

Game Six

Round 1 - Toss Up

1. Science

What major type of subatomic particle is English physicist James Chadwick credited with discovering in 1932?

Neutron

2. Social Studies

Name the leader of the English fleet which defeated the French at the Battle of the Nile in 1798.

Horatio Nelson

3. Math (calculation)

What would be the volume of a cube whose sides have a surface area of 294 square inches?

343 Cubic Inches

4. Literature

What American author was the writer of the 1868 short story "The Luck of Roaring Camp," considered one of the first examples of local color fiction?

Bret Harte

5. Fine Arts

What is the architectural term for the enclosed passage between the main area of a church and the principal entrance?

Narthex

6. Social Studies

Name the U.S. state which is bordered by Massachusetts to the north, Rhode Island to the east, and New York to the west?

Connecticut

7. Math (calculation)

Divide the expression  $3X^3 + 14X^2 + 13X - 6$  by  $X + 2$  and give the result.

$3X^2 + 8X - 3$

8. Science (calculation)

An object with a mass of 4 kilograms is moving at a velocity of 3 meters per second. Find the kinetic energy in joules which the object possesses.

18 Joules

9. Literature

In classical mythology, which of the nine muses was the goddess of dance?

Terpsichore

10. Business Education

What is the general term in business given to statutes which attempt to promote free competition by outlawing monopolies, price fixing, and collaboration to restrain trade?

Antitrust Laws

11. Math (calculation)

What would be the y-intercept of a line joining the points (3,1) and (6,2)?

0

12. Language Arts

What is the proper polite reply to the word "Gracias" in Spanish?

Da Nada

13. Social Studies

The Roman emperor Claudius was poisoned in 54 A.D. Who succeeded Claudius as emperor?

Nero

14. Science

Of the five planets visible to the naked eye from earth, which can appear brightest in the sky?

Venus

15. Literature

What English novelist created the characters John and Isabella Thorpe in her novel Northanger Abbey?

Jane Austen

## Round 2 - Toss Up/Bonus

### 1. Science

What property of a fluid is a measure of the internal friction in the fluid? This determines how easily the fluid will flow and pour.

Viscosity

### Bonus 1 - Math (calculation)

Write down the following list of numbers: 17, 15, 15, 10, 9, 7, 4.  
Give the following statistical quantities from this list.

- ①. The Mean - 11
- ②. The Median - 10

- ③. The Mode - 15
- ④. The Range - 13

### 2. Social Studies

What famous public official served as mayor of New York City from 1933 to 1945? One of the major airports of the city is now named for him.

Fiorello LaGuardia

### Bonus 2 - Science

Identify the following terms from the science of astronomy:

- ①. The planet just outside the orbit of earth - Mars
- ②. The lunar phase when the moon is invisible from earth - New Moon
- ③. The point when a planet is closest to the sun - Perihelion
- ④. The point where the sun crosses the equator moving northward - Vernal Equinox

### 3. Literature

What American playwright, born in New York in 1888, wrote the 1927 play Lazarus Laughed?

Eugene O'Neill

### Bonus 3 - Fine Arts

Name the artists who created the following works:

- ①. Guernica - Pablo Picasso
- ②. The Death of Socrates - Jacques Louis David
- ③. Racehorses at Longchamp - Edgar Degas
- ④. Elevation of the Cross - Peter Paul Rubens

### 4. Math (calculation)

On a Cartesian plane, find the distance, answering in most simplified form, between the points (-2, 3) and (4, 5).

2 square roots of 10

#### Bonus 4 - Literature

Complete the titles of the famous following works:

1. The House of... by Nathaniel Hawthorne - Seven Gables
2. Far From the... by Thomas Hardy - Madding Crowd
3. The Importance of... by Oscar Wilde - Being Earnest
4. The Gulag... by Alexander Solzhenitsyn - Archipelago

#### 5. Sports

What professional golfer is considered by many to be the greatest to every play the game, has won the all-time record for most "Grand Slam" tournaments won in a career?

Jack Nicklaus

#### Bonus 5 - Social Studies

Name the pilots who achieved the following aviation firsts:

1. First to break the sound barrier - Chuck Yeager
2. First to fly over the South Pole - Richard Byrd
3. First to fly over the English Channel - Louis Bleriot
4. First to fly faster than Mach 2 - Scott Crossfield

#### 6. Language Arts

What part of speech is defined as "words that qualify, limit, or otherwise modify the meanings of nouns or their equivalents?"

Adjectives

#### Bonus 6 - Sports

Name the major league baseball teams for which the following players played in 1994:

1. Ken Griffey, Jr. - Seattle Mariners
2. Jack McDowell - Chicago White Sox
3. Brady Anderson - Baltimore Orioles
4. Curt Schilling - Philadelphia Phillies

#### 7. Social Studies

In the 103rd Congress, which ended in 1994, what Rhode Island senator served as chairman of the Senate Foreign Relations Committee?

