

T20. The chemical elements with the atomic numbers 85, 53, 35, 17 and 9 have something more in common than merely having odd atomic numbers. They, in fact, share a column on the periodic table headed by the most reactive of all elements. For ten points, identify this group of elements comprised of astatine, iodine, bromine, chlorine and fluorine.

**Answer:** Halogens

B01. [30 points] Identify this European statesman on a 30-20-10 basis.

- [1] He is currently buried in the U.S.S. Maine memorial awaiting the opportunity to be returned to his native country.
- [2] He died in the United States in 1941 while heading the Polish government-in-exile.
- [3] He headed the Polish government in 1919 and was known for his musical as well as his political talents.

**Answer:** Ignace Jan Paderewski

B02. [30 points] For five points apiece, identify the works for which the following authors won the Pulitzer Prize for fiction in the following years:

- |                             |  |
|-----------------------------|--|
| [1] James Michener - 1948   | <b>Answer:</b> <u>Tales of the South Pacific</u> |
| [2] Bernard Malamud - 1967  | <b>Answer:</b> <u>The Fixer</u>                  |
| [3] William Faulkner - 1963 | <b>Answer:</b> <u>The Reivers</u>                |
| [4] Alison Lurie - 1985     | <b>Answer:</b> <u>Foreign Affairs</u>            |
| [5] Willa Cather - 1923     | <b>Answer:</b> <u>One of Ours</u>                |
| [6] Thornton Wilder - 1928  | <b>Answer:</b> <u>The Bridge of San Luis Rey</u> |

B03. [30 points] Time for a little vector calculus.

- [1] For ten points, given the function  $x^2 + y^2 + 7z$ . In terms of the unit vectors  $i$ ,  $j$ , and  $k$ , give the vector normal to this function at the point  $(1, 1, 1)$ . Hint: use the gradient of the function.
- [2] For 20 points, use the divergence theorem and take the vector  $2i + 2j + 7k$  and calculate its flux through a sphere with radius  $a$ .

**Answer:** [1]  $2i + 2j + 7k$ , [2] Zero - the flux through any solid body is zero

B04. [30 points] For five points each and an extra five if you get them all correct, complete the titles of the following works by Sir Walter Scott.

- |                                  |                                  |
|----------------------------------|----------------------------------|
| [1] The Heart of (blank)         | <b>Answer:</b> <u>Midlothian</u> |
| [2] The Fortunes of (blank)      | <b>Answer:</b> <u>Nigel</u>      |
| [3] Quentin (blank)              | <b>Answer:</b> <u>Durward</u>    |
| [4] The Bride of (blank)         | <b>Answer:</b> <u>Lammermore</u> |
| [5] They Lay of the Last (blank) | <b>Answer:</b> <u>Minstrel</u>   |

B05. [25 points] For five points apiece, place the following cities in the Low Countries in correct order from north to south: Rotterdam, Luxembourg, Brussels, Amsterdam, and the Hague.

**Answer:** Amsterdam, the Hague, Rotterdam, Brussels, Luxembourg

B06. [25 points] Identify this American on a 25-15-5 basis.

- [1] A lifelong drooler, he nearly died from smallpox and dysentery early in life. He eventually succumbed to tuberculosis at the age of 78 in 1845.
- [2] His first field command was leading troops against the Creek Indians in a series of engagements in 1813 and 1814.
- [3] The victor at Horseshoe Bend, he finished second in the electoral college in the election of 1824.

**Answer:** Andrew Jackson

B07. [30 points] Identify these less well-known, but nonetheless important winners of the Nobel Prize in Physics for 15 points apiece.

- [1] This man won the 1911 prize for his discoveries regarding the laws governing the radiation of heat, including his displacement law for blackbody radiation.
- [2] He shared the 1954 prize with Walther Bothe for his fundamental research in quantum mechanics, especially for his statistical interpretation of the wave function.

**Answer:** [1] Wilhelm Wien, [2] Max Born

B08. [25 points] Born in 1824, this sculptor has been identified with both the Pop Art and Environmental Art movements. His aim is usually to portray the spiritual isolation and sense of alienation in modern man, incorporating the central themes of existentialist philosophy into his oeuvre. For 25 points, who is this American artist whose most characteristic works, such as "Cinema," "The Gas Station," and "The Restaurant Window" consist of unpainted groups of plaster casts.

**Answer:** George Segal

B09. [30 points] Mao Zedong dominated Chinese politics from the fall of China until his death in 1976. However, the Chinese political scene was not devoid of other leaders. Identify each of the following for ten points apiece.

- [1] This man became Minister of Defense in 1959 and was declared Mao's successor at the 9th Party Congress in 1969. However, two years later, he led a failed coup attempt and disappeared during a flight to Mongolia.
- [2] This man served as Prime Minister of the P.R.C. from 1949 until his death in 1976.
- [3] Following the death of Mao in 1976, this man became Party Chairman and retained considerable power until his ouster in 1978 by supporters of Deng Xiaoping.

