

**The Herbert Spencer Memorial Singles Tournament**  
*Only The Strongest Will Survive*

Set: 1  
Round: Seeding 1

1. The beginning of its finale has been called a "melody played by no one," as the audible line arises from a series of high notes alternately emerging from the leaps of the first and second violins. The trombone part in its first movement quotes the Eastern Orthodox mass for the dead, while the second movement is in 5/4 and has many waltz qualities. Each movement ends with the use of scales. FTP, name this symphony, the sixth of Pyotr Tchaikovsky.

ANSWER: Pathétique Symphony [accept equivalents; accept Tchaikovsky's Sixth Symphony in B Minor, opus 74 before Tchaikovsky is mentioned]

2. First proposed in 1923, it explains why ammonia turns red litmus blue. It proposes that when  $\text{CH}_3\text{COOH}$  dissociates in water, the  $\text{CH}_3\text{COO}^-$  ion may be treated as a conjugate base of the original acid. FTP, identify this definition, more general than Arrhenius theory, which classifies compounds as proton donors and acceptors.

ANSWER: Brønsted-Lowry theory

3. He hosted the U.S. premiere of many European artists and the world's first solo Brancusi show at his galleries, which included the Intimate Gallery and An Intimate Place after the 291 Gallery was destroyed. He worked in developing the use of the abstract in his own art, founding and editing the journal *Camera Work*. FTP, name this photographer who married one of the American artists whom he promoted, Georgia O'Keefe.

ANSWER: Alfred Stieglitz

4. A transverse barrel vault system supports its dome on eight supports within its walls. The height of the dome from the floor is the same as the rotunda's diameter. The floor is slightly graded inward and contains small openings to release rainwater which enters from the thirty-foot oculus at the apex. FTP, name this structure initially built by Agrippa but remodeled by Hadrian, a Roman temple to "all gods."

ANSWER: Pantheon

5. Her first published works were the short stories "The Ploughman" and "The Hermits." She first gained prominence with "The Revenge of Truth" and the collection *Seven Gothic Tales*. Her legacy was secured by a novel with such chapters as "The Savage in the Immigrant's House," "Death of Kinanjui," and "The Shooting Accident," which was inspired by her seventeen years managing a coffee plantation in Kenya. FTP, name this author of *Out of Africa*.

ANSWER: Isak Dinesen [or Karen Blixen]

6. Historical errors in this work include the eating of corn and tomatoes centuries before the discovery of the Americas and the appearance of saltwater animals in a freshwater lake. The title character is at first called "the youth" then is referred to as the son of his mother, only assuming his more familiar name towards the end of this novel. The most controversial portion is a dream sequence in which the protagonist marries twice and engages in humanist philosophy. FTP, name this work about a religious figure by Nikos Kazantzakis.

ANSWER: The *Last Temptation of Christ* [or *O Teleftaios Teirasmos*]

7. Soon after its issuance, an assembly at Sainte-Foy demanded that its provisions be expanded. It established special courts called *Chambres de l'édit*, allocated royal funds to pay ministers, and banned political meetings. Richelieu suspended its political portions, and the Revolt of the Camisards was sparked when, in 1685, Louis XIV canceled it entirely. FTP, name this 1598 decree which was supposed to institute tolerance of the Huguenots.

ANSWER: Edict of Nantes

8. According to its author, it's actually "about a homosexual transvestite prostitute," not the other vice which the title suggests. It notes that "down on Santa Monica...tricks are for kids," and contrasts the title object with several things including "your problems" and "your big cheese." FTP, identify this song named for an object of drug paraphernalia, the title of the first single off the 2001 Weezer album.

ANSWER: "Hash Pipe"

9. While attending college in New York, she volunteered for Thomas Dewey's Presidential campaign. She did not run for office herself until 1986, when the People Power Movement swept her into the presidency three years after the assassination of her husband Benigno. FTP, name this woman who served six years as president of the Philippines.

ANSWER: Corazon Cojuangco "Cory" Aquino

10. Its four general types are described by a matrix in which either the presence or absence of behavior are encouraged by either a positive or negative consequence. Those types are extinction, punishment, positive reinforcement, and negative reinforcement. FTP, name this type of conditioning which is more complex than the simple one-to-one association of classical conditioning.

ANSWER: operant conditioning

11. A typical one is released as a long tubelike capsule still attached by a hollow thread to the organism that released it, after a stimulus opens the operculum on a cnidoblast. The chemicals they bear include mucus and intensely specialized toxins that degrade and subdue the activities of all types of cells and molecules; the associated pain is caused by a drilling action. FTP, name these stinging cells which uncurl and bore through the skin or exoskeleton when released by a jellyfish.

