

Straight A Quiz Questions  
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Show-Me Academic Challenge  
Spring 1995

Game Eleven

Round 1 - Toss Up

1. Science

Giants, supergiants, red dwarfs, and white dwarfs are all categories of what type of object?

Stars

2. Social Studies

With a length of 4,260 feet, what bridge in the lower New York bay is the longest in the United States?

Verrazano-Narrows Bridge

3. Math (calculation)

Using imaginary numbers, factor the expression  $X^2 + 1$

$(X + i)$  times  $(X - i)$

4. Literature

What German novelist of the early twentieth century, winner of the 1929 Nobel Prize, wrote the novels Death in Venice and The Magic Mountain?

Thomas Mann

5. Fine Arts

What is the term for a piece of orchestral music which precedes an opera or oratorio?

Overture

6. Social Studies

Name the father of Alexander the Great who was assassinated in 336 B.C., bringing Alexander to power.

Philip (of Macedon)

7. Math (calculation)

In trigonometry, what are the values of the two angles between 0 and 360 degrees which have tangents of negative 1?

135 and 315 Degrees

8. Science

What would be the chemical formula for the compound butyl chloride?

C4 H9 Cl

9. Literature

What American author, most famous for his novels, wrote the two-part 1855 story The Paradise of Bachelors and the Tartarus of Maids?

Herman Melville

10. Health

What is the term given to the physical condition in which a person's body temperature falls dangerously low due to exposure to cold?

Hypothermia

11. Math (calculation)

What is the volume of a cylinder in terms of pi cubic units if the cylinder has a height of 12 units and a diameter of 8 units?

192 pi  $u^3$

12. Language Arts

Give the term for "traitor" which is taken from the name of the Norwegian leader who collaborated with the Nazis in the Second World War. This term has entered general usage.

Quisling

13. Social Studies

What pre-Reformation religious reformer led a group which was the first to translate the Bible from Latin into English in the fourteenth century?

John Wycliffe

14. Science

What is the term given to high energy electrons which are released from the nuclei of certain atoms as a form of radioactive decay?

Beta Particles (Beta Rays or Beta Decay)

15. Literature

Name the American author of the first half of the twentieth century who simply signed her works H.D..

Hilda Doolittle

## Round 2 - Toss Up/Bonus

### 1. Science

In ecology, what is the term given to the entire area of the earth in which living things can be found?

Biosphere

### Bonus 1 - Math (calculation)

Simplify the following radicals:

- 1. Square root of 180 - 6 Square roots of 5
- 2. Square root of 1800 - 30 square roots of 2
- 3. Cube root of 40 - 2 cube roots of 5
- 4. Fourth root of 162 - 3 times the fourth root of 2

### 2. Social Studies

Name the modern country which occupies the majority of the Jutland Peninsula.

Denmark

### Bonus 2 - Science

Give the meanings of the following biological abbreviations:

- 1. RNA - Ribonucleic Acid
- 2. ATP - Adenosine Triphosphate
- 3. FSH - Follicle Stimulating Hormone
- 4. ADH - Antidiuretic Hormone

### 3. Literature

In which of Shakespeare's plays do you hear the famous warning, "Beware the Ides of March?"

Julius Caesar

### Bonus 3 - Fine Arts

Name the composers of the following operas:

- 1. Carmen - Georges Bizet
- 2. La Traviata - Giuseppe Verdi
- 3. Orpheus - Claudio Monteverdi
- 4. Oberon - Carl Maria von Weber

### 4. Math (Calculation)

The sum of two numbers is 53 and their difference is 9. Find these two numbers.

22 and 31

#### Bonus 4 - Literature

Name the literary works in which you meet the following characters:

- 1. Eliza Doolittle - Pygmalion
- 2. Leopold Bloom - Ulysses
- C3. Sancho Panza - Don Quixote
- C4. Wang Lung - The Good Earth

#### 5. Sports

According to the official rules of men's softball, what is the distance from home plate to the pitcher's mound?

45 Feet

#### Bonus 5 - Social Studies

Identify the following historical figures:

- 1. He was killed in a duel with Aaron Burr - Alexander Hamilton
- 2. The Republican president from 1921 to 1923 - Warren Harding
- 3. The Chinese head of state during World War II - Chiang Kai-Shek
- 4. The Yugoslavian Communist leader from 1945 to 1980 - Josip Tito

#### 6. Language Arts

Identify the Latin phrase which is used as a legal term to mean "something for something."

Quid pro Quo

#### Bonus 6 - Math (calculation)

Factor the following expressions:

- C1.  $X^2 + 6X - 16$  -  $(X + 8)$  times  $(X - 2)$
- C2.  $3X^2 + 22X - 45$  -  $(3X - 5)$  times  $(X + 9)$
- 3.  $X^2 - 324$  -  $(X + 18)$  times  $(X - 18)$
- 4.  $81X^2 - 625$  -  $(9X + 25)$  times  $(9X - 25)$

#### 7. Social Studies

Name the ancient Persian leader who captured Babylon in 539 B.C. freeing the Jews from the Babylonian Captivity.

