1. Technology

What word is used by Microsoft for both a Windows feature and a separate piece of software? The Windows feature was in the news yesterday because its exploitation by D-Squared Solutions was criticized by the FTC. Over the past few years, use of the software has increased the animosity between Microsoft and AOL.

ANSWER: Messenger

2. British Literature

Which play opens with one character flipping a coin and saying the word "Heads" five times? The two protagonists sometimes play a game called Questions. Like many characters throughout the play, they are taken from Hamlet. Name this absurdist work by Tom Stoppard.

ANSWER: Rosencrantz & Guildenstern Are Dead

3. Physics (10 Seconds)

Which quantity, often represented with a lower case Greek rho, is very small in silver and copper and very large in glass and rubber? It is equal to resistance times cross sectional area divided by length and is usually measured in ohm meters.

ANSWER: Resistivity (answer much match exactly)

4. Pop Culture (30 Seconds)

In alphabetical order, without correcting yourself, and with all pauses totaling at most three seconds, name the Seven Dwarfs. Make sure that you name them straight in alphabetical order.

ANSWER: Bashful, Doc, Dopey, Grumpy, Happy, Sleepy, and Sneezy

5. Religion/Mythology

Which creature lived in a swamp in Lerna? It was killed with the assistance of Iolaus, who brought a burning brand. The brand was necessary because whenever one head of the creature was chopped off, two grew in its place. By searing eight of the necks and burying the immortal head under a rock, Hercules was able to complete his second labor.

ANSWER: (The) Hydra

6. United States History

Handout; ANSWERS: Top Row 3 2, Bottom Row 1 4 5

7. Algebra (60 Seconds)

Find the sum of the series that starts out with the terms 10+12+14+16 and ends with the last term 40. It has fewer than forty terms.

ANSWER: 400

8. Current Events

You can give either the full name or the acronym. This organization was formed in 1964 in reaction to an unprovoked army attack on farmers. It is difficult to say what has been most damaging to its image: hijacking a plane to kidnap a senator, murdering a man whose twelve-year-old son was dying of cancer,

killing thirteen people during Alvaro Uribe's inauguration, or just the regular terrorism it carries out almost daily. Name this Colombian organization which may be spreading into Peru.

ANSWER: FARC (or Fuerzas Armadas Revolucianarias de Colombia or Revolutionary Armed Forces of Colombia)

9. World Literature

Which poet was awarded knighthood in 1915 but repudiated it in 1919 after the Amritsar Massacre? His books of poetry include Manasi and Gitanjali, and he made many attempts to bring together Western and Indian literature. Name this 1913 Nobel Prize winner who lived much of his life in what is now Bangladesh.

ANSWER: (Rabindranath) Tagore

10. Biology

Which substances, first discovered in 1935, are 20-carbon fatty acid derivatives containing a 5-carbon ring? They can affect blood pressure, blood clotting, ion transport, and muscle contraction. Aspirin works by preventing the synthesis of these chemicals because they also sensitize nerve endings.

ANSWER: Prostaglandin(s)

11. Language Arts

Though it does not appear in dictionaries, this adjective is in a poetry collection and musical to describe the moon and, more importantly, cats. It was coined by TS Eliot, who based it on a mispronunciation by his niece of the words 'Dear Little'.

ANSWER: Jellicle

12. Music

Handout; ANSWERS: (Wolfgang Amadeus) Mozart, (Sir Edward) Elgar, (Gioacchino) Rossini, (Edvard) Grieg

13. Geometry/Trigonometry (60 Seconds)

If x is in the first quadrant and the cosine of x equals 0.62, find the value of the cosine of the quantity x over 2. Give a single answer.

ANSWER: (0).9 (or 9/10)

14. World History

What English name is commonly given to the war from 1701 to 1713 that included the Battle of Blenheim? The main cause was the death of Charles Hapsburg the Second. He was childless, and European powers disagreed as to whether Philip the Fifth or Leopold the First should take his place.

ANSWER: (War of the) Spanish Succession

15. Astronomy/Earth Science/Geography

Sometimes categorized as Munich 15040 or as LFT 1385, which star was named after the man who discovered it in 1916? It moves very quickly, and in a few thousand years it may be the star closest to our Sun.

ANSWER: Barnard('s Star)

16. United States Literature

Give the first name of the 1918 title character who is left at the altar by Larry Donovan. Her last name Shimerda, and at one point she is fired for attending dances. Name this character created by Willa Cather.

ANSWER: (My) Antonia (Shimerda)

17. Chemistry (10 Seconds)

Which term, coming from the Greek word for impassable, refers to expansions or contractions that take place without the loss or gain of heat? This term begins with the letter A.

ANSWER: Adiabatic

18. Calculus/Math History (180 Seconds)

Handout; ANSWER: 5Pi/3

19. Art/Architecture

It was supposed to portray Eustache de Saint Pierre, but the sculptor insisted on adding five other heroes. Which 1884 work portrays a French tragedy that occurred in 1347? It was created by Auguste Rodin.

