1. On Thanksgiving Day of 1995, he died of lymphoma at the age of 63. This celebrated Frenchman directed movies such as The Lovers, Le Feu Follet, Murmur of the Heart, Lacombe Lucien, Atlantic City, and My Dinner with Andre. FTP, name this man, the late husband of Candice Bergen, whose last name is French for "trunk," who told of his childhood in Au Revoir, Mes Enfants.
ANSWER: Louis Gale
2. He first made his name with historical verse romances such as Lady of the Lake and Marmion. Equipped with a formidable knowledge of history and Scottish oral traditions, in 1814 he published Waverley or 'Tis Sixty Years Since, the first in a series of romantic novels set in Scotland. FTP, name this name who also wrote Guy Mannering, Rob Roy, and Ivanhoe. ANSWER: Sir Walter Scott
3. In 1694, John Bernoulli solved mathematics problems for his former pupil in return for 300 pounds per year. This pupil published the first calculus text and this text contained a theorem proved by Bernoulli. But this famous rule, used for evaluating limits of indeterminate forms, was instead misnamed after the book's publisher. FTP, who was he?
ANSWER: Guillaume Francois Antoine de l'Hôpital
4. He beat out Orson Welles for best picture in 1941, trouncing Citizen Kane with How Green Was My Valley. He is best known as the king of Hollywood westerns for such pictures as How the West Was Won, She Wore a Yellow Ribbon, and Stagecoach. FTP, name this director who shares his last name with an American automaker.
ANSWER: John Ford
5. WARNING: Two answers required! Johannes Kepler's work with planetary motion often involved parameterizing ellipses by writing two equations that used the letters $A$ and $P$ where $A$ represented the longest distance from a planet to the sun in the orbit, and $P$ the shortest distance from a planet to the sun in the same orbit. What words do $A$ and $P$ stand for?
ANSWER: aphelion and perihelion [ACC: major and minor axis up to 'planet']
6. This early 1980s movie was a box-office failure. This sci-fi flick was based on Philip K. Dick's novel, Do Androids Dream of Electric Sheep? FAQTP, name this Harrison Ford movie in which short-lived beings called replicants mimicked the behavior of human beings.

## ANSWER: Bladerunner

7. Born in Tours in 1799, in 1820 he went to Paris and worked a variety of jobs including publisher, lawyer's clerk, and hack-writer, before inuring himself to debt and settling down at age 30 to work on serious literature. Over the next twenty years he wrote some ninety novels, including Le Colonel Chaubert, Eugenie Grandet, and Pere Goriot. FTP, name this author who gave his works the comprehensive title The Human Comedy.
ANSWER: Honored de Balzac
8. Warning: full name required. This ailment is named after a certain region in the United All questions © 1996 Yale College Bowl Club. Questions may not be distributed without permission.

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States although it can be acquired in any place where infected ticks are present. The symptoms of this illness are similar to those of the flu, and a mottled pink rash eventually materializes over the entire body. FTP, give the full name of this illness named after a mountain range in Colorado.
ANSWER: Rocky Mountain Spotted Fever
9. Colloids are mixtures containing particles that are intermediate in size between those of suspensions and true solutions. Colloidal particles tend to scatter light in all directions. This effect was first reported by Michael Faraday although it was not named after him. FTP, name this effect. ANSWER: the Tyndall effect [DNA: Brownian motion]
10. In October, 1854, three American ministers met in Belgium to draw up a plan to acquire Cuba. The plan proposed that if Spain refused to sell the island, the United States would seize it. FTP, name this scheme which was widely denounced in the North.
ANSWER: the Ostend Manifesto
11. At 4:10 P.M. on August 29th, 1982, scientists at the Germany Institute for Heavy Ion Research bombarded the nucleus of a bismuth atom with the nucleus of an iron atom. The effects of their bombardment, although successful, were short-lived, lasting for only one five-thousandth of a second. FTP, state what these scientists created.
ANSWER: Element 109 [ACC: Meitnerium]
12. This new, revolutionary medical procedure has only been performed about 600 times in the United States. It is intended for people who have congestive heart failure, but who do not qualify for a heart transplant. A skeletal muscle is removed from the back and is placed beneath the heart. It contracts by way of small electrical shocks given to it, allowing the heart to pump blood normally. FTP, what name is given to this procedure?
ANSWER: cardiomyoplasty
13. He was said to be the most contemporary of all Americans. This versatile individual was born in Boston, the 10th of eleven children, and used the pseudonym Mrs. Silence Dogood to disguise his identity. He published the first newspaper, created fire departments and the American Philosophical Society, proposed conservation of electric charge, and wrote memoirs. FTP, name this man, better known for his political role in the Revolutionary Era.
ANSWER: Benjamin Franklin
14. This art movement was a further development of Collage, Cubism, and Dada. This popular 20th century movement stressed the weird and bizarre, the fantastic, and the dreamworld of the subconscious. FTP, name this movement, whose painters include René Magritte and Salvador Dali.
ANSWER: Surrealism
15. The physicists James Clerk Maxwell, Hans Christian Oersted, and Michael Faraday are known for developing theory in electromagnetism. But in 1979, three other physicists -Sheldon Glashow, Steven Weinberg, and Abdus Salam -- won the Nobel prize in physics for All questions © 1996 Yale College Bowl Club. Questions may not be distributed without permission.