ANSWER: nematocysts [or cnidae]

12. The Robinson-Patman Act outlaws using this to hurt small businesses. It can happen by region, form, time, or user group and is not efficient in perfect competition or when the good in question can be resold. A familiar examples is paying more for football tickets on the 50-yard line than for tickets in the seventieth row. FTP, name this practice, which assigns different prices to multiple buyers of the same good.

ANSWER: price discrimination

13. Sartre's work in this field of philosophy discarded the idea that the direction of consciousness at objects must occur through "meanings." Its founder drew on the works of Scheler and Hegel to produce its central text, *Cartesian Meditations*. FTP, name this school of philosophy which ignores the objective and the emotional, attempting to describe the appearance of events to human consciousness.

ANSWER: phenomenology

14. In July 2001, he accused Ariel Sharon of fostering open warfare. This continues the path of June 2001, when he introduced John Paul II with a speech in which he accused Jews of murdering Jesus and attempting to do the same to Mohammed. The Pope still has not repudiated the remarks. FTP, name this man who succeeded his father Hafez as President of Syria.

ANSWER: Bashar Assad [prompt on Assad]

15. One of her more noteworthy possessions was a gift from Ares which symbolized her royal position. Her union with Theseus produced a son killed by Poseidon, and one story of her death involves an attempt to disrupt Theseus's subsequent wedding to Phaedra. FTP, name this queen of the Amazons, usually described as slain while her girdle was being stolen by Hercules.

ANSWER: Hippolyta [or Antiope]

16. It was adapted into English by Marc Blitzstein for a 1952 performance at Brandeis. Set in contemporary London, it attacks capitalism for creating the criminal underclass through characters such as Peachum and Mac. FTP, identify this work adapted from *The Beggar's Opera* by Bertolt Brecht and Kurt Weill.

ANSWER: *The* Threepenny Opera [or *Die Dreigroschenper*]

17. Create a description of all possible programs. Use the diagonal method to determine one that is not in that set. Apply the Church-Turing Hypothesis. FTP, name the conundrum thus described, which states that a computer cannot determine whether a program will end with a given input.

ANSWER: halting problem

18. This work, which Edmund Wilson polished for publication, ends with an affair involving Wylie White. Only seventeen of the intended thirty "episodes" are present; all are narrated five years after they take place by White's partner, Celia Brady. Brady had also been involved with the title character, who was based on Irving Thalberg and is named Monroe Stahr. FTP, name this unfinished work of F. Scott Fitzgerald.

ANSWER: *The* Last Tycoon [accept *The Love of the Last Tycoon: A Western*]

19. Composed of three alpha chains in which every third amino acid is glycine, it is the only naturally occurring polypeptide to contain hydroxyproline and hydroxylysine. With age or tanning, the cross-linkages between fibers of this molecule become more numerous, leading to increased rigidity and complete insolubility. FTP, identify this most common protein in animals.

ANSWER: collagen

20. For many years, she worked closely with the artist Isamu Noguchi and composer Louis Horst. She spent seven years with the Denishawn company before creating her first recital, which debuted her trademark sparse costuming and sharp movements. Her latter career included a choreography of *Rite of Spring* in 1983 at the age of 90. FTP, name this dancer who also choreographed the first productions of the ballets *Clytemnestra* and *Appalachian Spring*.

ANSWER: Martha Graham

21. In this work, a sailor dies of shock after an unnecessary amputation is performed by doctor Cadwallader Cuticle. Benevolent petty officer Jack Chase befriends the owner of the title object, who, after falling overboard, is almost speared when the object is mistaken for a whale. This novel follows the *U.S.S. Neversink's* journey to Antarctica and the use of a certain punishment. FTP, identify this work by Herman Melville which induced the U.S. Congress to eliminate the use of flogging in the Navy.

ANSWER: **White-Jacket**, or *The World In a Man-of-War*

22. This poem ends with the narrator silently or mournfully walking the deck of a ship, as shores exult and bells ring in the background. For the title person, "the flag is flung" and "the bugle trills," but the object of "bouquets and ribbon'd wreaths" lies "fallen cold and dead," despite the fact that "our fearful trip is done;/The ship has weather'd every rack,/the prize we sought is won." FTP, identify this poem on the death of Abraham Lincoln by Walt Whitman.