**Answer:** [1] Lin Piao or Lin Biao, [2] Chou En-lai or Zhou Enlai, [3] Hua Kuo-feng or Hua Guofeng

B10. [25 points] One of the morphological classifications of bacteria is the group known as Cocci, because of its members' spherical nature. The five main types of Cocci are Diplococci, Streptococci, Staphylococci, Sarcinae, and Gaffkya. For five points apiece, identify each from a brief description.

- [1] From the Greek for "bundle", they are cubical groups of eight cocci.
- [2] They are cocci strung out in chains.
- [3] They are cocci in groups of four called tetrads.
- [4] From the Greek for "a bunch of grapes", they are cocci in irregular clusters.
- [5] They are simple pairs of cocci.

**Answer:** [1] Sarcinae, [2] Streptococci, [3] Gaffkya, [4] Staphylococci, [5] Diplococci

B11. [30 points] Margaret Thatcher has been troubled recently by the opposition her Poll Tax has generated among the public and her organized opposition. Other leaders in the Commonwealth are also faced with popposition. For five points each, identify the leaders of these opposition parties in Commonwealth nations.

- [1] Canada - Liberal Party
- [2] Australia - National Coalition
- [3] India - Congress Party
- [4] Canada - New Democratic Party
- [5] England - Labour Party

**Answer:** John Turner

**Answer:** Andrew Peacock

**Answer:** Rajiv Gandhi

**Answer:** Edward Broadbent

**Answer:** Neil Kinnock

B12. [25 points] For five points apiece, name the author who "told" each of the following "tales."

- [1] The Tale of a Tub
- [2] Tales of a Traveller
- [3] Tales of a Wayside Inn
- [4] Tales of the Grotesque and Arabesque
- [5] The Handmaid's Tale

**Answer:** Jonathan Swift

**Answer:** Washington Irving

**Answer:** H.W. Longfellow

**Answer:** Edgar Allen Poe

**Answer:** Margaret Atwood

B13. [30 points] Identify this American on a 30-20-10 basis.

- [1] He was buried in an American military cemetery in Luxembourg following his death from congestive heart failure due to paralysis induced when he broke his neck on his way to hunt pheasants.
- [2] Prior to the invasion of Normandy, he was placed in charge of a fictional army in Kent in order to convince the Germans that the invasion would take place in the Pas de Calais.
- [3] His Third Army relieved the siege of Bastogne.

**Answer:** George Patton



B14. [25 points] Because of their well-excavated tombs on the west bank of the Nile River, opposite Thebes, the Egyptian pharaohs of the 18th, 19th and 20th dynasties have been well chronicled. For five points apiece, arrange the following five pharaohs of those dynasties in their correct chronological order. The pharaohs are: Seti I, Ramses III, Akenaten, Tuthmose III, and Tutankhamen.

**Answer:** Tuthmose III, Akhenaten, Tutankhamen, Seti I, Ramses III

B15. [30 points] You are in the chemistry lab, and have been asked to form a precipitate from compounds mixed together in water. For ten points apiece, give the insoluble or nearly insoluble precipitate formed when these ionic compounds are mixed in water.

- [1] Silver nitrate and sodium chloride
- [2] Barium bromide and lithium sulfate
- [3] Ammonium sulfide, sodium hydroxide, and calcium chlorate

**Answer:** [1] Silver chloride, [2] Barium sulfate, [3] Calcium hydroxide

B16. [25 points] According to the Old Testament books of II Kings and II Chronicles, she was the only woman to rule over the kingdom of Judah. Cruel and evil, like Jezebel, she had all of her royal children put to death, except for Joash who was hidden by his nurse. In about 835 BC, she was put to death, and the seven-year-old Joash ascended the throne. For 25 points, who was this wicked Old Testament queen who was the subject and title character of the last play by the great 17th century French playwright, Jean Racine?

**Answer:** Athaliah or from the play: Athalie

B17. [30 points] Identify this American author on a 30-20-10 basis.

- [1] His lesser known works include *All Out on the Road to Smolensk*, *American Earth*, and *Have You Seen Their Faces*.
- [2] He collaborated several times with his wife, the photographer Margaret Bourke-White.
- [3] He is best remembered for his stories of life among Southern sharecroppers such as *God's Little Acre* and *Tobacco Road*.

**Answer:** Erskine Caldwell

B18. [25 points] For five points apiece, of what ancient nations were each of the following cities once the capitals:

- [1] Amarna
- [2] Hattusas
- [3] Ninevah
- [4] Ctesiphon
- [5] Knossos

**Answer:** Egypt

**Answer:** Hittite

**Answer:** Assyria

**Answer:** Parthia

**Answer:** Crete

B19. Two philosophers born in 1632 wrote treatises dealing with the complexities of learning and understanding. Ten points for one, 25 for both, identify these two men, one English, one Continental who wrote *An Essay Concerning Human Understanding* and *Treatise on the Improvement of Understanding*.

**Answer:** John Locke and Baruch Spinoza

B20. [30 points] Every good College Bowl player knows that King Lear's three daughters were Cordelia, Goneril, and Regan. These three daughters also had husbands. For ten points each, give the husband and wife pairs from Shakespeare's *King Lear*. The pairs must be correctly matched to earn the ten points.

**Answer:** Goneril - Duke of Albany; Regan - Duke of Cornwall, Cordelia - King of France