Cyrus the Great

### Bonus 7 - Health

1. What is the scientific name for the shoulderblade? Scapula
2. What human endocrine gland produces epinephrine? Adrenal Gland
3. What vitamin is necessary for the clotting of blood? Vitamin K
4. What pituitary hormone stimulates contractions of the uterus during labor and birth?  
Oxytocin

### 8. Science

Name the only element on the periodic table which has a name ending with the letter s. It is element number 15.

Phosphorous

### Bonus 8 - Literature

Name the poets who wrote the following poems:

- C-1. "Dover Beach" - Matthew Arnold
- C2. "Jabberwocky" - Lewis Carroll
- C-3. "The Wreck of the Hesperus" - Henry Wadsworth Longfellow
- 4. "Ash Wednesday" - T.S. Eliot

### 9. Math (calculation)

How is the base ten number 11 properly expressed in base 16?

B

### Bonus 9 - Social Studies

Identify the U.S. states described by the following:

1. The easternmost U.S. state - Maine
2. It was the 48th state to join the Union - Arizona
3. The least populated state - Wyoming
4. Its state flower is the Mayflower - Massachusetts

### 10. Literature

Name the author of the 1704 work The Tale of a Tub. This Irish author is considered one of the greatest satirists in literary history.

Jonathan Swift

### Bonus 10 - Science

Name the inventors of the following items or substances:

- C1. Dynamite - Alfred Nobel
- 2. Pneumatic Tire - John Dunlop
- C3. Repeating Revolver Pistol - Samuel Colt
- 4. Cathode Ray Tube - William Crookes

### Round 3 - Toss Up

#### 1. Social Studies

Name the third wife of English King Henry VIII. She gave birth to his only son, but died a few years later.

Jane Seymour

#### 2. Math

What ancient unit of length is equal to 18 inches? It was derived from the distance between the elbow and the middle finger of an average person.

Cubit

#### 3. Science

What Russian chemist is given credit for developing the first periodic table in the nineteenth century? He arranged elements into groups according to their atomic weights and properties.

Dmitri Mendeleev

#### 4. Literature

In what Arthur Miller play do you meet the characters John and Elizabeth Proctor?

The Crucible

#### 5. Language Arts

What is the meaning of the Greek root "omni," as in the word "omnipotent?"

All

#### 6. Math (calculation)

Convert the fraction  $27/32$  to decimal form.

.84375

#### 7. Social Studies

Name the German city in which the famous "war crimes trials" were held to bring leading Nazis to justice after the Second World War.

Nuremberg

#### 8. Science

A chloroplast is the cellular organelle which carries out photosynthesis in plants. What is the term for the fluid matrix inside of a chloroplast?

Stroma

9. Literature

What British poet published two volumes of six poems each in 1879 and 1880, both volumes entitled Dramatic Idylls?

Robert Browning

10. Fine Arts

What descriptive term for musical sound corresponds to the number of vibrations per second, or the frequency of that sound?

Pitch

11. Math (calculation)

In lowest terms, what is  $3/8$  minus  $1/12$ ?

$7/24$

12. Science

What is the term in chemistry given to the change from a solid phase to a vapor phase without passing through a liquid phase?

Sublimation

13. Health

What is the term for the moist membranes which line the chest cavity and the outer surface of the lungs to prevent friction between the lungs and the chest during breathing?

Pleura

14. Literature

What English author wrote the 1925-stream-of-consciousness novel Mrs. Dalloway? It describes the events of one day in the life of an English society woman.

Virginia Woolf

15. Social Studies

Arrange the following U.S. states into order of population from smallest to largest: Illinois, Oregon, Tennessee, and Georgia.

Oregon, Tennessee, Georgia, Illinois

## Round 4 - Toss Up/Bonus

### 1. Literature

Name the English author who created the popular character Jim Hawkins.

Robert Louis Stevenson

### Bonus 1 - Social Studies

Name the countries in which the following are leaders:

- ✓ 1. Hosni Mubarak - Egypt
- ✓ 2. Hashemi Rafsanjani - Iran
- ✓ 3. Violeta Chamorro - Nicaragua
- ✓ 4. Alfredo Christiani - El Salvador

### 2. Math (calculation)

Give the two real number solutions to the equation  $2X^2 + 13X = 24$

$$X = -8, 3/2$$

### Bonus 2 - Science

Identify the following planets of the solar system:

- ✓ 1. It completes an orbit in 88 earth-days - Mercury
- ✓ 2. It is the seventh planet from the sun - Uranus
- ✓ 3. It has the most eccentric orbit of the planets - Pluto
- ✓ 4. It rotates with a retrograde motion - Venus

### 3. Science

What is the biological term given to animals, including humans and most other mammals, in which the embryos develop within the female where they receive nutrients and oxygen from the female's bloodstream? This is opposed to egg-laying or retaining eggs within the body as with some fish and reptiles?