ANSWER: "**O Captain! My Captain!**"

23. This artist contributed *Children on the Shore* to the final Impressionist exhibition after securing fame at an earlier exhibition with *The Cup of Tea*. That work featured Lydia, sister to this painter, who is not Renoir but did paint *The Boating Party*, which incorporates two major influences: Edgar Degas and Japanese *ukiyo-e* prints. FTP, name this Pennsylvania-born Impressionist artist of *Portrait of a Little Girl*.

ANSWER: Mary **Cassatt**

24. It occurs after an oocyte has gone through meiosis 1 and discarded the resulting polar body to become a secondary oocyte. The cell and surrounding corona radiata detach from the inner wall of a mature Graafian follicle, which bursts and releases the oocyte into the peritoneal cavity of the ovary. FTP, name the process whose beginning was just described, the part of the ovarian cycle during which female mammals are most fertile.

ANSWER: **ovulation** [or equivalents]

25. When she went into the underworld to retrieve her lover, she removed an article of clothing at each of the seven gates until naked. Rescued from underworld imprisonment by a "water of life" pouring from Asushu-Namir, she lived on with her companion Tammuz. FTP, name this goddess of erotic love and war, the queen of the Fertile Crescent pantheon.

ANSWER: **Ishtar** [accept **Astarte**; accept **Ashtoreth**; accept **Athtar**]

26. It doesn't exist under normal conditions except as an intermediate. However, at room temperature its dimer, while foul-smelling, is stable; at 473 K it decomposes into larger and larger complexes, all of which are 11-electron Lewis bases. FTP, name this best known fuel, formula BH<sub>3</sub>.

ANSWER: **borane**

27. Organized by the ad hoc Association of American Painters and Sculptors, led by Arthur B. Davies, its 1600 components were split between two exhibits: one showing current trends in American art, the other showing the historical development of European art. It marked the end of prominence for The Eight and the U.S. premiere of cubism with the exhibition of *Nude Descending A Staircase*. FTP, name this art show held at a facility of the Sixty-ninth Regiment.

ANSWER: **Armory** show [accept **International Exhibit of Modern Art**]



28. The two main causes of this general condition are overinvestment and underconsumption. The textbook response to it is to loosen selective credit controls, purchase treasury bills in open market operations, lower the federal funds rate and discount rate, and increase public spending. FTP, give this term for a downturn in the business cycle, defined as three consecutive quarters of declining GDP.

ANSWER: recession [accept deflation]

29. About 2000 square miles in area, it contains the resort of Wildbad. Among its cities are Fürtwangen, where the cuckoo clock was invented, and Freiburg. Located in the state of Baden-Württemberg, it contains the headwaters of the Neckar and Danube rivers. FTP, name this mountainous, tree-filled region of Germany.

ANSWER: Black Forest

30. The father in this play is in his second marriage, having convinced his first wife to run off with his secretary. The play ends with the girl drowned in a fountain and the boy killing himself with a revolver. Earlier, the father had sought out Madame Pace's dress-shop, where the mother worked as a seamstress but the step-daughter as a prostitute. The group had interrupted a rehearsal of *Mixing It Up* in order to demand that their unfinished story be told. FTP, name this play, a criticism of directorial changes to writing, by Luigi Pirandello.

ANSWER: "Six Characters in Search of an Author" [or "Sei personaggi in cerca d'autore"]

31. The term properly refers to the cavities in chalcedony formed by passing water, but it is often used to designate the quartz residues which accumulate on the lining the cavity. The name is derived from the Latin for "precious stone." FTP, name these colorful structures found on the inside of shale or limestone.

ANSWER: geodes

32. His essay collections include *Among My Books* and *My Study Windows*, while *Democracy and Other Addresses* collects speeches which he made as the U.S. ambassador to Great Britain. The first editor of the *Atlantic Monthly*, he wrote a poem about Harvard students killed in the Civil War, the "Commemoration Ode," and also used the Civil War as the subject of the second of two series on a Yankee commenting about war. Another major work describes Apollo skewering the literary figures of the day. FTP, name this author of "The Biglow Papers" and *A Fable for Critics*.

ANSWER: James Russell Lowell

33. His more routine activities including working in a butcher's shop and operating a ranch, which he did for the last three years of his life until his 1923 assassination at Hidalgo del Parral. He was sentenced to death at least twice, once for attacking a hacendado who raped his sister and again for insubordination during his time in the army of Victoriano Huerta. FTP, name this Mexican revolutionary and bandit, who attacked Columbus, New Mexico in 1916, after which a force under John Pershing failed to capture him.

