1. Interdisciplinary
During this year, *The Adventures of Tom Sawyer* was published, Wild Bill Hickok died, George Custer was killed at the Battle of the Little Bighorn, and the first phone call was made by Alexander Graham Bell. Colorado became the 38th state in this year, which is also the title of a Gore Vidal novel. Its Presidential Election eventually led to the Hayes Presidency. Identify this year during which a major exposition was held in Philadelphia to celebrate the Centennial.

ANSWER: 1876

2. Pyramidal Math (30 Seconds)
This number is the value of the integral from x=1 to x=2 of x cubed dx. It also is the value of the derivative at x=3 of one-half x squared plus three-fourths x plus one. It is the positive solution of the equation 16x squared equals 225. Find this number that is the arithmetic mean of the numbers 1, 3, 5, and 6.

ANSWER: 3 ¾ (or 15/4 or 3.75)

3. World Literature
His earliest known work is about the Battle of Salamis, and one of his other early works involves the fighting between the sons of Oedipus. His best-known works may be a series of plays dealing with Agamemnon and his offspring. Name this author who lived around 500 BCE and wrote *The Persians, Seven Against Thebes, The Oresteia,* and possibly *Prometheus Bound.*

ANSWER: Aeschylus

4. Current Events
Her first major electoral defeat came against Denise Majette, and her second was against Hank Johnson. While in office, she encouraged investigations into the assassinations of Martin Luther King and Tupac Shakur and into the possibility that President Bush had prior knowledge of the 9/11 attacks. This year, she joined with Rosa Clemente to run for the Presidency. Name this former Georgia Congresswoman who won the Presidential nomination of the Green Party.

ANSWER: (Cynthia) McKinney

5. Biology
When something happens, these projections take in sodium and give off potassium. In invertebrates, the thickest ones are associated with escape mechanisms, and for vertebrates many of them are covered by a layer of electrical insulation called myelin. Their purpose is to carry impulses to the next cell. Name these neuron extensions.

ANSWER: Axon(s) (prompt Nerve Fiber)
6. Music
The first movement, labeled Allegro Con Brio, contains a longer Development and Coda than previous pieces. It also has three horns, rather than the customary two, and begins with two staccato E Flat Major chords. The second movement is a funeral march, and there are four movements in total. Completed in 1803 or 1804, it is viewed by some people as the first Romantic composition. Name this Beethoven work that was almost dedicated to Napoleon.

ANSWER: Eroica (accept (Beethoven’s) 3rd Symphony or Heroic Symphony)

7. United States History
(Note to moderator: McDougals is pronounced Mc-DOO-gulls.) This deal was made in 1978 and involved a partnership between two married couples—one of the men was a state Attorney General, and the other owned a savings and loan association. The partnership fell apart in 1992, by which time the Attorney General had become a nationally known Governor, and his family reported losing forty thousand dollars. One of the other people involved was Webster Hubbell, who had worked at Rose Law Firm and received suspicious money from the politician’s supporters. It was investigated by Robert Fiske and Kenneth Starr. Name this land deal involving the McDougals and the Clintons.

ANSWER: Whitewater

8. Physics (10 Seconds)
Forces of this type have vector fields that are path independent—a common example is gravity, while a common counterexample is friction. This same term, sometimes with a different suffix, also is applied to certain quantities, and it was applied to parity inversions until the 1950s. Two quantities it applies to are linear and angular momentum. Give this term that used to apply to matter, mass, and energy separately until they were combined to account for the Theory of Relativity.

ANSWER: Conservative (accept different word endings such as Conserved)

9. Vocabulary
This term, which comes from Greek, is a synonym of purgation. It has been used in medicine to describe therapy involving a laxative, and in the 20th Century it was applied to forms of psychoanalysis that involved bringing out pent up emotions, sometimes through screaming. Name this word that was important to Aristotle, who used it to describe the effect of a tragic play on its audience.

ANSWER: Catharsis (accept Cathartic)
10. Religion/Mythology
It will be broken when the sons of Muspell ride it, and one of its ends is at Himinbjorg. It is said to have three colors, even though it appears as a rainbow and the top color, red, is a fire above it. Hill Giants cannot cross it, and Thor walks across it from Midgard to Asgard. Name this bridge from Norse mythology.

ANSWER: Bifrost (accept Bilrost, Asbru, or Asa-Bridge) (prompt (Aesir) Bridge)

11. Pop Culture
(Note to moderator: No singing, please.) Her first album was released in 1983 and contained the singles “Everybody” and “Burning Up” in addition to three big hits. Her next album was an even bigger success, and the title track ended with the lyrics, “Can’t you hear my heart beat for the very first time?” Her third album, titled True Blue, contained the song “Papa Don’t Preach”. In 1990, her greatest hits were compiled into The Immaculate Collection, and her most recent collection of new songs is titled Hard Candy. Name this singer of “Borderline”, “Material Girl”, “Vogue”, and “Like A Virgin”.