1996 Yale Bulldogs over Broadway. Cornell. Round 4. Page 3 of 8 proposing and developing a unifying theory that helped to explain certain radioactive decay processes. What is this theory of modern physics called?
ANSWER: the electroweak theory
16. On May 10,1981, he was elected president of his country. During his presidency, this Socialist implemented programs to control inflation, reduce the trade deficit, and slash government spending. He was decisively reelected in 1988, but this would be his last term in office. FTP, name this former
Frenc

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h president who had a political career spanning over half a century, and who died of prostate cancer at the age of 79 on January 8th, 1996.
ANSWER: Francois Mitterrand
17. When an object becomes positively charged, instead of protons moving toward the region of charge, electrons move away from the charged region to give it a net positive charge. FTP, what is this phenomenon called, stating that only the negative charge carriers are free to move in a body?
ANSWER: the Hall effect
18. Henry Hudson is credited with this state's discovery in 1609 under the Dutch flag. The Dutch and Swedish attempted to settle there before England took over in 1664, and later transferred the area to William Penn. Name this first state of the union, known also as the Diamond State, whose capital is Dover.
ANSWER: Delaware
19. This 20th century author was known for creating characters who were poor, self-effacing, and low in political standing. He was said to have taken an entire day to write a single page of writing, and when asked if the problem was word choice, he said, "The words weren't a problem; it was what order to put them in!" FTP, name this author of Dubliners, Ulysses, and A Portrait of the Artist as a Young Man.
ANSWER: James Joyce
20. The Almagest, said to be "the only completely comprehensive treatise of Greek astronomy to come down to us," was written by this individual. He is also known for a theorem involving cyclic quadrilaterals and a false conjecture on retrograde motion of the planets. FTP, name this well known astronomer and geographer.
ANSWER: Ptolemy or Claudius Ptolemaeus
21. This city was first inhabited by the Celts in the first century $B C$, and later settled by the Romans, who named it Aquincum and made it the capital of Pannonia Inferior. In 1872 the three smaller towns were joined to create this city, and in 1896, the first underground railway on the European continent was built there. Located on the Danube, and with a current population of approximately 2 million, name this city, for ten points, the capital of Hungary. ANSWER: Budapest
22. Sodium pentathol puts one to sleep; pancuronium bromide stops breathing, and potassium chloride stops the heart. Guinevere Garcia, a two-time killer, would have received these three chemicals at 12:01 A.M. on Wednesday, January 17th of this year, were it not for Governor Jim Edgar's last minute pardon. FTP, what was the sentence given to Garcia for murdering her estranged husband?
ANSWER: the death penalty or lethal injection
23. The Gospels of Luke and Matthew are so strikingly similar in some of their details of the life of Jesus that scholars have hypothesized the authors of these two works relied on the two All questions © 1996 Yale College Bowl Club. Questions may not be distributed without permission.