Viviparous

### Bonus 3 - Language Arts

Give the terms for the following phobias, or unnatural fears:

- 1. Fear of enclosed places - Claustrophobia
- 2. Fear of water - Hydrophobia
- 3. Fear of children - Pedophobia
- 4. Fear of horses - Hippophobia

### 4. Fine Arts

Give the common name for Beethoven's Third Symphony. It is one of his most popular.

Eroica Symphony



Bonus 4 - Math (calculation)

Find the following:

1. The logarithm of 4096 to the base 4 - 6
2. The square root of 484 - 22
3. The sine of 300 degrees - Negative square root of 3 divided by 2
4. The volume of a cube with a surface area of 216 square inches -  
216 cubic inches

5. Social Studies

There has been a secessionist movement in the French-Canadian provinces in recent years. In what war did England originally gain Newfoundland, Nova Scotia, and the Hudson Bay territory from France?

War of Spanish Succession

Bonus 5 - Sports

For what major league baseball teams did the following players compete in 1994:

1. Moises Alou - Montreal Expos
2. Kirby Puckett - Minnesota Twins
3. Jimmy Key - New York Yankees
4. Ed Sprague - Toronto Blue Jays

6. Math (calculation)

In simplest form, what is the distance between the points (6,5) and (2,1) on a Cartesian plane?

4 square roots of 2

Bonus 6 - Science

Identify the following:

- C-1. The term describing the ability to be drawn into a wire - Ductility
- >-2. The cell part containing tiny units known as grana - Chloroplasts
- >C3. The two small galaxies nearest to our own - Magellanic Clouds
- C-4. The chemical element with an atomic number of 82 - Lead

7. Business Education

What is the term given to taxes, such as United States income taxes, in which citizens who make more money are required to pay taxes at higher rates than those who make less money?

Progressive Taxes

• Bonus 7 - Literature

Identify the following from Greek mythology:

- C1. The man who abducted Helen - Paris
- C2. The Roman counterpart to the Greek god Eros - Cupid
- C3. The son of Daedalus - Icarus
- 4. The Greek goddess of hearth and home - Hestia

8. Science

What unit in the British system is equivalent to 550 foot-pounds per second, or about 746 watts?

Horsepower

Bonus 8 - Social Studies

In what years did the following events occur:

- C1. John F. Kennedy was assassinated - 1963
- C2. The first atomic bomb was exploded - 1945
- 3. The Spanish Armada was defeated - 1588
- C-4. The Thirty Years' War ended in Europe - 1648

> 9. Literature

In what 1886 novel by Henry James do you meet the characters Olive Chancellor and Basil Ransom?

The Bostonians

Bonus 9 - Math (calculation)

Convert the following base ten numbers to base 2:

- |               |                |
|---------------|----------------|
| 1. 16 - 10000 | 3. 35 - 100011 |
| 2. 22 - 10110 | 4. 42 - 101010 |

10. Social Studies

> To what U.S. state would you go to visit the Gila Cliff Dwellings National Monument?

New Mexico

Bonus 10 - Literature

Complete the following titles of famous literary works:

- C1. The Lion, the Witch... by C.S. Lewis - and the Wardrobe
- 2. The Moon... by W. Somerset Maugham - and Sixpence
- C3. The Brothers... by Feodor Dostoevsky - Karamazov
- C4. The Skin... by Thornton Wilder - of Our Teeth

Replacement Questions - Game 11

Math Up

Science

in physics, what is defined as a device for changing the amount of force needed to do a given amount of work? A lever, a pulley, and an inclined plane are examples.

Machine

Math (calculation)

What is the first derivative of  $7X^2 - 5X + 4$

$14X - 5$

Social Studies

What U.S. president was in office at the time of the famous Brown vs. Board of Education of Topeka Supreme Court decision which resulted in the desegregation of schools?

Dwight D. Eisenhower

Literature

What is the Russian author, the son of a Jewish professor, who wrote the highly acclaimed novel Doctor Zhivago.

Boris Pasternak

Visual Arts

What was the term given to the group of American realist painters of the early twentieth century who abandoned idealized subject matter for representations of the negative aspects of urban life?

Ash Can School

Language Arts

What is the meaning of the Latin root "man," as in the word "manual."

Hand

Health (Misc)

What is the term given to the medical condition in which there is a low level of glucose in the blood, usually resulting from too much insulin or a poor diet?

Hypoglycemia

Science

Science

What are the chemical formulas for the following compounds:

1. Hydrogen Peroxide -  $H_2O_2$   
2. Barium Sulfate -  $BaSO_4$

3. Ethene -  $C_2H_4$   
4. Octane -  $C_8H_{18}$