ANSWER: Madonna (accept Ciccone or Ritchie)

12. Geometry/Trigonometry (30 Seconds)
Find all four solutions in radians between zero and two pi for the equation three times secant squared of x equals four.

ANSWER: Pi/6, 5Pi/6, 7Pi/6, 11Pi/6 (any order, accept equivalents)

13. Nonfiction
He attended the Versailles Peace Conference in 1919 and was very critical of the high reparations charges against Germany, but he wasn’t German. He became controversial again years later when he argued that governments and businesses control the economic cycle more than consumers. He often argued in favor of full employment even when it was brought about by government deficit spending. Name this British economist who wrote The General Theory of Employment, Interest, and Money.

ANSWER: (John Maynard) Keynes

14. British Literature
He was criticized for writing a poem sympathetic to a woman who commits suicide, which was titled Elegy to the Memory of an Unfortunate Lady. His most famous poem begins, “What dire Offence from am'rous Causes springs, What mighty Contests rise from trivial Things.” Containing characters such as Belinda and Umbriel, it was written after he found out that somebody he knew had started a family feud by cutting the hair of the woman he loved. Name this poet who wrote The Rape of the Lock.

ANSWER: (Alexander) Pope
15. Geography/Earth Science/Astronomy
(Note to moderator: Quito is pronounced KEE-toe.) The capital of this country is on the side of Pichincha Volcano and contains a park almost twice as big as Central Park in New York. The Eastern part of the country is a rainforest, the Central part is mountainous, and the Western part is on the Pacific Ocean. It also includes the Galapagos Islands, and it borders Colombia and Peru. Name this nation whose capital is Quito.

ANSWER: Ecuador

16. Algebra (30 Seconds)
Find the y-intercept of a graph showing exponential growth that goes through the points (1,5) and (2,20).

ANSWER: 5/4 (or 1 ¼ or 1.25) (accept (0,5/4) or equivalents)

17. Art/Architecture
Give the name by which this artist is best known, which is actually where he was born in 1573. Though most of his works are still in his native Italy, John The Baptist, Sleeping Cupid, and The Denial of Saint Peter are on display in the United States. His most famous paintings may be his depictions of Saint Matthew that are very early examples of realistic naturalism. Name this artist who once killed a man in an argument about court tennis.

ANSWER: Caravaggio

18. Chemistry
The second derivative of this quantity with respect to temperature when pressure is held constant is equal to the opposite of enthalpy divided by absolute temperature squared. One way to calculate it is to multiply the opposite of the number of electrons per mole times the faraday constant times the electric potential. Named after the first American engineering Ph.D. recipient, it is used to decide whether or not reactions are spontaneous. Name this quantity calculated by the formula enthalpy minus temperature times entropy.

ANSWER: Gibbs (Free) Energy (or Gibbs Function) (prompt Free Energy)

19. United States Literature
In addition to a well-known textbook he co-wrote called Understanding Poetry, he wrote several poetry collections, including Promises during the 1950s and Now and Then during the 1970s. His first novel, about tobacco growers in Kentucky, was Night Rider, and his second novel, about Sue Murdock, was At Heaven’s Gate. Perhaps influenced by a grandfather who fought for the Confederacy, he associated with the South throughout his life. Name this author whose most famous novel, which is about the Stantons, Jack Burden, and Willie Stark, was All the King’s Men.

ANSWER: (Robert Penn) Warren
20. World History
(Note to moderator: Shunzhi is pronounced SHUN-chih.) The first emperor of this dynasty, the Shunzhi Emperor, took over at the age of six and ruled during the imposition of the Queue Order, which forced people to cut their hair. The last emperor of this dynasty, Puyi, was forced to abdicate just after his sixth birthday but was allowed to stay in the Forbidden City for several years. It took control of China in 1644 and was the last dynasty to rule the country. Name this group founded by people from Northeast China.

ANSWER: Manchu (Dynasty) (accept Ch’ing but not Ch’in)

Tiebreakers:
If you need to replace a question, take the corresponding question from the Replacement Packet rather than one of these questions. In case of a tie, use these questions in order until one is answered correctly.

Some of the architects associated with this art movement include Victor Horta, who designed Tassel House in Brussels, and Charles Rennie MacKintosh, who designed the Glasgow School of Art. It had similarities to the Prairie School, often depicting natural forms such as flowers and leaves. Give the name of this movement that was taken from a gallery that opened in 1895 in Paris.

ANSWER: (Art) Nouveau (either order) (prompt New)

He wrote a book which concluded that monogamy would be natural when men stopped worrying about inheritance. It was titled The Origin of the Family, Private Property and the State. Forty years earlier, he wrote the book The Condition of the Working Class in England in 1844. He became a close friend of the editor of a journal called Franco-German Annals, and they moved to Belgium when that editor was kicked out of France, where they collaborated on a very famous work. Name this editor of Das Kapital who co-wrote The Communist Manifesto with Karl Marx.

ANSWER: (Friedrich) Engels

This country borders Austria, France, Slovenia, and Switzerland. Name this country whose capital is Rome.

ANSWER: Italy