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same main sources of information. One is the Gospel of Mark, the other is a now lost work referred to in Biblical scholarship by the first letter of the German word for 'source.' This is also the name of a mischievous omnipotent being that has oft plagued Captains Picard, Sisko, and Janeway. FTP, give the letter.
ANSWER: $\mathbf{Q}$ [ACC: Gospel of Mark on early buzz]
24. Two ten-lettered words beginning with a ' P ' have similar meanings and share the same prefix and suffix. FTP, name either of these words which means 'a tendency or inclination'.
ANSWER: proclivity or propensity
25. Russian mystic Madama Blavatsky popularized the theory of its existence in 1888, claiming it to be the land of telepathic giants whose civilization flourished a million years ago. No one took her seriously except H.P. Lovecraft, who cribbed the myth of a lost Pacific Ocean island for his novel The Shadow Out of Time. FTP, name this non-Atlantean sunken continent which is sometimes called Mu.
ANSWER: Lemuria
26. Born in the early part of the first century BC, he was expelled from the Senate in 50 BC . After this, he fought for Julius Caesar in the early 40s BC. before withdrawing from public life in order to
write. The three works attested to him are the Bellum Catilinae, detailing the Catiline conspiracy, the Bellum Iugurthinum, recounting Rome's war with Numidia, and the Historiae, covering Roman history from 78 BC on. FTP, name this Roman historian.
ANSWER: Gaius Sallustius Crispus Sallust
27. How about a logical reasoning question? Financier J.P. Morgan was asked by a journalist if the stock market would go up or down. What was Morgan's response?
ANSWER: "Yes."
28. The area of a circle is 225 square inches. The radius of this circle is then increased by 1996 inches to produce a new circle. FAQTP, give the ratio of the new circle's circumference to its radius.
ANSWER: $\underline{2} \pi$
29.) When peristalsis fails to properly propel waste matter along the digestive tract, the result is excessive or uncontrolled defecation also known as diarrhea. There is a similar nine-lettered word ending in -hea which is defined as "pathologically excessive and often incoherent talkativeness." For a not-so-quick ten points, what is this word?
ANSWER: logorrhea
BONI All boni are worth 30 points.
[30] 1. Find the derivatives of the following functions, 10 each. That is, given $y$, you give me $d y / d x$.
a.
$\left(x^{2}+9\right)^{1 / 3}$
ANSWER: $(2 / 3) x\left(x^{2}+9\right)^{-2 / 3}$
b. $\quad e^{\arctan x}$

ANSWER: $\left.\underline{( })^{\arctan x}\right) /\left(1+x^{2}\right)$
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c. $\cos (\tan x) \quad$ ANSWER: $-\sec ^{2} x \sin (\tan x)$
[30] 2. An isothermal process is one in which the temperature is kept constant. For 10 points each, I'll give you the quantity that is kept constant, you give me the appropriate "iso-" word.
a. pressure

ANSWER: isobaric
b. density

ANSWER: isopycnic
c. volume ANSWER: isovolumic or isochoric or isometric
[30] 3. Name the Russian authors from works, 15 points each.
a. A Cloud in the Trousers, The Bedbug

ANSWER: Vladimir Mayakovsky
b. The Fatal Eggs, The Master and Margarita

ANSWER: Mikhail Bulgakov
[30] 4. How well do you know your feminist nonfiction? For the stated number of points, given the title of a groundbreaking 20th century book on women's status, give its author.
5: The Feminine Mystique ANSWER: Betty Friedan
10: The Second Sex ANSWER: Simone de Beauvoir
15: The Female Eunuch ANSWER: Germaine Greer
[30] 5. 30-20-10. Name the author from works.
30: Windsor Forest, Dunciad
20: Essay on Criticism, An Essay on Man
10: $\quad$ The Rape of the Lock
ANSWER: Alexander Pope
[30] 6. Given the country, name the capital. 10 each.
a. Botswana

ANSWER: Gaborone
b. Madagascar ANSWER: Antananarivo [ACC:
Tananarive]
c. Guyana

## ANSWER: Georgetown

[30] 7. Ten points each, name the three caliphates in the Mediterranean region operating in the 10th century AD.
ANSWER: the Abbasid, the Umayyad, and the Fatimid
[30] 8. Give me the French equivalent of the following English nouns for the stated number of points. To receive credit, the nouns must be preceded by an indefinite article.

| 5: | a bear | ANSWER: un ours (sounds like "orse") |
| :--- | :--- | :--- |
| 10: | a railroad station | ANSWER: |
| 15e gare |  |  |
| $15:$ | a slice as in a slice of meat | ANSWER: une tranche |

[30] 9. For fifteen points each, given the film by Akira Kurosawa, give the Shakespearean drama on which it was based.
a. Ran ANSWER: King Lear
b. Throne of Blood

ANSWER: Macbeth
[30] 10. 30-20-10, name the playwright from works.
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30: $\quad$ The Real Thing
20: Indian Ink
10: Rosencrantz and Guildenstern are Dead
ANSWER: Tom Stoppard
[30] 11. For 15 points each, I'll give you part of the name of a well-known former athlete, you provide the rest of his name.
a. Henry Louis...

