

TOSSUPS

1. HUMANITIES

When I mention such characters as Claudius, Ophelia, and Laertes, to which play am I referring?

HAMLET

2. SOCIAL SCIENCE

"Baby K", born October 13, 1992, without a brain, is being kept alive under the provision of what federal mandate?

ADA (or Americans with Disabilities Act)

~~3. MATHEMATICS~~

~~Solve for y: $\sqrt{y^4 + 48} = 4y$~~

~~2 and $2\sqrt{3}$ (Both answers must be given)~~

3. MISCELLANEOUS

Missouri has more state nicknames than most. It is called the Bullion State, the Lead State, the Cave State, and the Ozark State, but it is probably most famous for what nickname that appears on its license plates?

SHOW-ME STATE

4. SCIENCE

It is not wise to eat insecticide, rat poison, or safety matches as dietary supplements, but a poisonous and highly flammable element commonly found in all three is an essential mineral. Name this nonmetallic element that is used to treat rickets.

PHOSPHORUS

5. HUMANITIES

This recently deceased singer was once given the key to the city of Atlanta, but no motel in town would rent her a room. After a 1941 scheduled concert in Constitution Hall was blocked by the DAR because of her skin color, she was supported by Franklin and Eleanor Roosevelt as she sang on the steps of the Lincoln Memorial. Who was she?

(Marian) ANDERSON

6. SCIENCE

In 1984, its estimated cost was \$8 billion and it was to be operational by 1992. In 1993, still unbuilt, its projected cost over the next 5 years is \$10.5 billion. Name this space station.

FREEDOM

7. ~~8~~ HUMANITIES

Which American poet do we recognize chiefly by his avoidance of the use of capital letters? He wrote during this century about love, the failings of public institutions and many other subjects.

(e.e.) cummings

8. ~~9~~ SOCIAL SCIENCE

Name the mountain range in northeastern New York State known as a resort area.

ADIRONDACK MTS.

~~10. MATHEMATICS~~

~~What is the minimum point on the parabola $y = 3(x-4)^2 - 1$?~~

~~(4,-1)~~

9. ~~11~~ MISCELLANEOUS

The Southern route is used during odd years and the northern route in even years. Name this race from Cook Inlet to Norton Sound, which four-time winner Susan Butcher has won with times between 11 and 12 days.

IDITAROD (dog sled race)

10. ~~12~~ SCIENCE

Birdbrains won't know this, but what is the scientific name for the study of birds?

ORNITHOLOGY

11. ~~13~~ HUMANITIES

What was the famous statement by 17th century French philosopher Rene Descartes that was the end of a search he conducted for a statement that could not be doubted?

I THINK; THEREFORE, I AM , OR , COGITO; ERGO SUM

12. ~~14~~ SOCIAL SCIENCE

Name the central European river which flows several hundred miles from northwestern Czechoslovakia and empties into the North Sea. It formed part of the border between what was formerly East and West Germany.

ELBE RIVER

15. MATHEMATICS

A mad mathematics professor called the hardware store to find out how much fence he would need to outline his pentagon-shaped garden. He gave them the measures of each side as

$$\frac{2}{x}, \frac{3}{x-2}, \frac{x}{x-2}, \frac{4}{x}, \text{ and } \frac{x+4}{x^2-2x}$$

The manager of the store panicked until he found an algebra student to help him out. What was the total perimeter?

$$\frac{2+10x-8}{x(x-2)} \quad \text{or} \quad \frac{x^2+10x-8}{x^2-2x}$$

13.

16. MISCELLANEOUS

This 10-letter noun combines the Greek for icy-cold and producer. What is this term, a convention in science fiction films such as Late for Dinner, Sleeper, and Forever Young?

CRYOGENICS

14.

17. SCIENCE

The four different chemical bases that make up DNA can be arranged 64 different ways when taken three at a time. What is the term for a group of three of these chemical bases?

CODON

15.

18. HUMANITIES

Of what philosophic movement were writers Kierkegaard, Dostoevsky, Sartre, and Camus examples?

EXISTENTIALISM

16.