ANSWER: (The) Burghers of Calais

20. Nonfiction

This manual is divided into thirteen books. The first book shows how trigonometry can be used to predict the paths of astronomical objects. The second shows how spherical trigonometry is useful in cartography. The entire work was very influential from the time it was written in the second century BC until some of its ideas were proved wrong in the seventeenth century AD. Identify this work by Ptolemy.

ANSWER: Almagest

21. Technology

Which corporation was founded in 1964 by an MIT professor who was disappointed when trying to buy a new stereo? It is best known for acoustimass speakers and noise canceling headsets.

ANSWER: Bose (Corporation)

22. British Literature

Which poem begins with the line, "The sea is calm tonight," and ends with the line, "Where ignorant armies clash by night"? First published in 1867, it was written by Matthew Arnold and named after a location on the English Channel.

ANSWER: Dover Beach

23. Physics (60 Seconds)

Let the acceleration due to gravity equal ten meters per square second. Find the exact acceleration of an object sitting on a ramp if the coefficient of friction is 0.6 and the ramp is tilted at a forty-five degree angle. Make sure you include units.

ANSWER: 2 Root 2 Meters per Square Second (or meters per second squared, do not accept meters per second) (accept -2 Root 2)

24. Pop Culture

Handout; ANSWERS: (BA)C(SP)R(OBP)W, CWR, WCR, CRW, WCR

25. Religion/Mythology

Your answer should be a thirteen-letter word. A ceremony of this type on October 19th drew three hundred thousand people and included a blood sample. Name this limited form of canonization that permits the worship of a person by a Catholic. Dead people often go through this process years before being declared a saint.

ANSWER: Beatification

26. United States History

Which Revolutionary War battle was won easily thanks to American spies who supplied lots of hard liquor for Hessian Christmas parties? The battle lasted fifteen minutes and was followed a week later by a surprise attack that scattered British troops. Name this George Washington victory which followed the crossing of the Delaware.

ANSWER: (Battle of) Trenton

27. Algebra (60 Seconds)

Not including numbers that begin with zero, how many three-digit numbers are odd?

ANSWER: 450

28. Current Events

Which member of the US House of Representatives represents the area that includes many of San Francisco's tourist attractions? She recently described President Bush's economic record as, "Three trillion dollars deeper in debt, three million fewer jobs." Name the House Minority Leader.

ANSWER: (Nancy) Pelosi

29. World Literature

Which French writer and his wife were known early in his career as 'the Angkor Wat robbers'? At the end of his career, he would become a friend of Picasso and an art critic, writing Voices of Silence. An observer of the humanistic sides of revolutionaries, he wrote The Conquerors, The Walnut Trees of Altenburg, Man's Hope, and Man's Fate.

ANSWER: (Andre) Malraux

30. Biology

Handout; ANSWERS: Top to Bottom: CEBAD

31. Language Arts

Which word is defined as of, relating to, or constituting a verb form that represents an attitude toward a denoted act not as fact but as something entertained in thought as possible? This mood can be contrasted with imperative or indicative.

ANSWER: Subjunctive

32. Music

Though he studied under classical musicians, his primary early influence was Duke Ellington. He composed a good deal of music, including an arrangement titled Epitath which was first performed in 1989, ten years after his death. Name the musician who recorded Tijuana Moods and Let My Children Hear Music who played the double bass. His autobiographies were titled <u>Beneath The Underdog</u> and <u>More Than a Fake Book</u>.

ANSWER: (Charles) Mingus

33. Geometry/Trigonometry (60 Seconds)

Give an exact answer and remember to include units. Find the volume of a square-based pyramid if each edge is 1 centimeter long.

ANSWER: Root 2 Over 6 Cubic Centimeters

34. World History

Who was born with the name Prince Mutsuhito but changed his name to a word meaning 'enlightened government'? He was the first emperor to live in Tokyo and has a shrine in his honor in the center of the city. Name this emperor who ruled from 1867 to 1912, replacing the shogunate and thus restoring imperial rule.

ANSWER: (Emperor) Meiji

35. Astronomy/Earth Science/Geography

It was heard over two thousand miles away and caused tidal waves as large as 120 feet high. Sunsets around the world looked different for a year afterwards. Name the volcano that erupted on August 27, 1883 in Indonesia.

ANSWER: Krakatoa

36. United States Literature

Handout; ANSWERS: 54123

37. Chemistry (10 Seconds)

Which seven-letter adjective means capable of being drawn out without breaking, especially into wire or thread? It is usually applied to metals.

ANSWER: Ductile

38. Calculus/Math History (10 Seconds)

In 1828, who wrote An Essay on the Application of Mathematical Analysis to Electricity and Magnetism? This was one of the earliest books to apply multivariable calculus to physics, and it led to a fundamental theorem of multivariable calculus being named after this writer.