ANSWER: Lou Gehrig
b. George Herman... ANSWER: Babe Ruth
[30] 12. 30-20-10, Name the mathematician.
30:Part of his incredible memory included having memorized not only the first 100 prime numbers, but also their squares, cubes, fourth, fifth, and sixth powers.
20:He lived parts of his life in Basel, Switzerland and Saint Petersburg. He also had 17 kids and was blind for a number of years.
$10: H e$ was said to be the most prolific mathematician of all time. It is said that every branch of mathematics has a formula named after him.
ANSWER: Leonhard Euler
[30] 13. For ten points each, name the school of art.
a.A 1920s style characterized by setbacks, zigzag forms, and the use of chrome and plastic ornamentation.
ANSWER: Art Deco
b.A form of sculpture using wood, metal, glass, and modern industrial materials expressing the technological society.
ANSWER: Constructivism
c.A mid-16th century movement, Italian in origin, although El Greco was a major practitioner of the style. The human figure, distorted and elongated was the most frequent subject.

ANSWER: Mannerism
[30] 14. Ten points each, given the title and year of a major exposition, you tell me where it was held.
a. World's Columbian Exposition, 1893

ANSWER: Chicago
b. Sesquicentennial Exposition, 1926

ANSWER: Philadelphia
c. The Century 21 Exposition, 1962 ANSWER: Seattle
[30] 15. I'll state a physical quantity whose fundamental units are reciprocal seconds. For the stated number of points, give me the unit or units for that quantity that is more commonly used.
5: frequency ANSWER: Hertz or $\mathbf{H z}$
10: rotational velocity ANSWER: radians per second
15: activity or rate of decay ANSWER: becquerel or $\mathbf{B q}$
[30] 16. For ten points each, name the inventors/discoverers of the following:
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a. the zipper
b. vulcanized rubber
c. the vaccination

ANSWER: Witcomb Judson
ANSWER: Charles Goodyear
ANSWER: Edward Jenner
[30] 17. Given the name of a losing country, name the treaty it signed in World War I, for the stated number of points.
5: Germany ANSWER: Treaty of Versailles
10: Austria ANSWER: Treaty of Saint-Germain
15: Hungary ANSWER: Treaty of Trianon
[30] 18. For ten points a piece, name any three of the four countries bordering the Czech Republic.
ANSWER: Poland, Slovakia, Austria, Germany
[30] 19. The grouping of the rulers of Egypt into dynasties dates from a third century BC Egyptian priest who wrote a history of his country of which fragments survive. For 15 points, name him.
ANSWER: Manetho
For another fifteen points, how many dynasties did Manetho have in his chronology, which stretched from Menes, founder of the first dynasty, to Artaxerxes III in 343 BC? ANSWER: $\mathbf{3 0}$
[30] 20. Answer the following about the War of Austrian Succession:
5:

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Emperor Charles VI, upon finding himself without a male heir, established this order of succession, which stated that if male heirs should fail, the lands of the Austrain empire would devolve onto his daughters.
ANSWER: Pragmatic Sanction
10:The eldest daughter of Charles VI upon whom the Austrian lands did devolve, and who was also the queen of Bohemia and Hungary.
ANSWER: Maria Theresa
15:The treaty that ended the war, which affirmed that Silesia would belong to Prussia, the Pragmatic Sanction be upheld in Austria, and the house of Hanover would retain succession in its German states and in Great Britain.
ANSWER: Treaty of Aix-La-Chapelle
[30] 21. For ten points each, identify these two-word, frequently-capitalized terms for beasts and objects in Arthurian myth.
a.

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This wound felled the Fisher King, and his kingdom will be a wasteland as he lies beneath his castle, until a true knight asks him the right questions and awakens him.
ANSWER: Dolorous Blow
b.This creature has a serpent's head, a leopard's body, a lion's hind quarters, and a deer's hooves, and is the object of many fruitless searches, for which it is named.
ANSWER: Questing Beast
c.This empty chair at the Round Table signifies the traitor Judas Iscariot, and its name means the "dangerous seat."
ANSWER: Siege Perilous
[30] 22. Answer the following questions about fluid mechanics, ten points each.
a.What is the ratio of the inertial force to the viscous force called?

ANSWER: the Reynolds number
b.What is the ratio of the inertial force to the gravity force called?

ANSWER: the Froude number
c. What is the ratio of the centrifugal force to the inertial force called?

ANSWER: The Strouhal number
[30] 23. How good are you with obscure English vocabulary words? Let's see, 10 each. a. Which of the following words means "fear of forests or the woods?" Coprastophobia, hylophobia, gymnophobia, or cyanophobia?
ANSWER: hylophobia
b. Which of the following words means "a small, trifling frustration?" Billingsgate, afflatus, hemidemisemiquaver, or detumescence?
ANSWER: hemidemisemiquaver
c.Which of the following words means "valedictory; of farewell or leave-taking?" Apopemptic, idiomatic, numinous, or internecine?
ANSWER: apopemptic