19. SOCIAL SCIENCE

"Big Stick Diplomacy" refers to international negotiations which are backed by the threat of force. The phrase comes from a proverb quoted by which president?

THEODORE ROOSEVELT

17.

20. MATHEMATICS

It is a memory location in a computer. In chemistry, it is a solution in which the pH is maintained at a constant level. What word fits both definitions?

BUFFER

18.

~~21.~~ MISCELLANEOUS

After the 1992 U.S. Open, he can no longer be considered the best player in golf history never to have won one of the game's four major championships. Name this player who has won more PGA tour money than anyone else.

19.

~~23.~~ SCIENCE

(Tom) KITE

A ball is tossed vertically upward with a velocity of 10 ^{meters} m/sec. What is its velocity at the peak of its path?

20.

~~23.~~ HUMANITIES

0 (zero)

You go to a dictionary when you have a word but need to know a definition. To what source do you go when you have a definition, but need to know a word?

21.

~~24.~~ SOCIAL SCIENCE

THESAURUS

Who was the "Tippecanoe" in the 1840 campaign slogan "Tippecanoe and Tyler, too"?

22.

~~25.~~ MISCELLANEOUS

(Wm. Henry) HARRISON

What popular game was supposedly invented on a kitchen table by an unemployed salesman?

MONOPOLY

BONUSES

1. HUMANITIES
5 parts

*(25 pts.)
5 pts for
each correct*

Name the authors of the following literary classics:

- | | |
|-----------------------------------|-------------------|
| 1. The Plague | 1. (Albert) CAMUS |
| 2. Les Miserables | 2. (Victor) HUGO |
| 3. The Hunchback of Notre Dame | 3. (Victor) HUGO |
| 4. Death comes for the Archbishop | 4. (Willa) CATHER |
| 5. The Sound and the Fury | 5. (Wm.) FAULKNER |

2. SOCIAL SCIENCE
4 parts

*(20 pts.)
5 pts for
each correct*

1. What name is given to the ridge of high ground which runs irregularly north and south through the Rocky Mountains?

1. CONTINENTAL DIVIDE

2. What is the difference between the water on either side of the ridge?

2. FLOWS EASTWARD & WESTWARD

3 & 4. Into what two larger bodies of water do those bodies

3 & 4 ATLANTIC & PACIFIC

empty?

3. MISCELLANEOUS
5 parts

*(25 pts.) 5 for
each*

In Muhammed Ali's professional boxing career, he won 56 bouts and lost 5. Name the five boxers who beat Ali.

Joe FRAZIER Ken NORTON LEON SPINKS
Larry HOLMES Trevor BERBICK

4. SCIENCE
3 parts

*(30 pts.)
10 for
each*

Fish are raised in pisciculture and grape vines in viticulture. What is raised or produced in each of the following?

- | | |
|-----------------|----------------------|
| 1. Pomiculture | 1. FRUITS |
| 2. Sericulture | 2. SILKWORMS or SILK |
| 3. Silviculture | 3. TREES or FORESTS |

" F of X equals X squared minus 2 X minus 15"
the letter X

5. MATHEMATICS

4 parts 5 points each

(20 pts.)

Given the function $f(x) = x^2 - 2x - 15$, find the following:

1. The type of graph this function will have 1. PARABOLA
2. The x-intercepts 2. (-3,0) and (5,0)
3. The minimum value 3. -16
4. The slope of the tangent line at the point where $x = 0$ 4. -2

6. HUMANITIES

4 parts

I will name 4 events in the history of religion (numbered 1 - 4). You put them in correct chronological order: (oldest first)

1. The Second Roman Catholic Vatican Council held
2. Origin of Species published by Charles Darwin
3. The independent Jewish state of Israel is declared
4. Plymouth Colony founded

(Answers in order) 4, 2, 3, 1.

6. SOCIAL SCIENCE

4 parts

(20 pts.)

5 points each

In October, 1993, the United Nations lifted all economic sanctions against a country that has completed a transition to democracy.