ANSWER: Francisco "Pancho" Villa [or Doroteo Arango]

34. A drought, the formation of a cartel, or a sweeping environmental regulation can cause this. It raises the price level, minimizing the benefits of the Phillips curve relationship; in fact, the fall in marginal product of labor and production can cause

stagflation. FTP, give this two-word phrase used to denote any sharp movement of the aggregate supply curve.

ANSWER: supply shock

35. Harkrishan was the last of these to use the traditional method of choosing a successor, in which five coins and a coconut are placed in front of the candidate, who is anointed with saffron. Tegh Bahadur was beheaded, while Arjan stepped into the raging Ravi after being tortured. After the 1708 death of Gobind Singh, the office passed permanently to a book. FTP, name these leaders of the Sikhs.

ANSWER: gurus

36. They regrouped in 1993 in order to pressure the chief of the army to resign. Including members of the previous regime's National Guard, they operated from bases in Honduras, for the most part dissolving after successfully backing Violeta Chamorro in the 1990 elections. FTP, name this group which fought against the Sandanistas in Nicaragua with the support of the Reagan administration.

ANSWER: Contrarevolucionarios

37. The title character is unable to walk properly, so that character's mother steals some gold from houseguests for use in finding medical care. When the theft comes to light, the gold is returned, and the title character's walking staff is made a gift, after which a miraculous healing occurs. FTP, name this 1951 opera by Giancarlo Menotti, the first written for television.

ANSWER: Amahl and the Night Visitors

38. Exchange coupling aligns the spins of electrons in a given domain, although in a phenomenon known as the hysteresis effect, the alignment of such domains lags behind exposure to the aligning field. It disappears above the Curie temperature. FTP, identify this form of magnetism, present naturally in gadolinium, cobalt, nickel, and iron.

ANSWER: ferromagnetism

39. With his brother, he went on the lam in the Wombat Ranges after being implicated in the murder of a policeman. He killed three more policemen at Stringybark Creek, after which he and the metal armor which he wore became a source of intrigue throughout the country. He was the only member of his gang to survive a confrontation at a Glenrowan hotel, after which a thirty-thousand strong petition was not enough to prevent his hanging. FTP, name this "last of the bushrangers," a now-legendary Australian bandit.

ANSWER: Edward "Ned" Kelly

40. To the right of him are two men; one is looking towards the left side of the painting while the other is leading a horse. He is standing on a rocky hillside under a large oak tree. He is wearing a scabbard with sword and carrying a walking stick. His titular clothing includes calf-length boots, red breeches, a black hat, and a shiny white coat. FTP, name this king depicted "in hunting dress" by Anthony van Dyck.

ANSWER: Charles I in Hunting Dress

41. He is also known as Gukumatz, Nine Wind, and Kukulcan. His body is covered in black paint, the color of the priesthood. His possessions include the "wind jewel," the *ocelocopalli* headdress, and the buccal mask. FTP, name this plumed serpent god of the Aztecs.

ANSWER: Quetzalcoatl

42. Find, Insert, and Delete are all proportional to the logarithm of the size of this data structure. It can generate a sorted list by a simple preorder traversal. FTP, name this recursive structure whose left leaf is always less than the root which is less than the right leaf.

ANSWER: binary search tree [prompt on partial answer]

43. When Cottard is left untouched, but Jacques Othon suffers and dies, Father Paneloux hears complaints that no God would allow such injustice. Castel eventually solves the title problem, but not before it kills Tarrou, who had previously delivered information which changes Rambert's opinion of the central character. That man, the doctor Bernard Reix, lives and works within the city of Oran during a quarantine. FTP, identify this novel by Albert Camus.

ANSWER: *The Plague* [or *La Peste*]

44. Liquid water and liquid helium, due to the extreme natures of their intermolecular interactions, are prominent exceptions, and it works best for hydrocarbons. FTP, give this rule of thumb, which roughly gives the enthalpy of vaporization as a function of the boiling point of a substance.

ANSWER: Trouton's rule

45. Prominent members included Reubell and La Revelliere-Lepeaux, while its strongest leader was Paul Barras. It had five members at a time, elected to two-year terms by the Council of Elders and Council of Five Hundred. Formed by the Constitution of the Year III, it was succeeded by the Consulate. FTP, name this French Revolution government which was overthrown by Napoleon in November 1799.

ANSWER: Directory