ANSWER: (George) Green

39. Art/Architecture

Squares With Concentric Circles, Houses In Munich, and lots of improvisations and color studies were done by which early twentieth century painter? Considered by some people to be the founder of abstract art,

he was born in Russia and spent much of his life in Germany and France.

ANSWER: (Wassily) Kandinsky

40. Nonfiction

This 1979 book has a lot to do with artificial intelligence. Subtitled An Eternal Golden Braid, it looks at how three very different people set and then broke their own rules. Name this work by Douglas Hofstadter which names in its title a mathematician, a graphical artist, and a composer.

ANSWER: Godel, Escher, Bach

FIRST TIEBREAKER

Which author and playwright also wrote the songs "Poor Little Rich Girl" and "Mad Dogs and Englishmen"? His autobiographies were titled Present Indicative, Future Indefinite, and Past Conditional. Identify this comic playwright who had many hits between the World Wars and also wrote the serious play The Vortex.

ANSWER: (Sir Noel) Coward

He was born in Poland but moved to Palestine at the age of twenty. During World War Two, he encouraged Jews to join the British army and, against British orders, helped Jews escape from Poland to Palestine. Name this Zionist who in the late 1940s became the first Prime Minister of Israel.

ANSWER: (David) Ben-Gurion (or Gruen, prompt on Gurion)

(60 Seconds)

Find the only intersection point for the system of equations: $x^2+y^2=32$ and $x-y=8$.

ANSWER: (4,-4) (or x=4 and y=-4)

According to Greek mythology, which constellation is the body of Callisto? It contains the Big Dipper, and its name in Latin means Great Bear.

ANSWER: Ursa Major (prompt on Ursa, Bear, or Great Bear)

What four-letter term can be used in British English to describe a swamp or spongy soil? Here in the States, it refers to a plant of the class Musci. It is a simple plant which usually grows on the sides of trees.

ANSWER: Moss

SECOND TIEBREAKER

For putting an image of himself on the shield of Athena, who was imprisoned for the rest of his life? Name this sculptor who oversaw the building of one of the Seven Wonders of the Ancient World in addition to public buildings throughout Athens. He supervised the building of the Parthenon.

ANSWER: Phidias

Who won a Pulitzer Prize and National Book Award for a book about a group of computer engineers designing a 32-bit supercomputer? In addition to that book, The Soul of a New Machine, this author has written House, Home Town, and Among School Children.

ANSWER: (Tracy) Kidder

Which poem begins: "By the rude bridge that arched the flood, their flag to April's breeze unfurled, here once the embattled farmers stood, and fired the shot heard round the world." This Ralph Waldo Emerson work commemorated the beginning of the Revolutionary War.

ANSWER: Concord Hymn

(60 Seconds)

For this problem, use the approximation that the sine of 18 degrees equals 0.309, and remember to include units in your answer. Find the area of a decagon with an apothem of 10 centimeters.

ANSWER: 309 square centimeters

What is the only alkali metal to form a normal oxide and a nitride? The first element in a group often has some different properties than the rest of the group, but in most periodic tables this element is the second one in the column. Identify element number three.

ANSWER: Lithium

A controversy over the use of which computer key almost led to a lawsuit last month against Alex Halderman? Halderman, a graduate student at Princeton, claims that holding down this key as a CD is inserted into the drive blocks SunnComm's MediaMax CD-3 copy-protection software. His report caused SunComm to lose ten million dollars.

ANSWER: Shift

THIRD TIEBREAKER

Name the sister of Ismene who tries to get her brother a proper burial. This attempt brings her into conflict with her uncle Creon. This daughter of Oedipus is the subject of a tragedy by Sophocles.

ANSWER: Antigone

Give the abbreviation or full name for the file format created by Compuserve in 1987 which is created by the LZW compression algorithm. Because Unisys did not extend the patent on the algorithm when it expired in June, files in this format are now legally available in Freeware. Though it is limited to 256 colors, this format is a popular way of storing pictures.

ANSWER: GIF (or Graphic Image File (format))

What adjective is applied to a standard scale with, including the first and last, only eight notes? It is contrasted with a chromatic scale, which includes all sharps, flats, and natural notes.

ANSWER: Diatonic

Who held the NHL records for goals and points before Wayne Gretzky? He played for the Detroit Red Wings from 1946 to 1971 but did not retire completely from playing until recently. Name the man who was teammates with his sons during the 1970s and 1980 and is known as Mr. Hockey.

ANSWER: (Gordie) Howe

The Universal Law of Gravitation states that $F=Gm_1m_2/d^2$. Using this formula, what is the formula for Gravitational Potential Energy? It is equal to the antiderivative of force with respect to distance.

ANSWER: $(E=) -Gm_1m_2/d$ (+C)