1. To what country are we referring? 1. SOUTH AFRICA
2. What are the two major opposing political parties? 2. AFRICAN NAT'L CONGRESS and NATIONAL PARTY
3. Who is the current president? 3. (F.W.) de KLERK
4. What name has been given to the group that opposes the reforms? 4. FREEDOM ALLIANCE

7, ~~8~~ SCIENCE
4 parts

(20 pts.)

Identify the following constants in the wonderful world of chemistry.

- | | |
|--------------------------------------|------------------------------------|
| 1. 6.022×10^{23} / mole | 1. AVOGRADRO'S NUMBER |
| 2. 6.626×10^{-34} Joule-sec | 2. PLANCK'S CONSTANT |
| 3. 2.9979×10^8 meters/sec | 3. SPEED OF LIGHT
(in a vacuum) |
| 4. 9.648×10^4 Calorie/mole | 4. FARADAY CONSTANT |

9. MATHEMATICS
4 parts

Simplify each of the following:

- | | |
|--------------------------------|--------------|
| 1. $(3 + 2i)^2$ | 1. $5 + 12i$ |
| 2. $(-6-2i) - (8-3i)$ | 2. $-14 + i$ |
| 3. $\sqrt{5} \cdot \sqrt{-75}$ | 3. $25i$ |
| 4. $\frac{5}{1+2i}$ | 4. $1 - 2i$ |

8, ~~10~~ HUMANITIES
4 parts

(20 pts.)

SPELL the following words:

- | | |
|-----------------|-----------------|
| 1. pneumonia | 1. PNEUMONIA |
| 2. supersede | 2. SUPERSEDE |
| 3. surveillance | 3. SURVEILLANCE |
| 4. diaphragm | 4. DIAPHRAGM |

9, ~~11~~ HUMANITIES
4 parts

(20 pts.)

Written in 1952, The Old Man & the Sea is a novella which lifts the unconquerable spirit of man.

- | | |
|---|-----------------------|
| 1. Who was the author? | 1. (Ernest) HEMINGWAY |
| 2. What was the name of the fisherman? | 2. SANTIAGO |
| 3. What was the name of the young boy? | 3. MANOLIN |
| 4. What happened to the fish he caught? | 4. EATEN BY SHARKS |

10. ~~N.~~ SOCIAL SCIENCE
5 parts

(25 pts.)

Name 5 of the Seven Wonders of the Ancient World:

- ~~N~~ TOWER of PHAROS ARTEMISION at EPHEBUS
✓ COLOSSUS of RHODES ✓ HANGING GARDENS of BABYLON
✓ MAUSOLEUM at HALICARNOSSUS ✓ OLYMPIAN ZEUS
✓ PYRAMIDS of EGYPT

11. ~~N.~~ MISCELLANEOUS
3 parts

(30 pts.)

Currently, only four major league baseball teams make the playoffs each year for the World Series. How many teams now make the playoffs each year for the championship of:

- | | |
|--|-------|
| 1. National Football League | 1. 12 |
| 2. The National Basketball Association | 2. 16 |
| 3. The National Hockey League | 3. 16 |

12. ~~N.~~ SCIENCE
2 parts

(20 pts.)

Malaria now strikes over 100 million people per year, and kills 5% of the children in parts of Africa.

1. What insect carries the parasite?
1. MOSQUITTO or ANOPHELES
MOSQUITO
2. What drug, once a sure cure, is the parasite growing resistant to?
2. CHLOROQUINE or QUININE

15. ~~M.~~ MATHEMATICS
4 parts

Solve each of the following for x:

- | | |
|-----------------------|---------------------|
| 1. $x^2 + 6x - 7 = 0$ | 1. -7 and 1 |
| 2. $2x^2 - 7x = 15$ | 2. 5 and $-3/2$ |
| 3. $x^2 - 4x + 1 = 0$ | 3. $2 \pm \sqrt{3}$ |
| 4. $x^2 + 36 = 0$ | 4. $\pm 6i$ |

13- ~~16~~ HUMANITIES
4 parts

(20 pts.)

The religions described here are all major religions of the world. Can you identify them?

1. Determining factors of this religion are descendance from Israel, the Torah, and Tradition.

1. JUDAISM

2. Founded in Arabia by Mohammed around 610, its name means "surrender to Allah".

2. ISLAM

3. In modern times, this religion regained its independence and became the state religion of Japan in the late 1800's.

3. SHINTO-ISM

4. Confined to his home early in his life, the founder of this religion escaped and began the life of a homeless wanderer in search of peace, finally coming to the Tree of Enlightenment.

4. BUDDHISM

14,

~~18~~ SOCIAL SCIENCE
3 parts

(30 pts.)

In October, a planned mega-merger was announced involving one of America's major industries:

1. What type of company or product was involved?

1. COMMUNICATIONS (or telecommunications)

2. What 2 major companies were merging?

2. BELL ATLANTIC & TCI
(Tele-communications, Inc.)

3. What additional company is being acquired?

3. LIBERTY MEDIA CORP.

15,

~~18~~ SCIENCE
4 parts

(20 pts.)

~~(20 pts.)~~

Identify the following from the descriptions:

1. A substance that cannot be decomposed by any chemical reaction into simpler substances.

1. ELEMENT

2. A material that can be separated by physical means into two or more substances.

2. MIXTURE

3. A substance composed of two or more elements chemically combined.

3. COMPOUND

(cont'd on next page)

4. A definite group of atoms that are chemically bonded together.

4. MOLECULE

19. MATHEMATICS

4 parts

Solve each of the following:

1. $\log_3(2x-3) = \log_3(x+2)$

1. $x = 5$

2. $\log_b 81 = 4$

2. $b = 3$

3. $9^{-3/2} = x$

3. $x = \frac{1}{27}$

4. $\log_q(x+4) + \log_q(x-4) = 1$

4. $x = 5$

16.

20. HUMANITIES

4 parts

Don't you just love crossword puzzles? See how you do with this one:

(Spell please)

1. A 4-letter word for Japanese rice wine

1. SAKE

2. A 3-letter word for an African antelope

2. GNU

3. A 4-letter word for a common disease of the skin.

3. ACNE

4. A 5-letter word for coins used in India

4. RUPEE

(20 pts.)

17.

21. SOCIAL SCIENCE

4 parts

The famous Scopes trial in American history has remained a source of deep conflict between science and religion.

1. What was the main subject of the trial?

1. Teaching EVOLUTION in schools

2. In what state was it held?

2. TENNESSEE

3. In what year?

3. 1925

4. Who were the opposing lawyers?

4. Wm Jennings BRYAN & Clarence DARROW

(20 pts)

18,

~~22~~ MISCELLANEOUS
4 parts

Identify the following, each of which begins with the letter Q.

1. Very small, popular game bird of the pheasant family
1. QUAIL
2. A British sovereign, or one pound sterling
2. QUID
3. To raise objections to unimportant details
3. QUIBBLE
4. Share or proportion that is allowed or required
4. QUOTA

(20 pts)

18,

~~23~~ SCIENCE
4 parts

Identify each of the following terms from the field of electricity and magnetism from the given definition:

1. A unit of electricity in electrolytes which will dissolve 1 gram equivalent weight of a substance
1. FARADAY
2. In an electrolytic cell, the negative electrode, from which current flows
2. CATHODE
3. A quantum of sound or vibrational energy
3. PHONON
4. Any of several unstable subatomic particles having a mass between that of the electron and the proton
4. MESON (or MESOTRON)

(20 pts)

24. MATHEMATICS
4 parts

(20 pts.)

Answer these questions dealing with probability and statistics:

1. In how many different ways can the letters of the word "Level" be arranged?

1. 30

2. How many 6-digit numbers can be made using the digits from 833,284?

2. 180

3. Five students are assigned to a project group which goes to the library to begin research. If they sit at a round table, how many different seating arrangements are possible?

3. 24

4. How many ways can you have 50 cents using at least 1 quarter?

4. 13

20. ~~25.~~ **HUMANITIES**
4 parts

(20 pts.)

Who are the composers of the following:

1. Summertime

1. GERSHWIN

2. I Get a Kick Out of You

2. (Cole) PORTER

3. Yankee Doodle Dandy

3. (George M.) COHAN

4. Maple Leaf Rag

4. (Scott) JOPLIN