Claiborne Pell

#### Bonus 7 - Math (Calculus)

Give the values of the following trigonometric functions:

1. Sine of 60 degrees -  $\frac{\sqrt{3}}{2}$
2. Tangent of 45 degrees - 1
3. Cosine of 90 degrees - 0
4. Sine of 135 degrees -  $\frac{\sqrt{2}}{2}$

## 8. Science

In biology, what is the specific term given to the diffusion of water across a semipermeable membrane, such as a cell membrane?

Osmosis

## Bonus 8 - Literature

Name the characters from Greek mythology who are described by the following clues:

- ① The father of Andromeda - Cepheus
- ② The goddess of victory - Nike
- ③ The daughter of Priam who foretold the future - Cassandra
- ④ The goddess of discord - Eris

## 9. Math (calculation)

What is the logarithm of 243 to the base 3?

5

## Bonus 9 - Social Studies

List the four slave states which remained in the Union during the American Civil War.

Missouri, Kentucky, Maryland, Delaware

## 10. Literature

What American author wrote the 1904 collection of short stories entitled Cabbages and Kings?

O. Henry (W.S. Porter)

## Bonus 10 - Science

Answer the following questions:

1. What is measured with the unit of ohms in physics?

Electrical Resistance

2. What is the standard unit of electrical potential in the SI system?

Volts

3. What chemical element has an atomic number of 5?

Boron

4. What is the chemical formula for acetylene?

~~C<sub>2</sub>H<sub>4</sub>~~

C<sub>2</sub>H<sub>2</sub>

### Round 3 - Toss Up

#### 1 Social Studies

Arrange the following four Italian cities into correct order from north to south: Naples, Genoa, Milan, Rome.

Milan, Genoa, Rome, Naples

#### 2 Math (calculation)

Solve the following simultaneous equations for X and Y:  $3X + 2Y = 16$   
and  $5X - 2Y = 0$ .

$X = 2, Y = 5$

#### 3 Literature

What famous author wrote the novel The Awkward Age, concerning the adolescent daughter of a London saloon keeper?

Henry James

#### 4 Science

Give the common name for the large group of mammals which are classified into order Chiroptera in biology.

Bats

#### 5 Language Arts

If you order escargot in a restaurant, you will receive a dish of snails. Spell escargot.

E-S-C-A-R-G-O-T

#### 6 Math (calculation)

In terms of pi, what is the total surface area of a cylinder with a radius of 2 inches and a height of 10 inches?

48 pi square inches

#### 7 Social Studies

What English king succeeded Henry II in 1189? He was killed in France ten years later.

Richard I (the Lion-Hearted)

#### 8 Science

What term in biology is used to describe structures in different organisms which are similar in function but different in structure, such as the fins of a dolphin and the fins of a shark?

Analogous Organs

9. Literature

What American poet of the nineteenth century wrote the collection of poems Tales of a Wayside Inn?

Henry Wadsworth Longfellow

10. Fine Arts

Name the composer who wrote the 1851 opera Rigoletto.

Giuseppe Verdi

11. Math (calculation)

Jim has made 91, 88, and 87 on his first three math tests. What grade must he make on his next test to have an average of 90?

94

12. Science

What term in biology and chemistry is given to the attraction of unlike molecules for one another, such as the attraction of water to the sides of a glass tube?

Adhesion

13. Industrial Arts

In certain industries, large amounts of raw materials may be measured in long tons. How many pounds are in a long ton?

2240

14. Literature

Name the famous British essayist and author who wrote the 1828 collection entitled Essays of Elia.

Charles Lamb

15. Social Studies

Of what national organization is American Juliette Low remembered as the founder? She lived from 1860 to 1927.

Girl Scouts

Round 4 - Toss Up/Bonus

1. Literature

What famous poem by Edgar Allan Poe contains the lines, "She was a child and I was a child, / In this kingdom by the sea, / But we loved with a love that was more than love?"

"Annabel Lee"

Bonus 1 - Social Studies

Into what specific bodies of water do the following rivers flow:

1. Volga River - Caspian Sea
2. Elbe River - North Sea
3. Danube River - Black Sea
4. Mackenzie River - Arctic Ocean

2. Math (calculation)

Find the perimeter of a rectangular room if one side has a length of 15 feet and the area of the room is 120 square feet.

46 Feet

Bonus 2 - Science

Name the inventors who first developed the following:

1. Mechanical Reaper - Cyrus McCormick
2. Polaroid Camera - Edwin Land
3. Automobile Radio - Bill Lear
4. Stroboscope - Harold Edgerton

3. Science

What American physicist was the first to measure the charge of an electron? He did this with his famous "oil drop" experiment.

R.A. Millikan

Bonus 3 - Language Arts

Give the appropriate names for a group of the following animals:

- |                     |                      |
|---------------------|----------------------|
| 1. Elephants - Herd | 3. Oysters - Bed     |
| 2. Ants - Colony    | 4. Kangaroos - Troop |

4. Social Studies

What Israeli politician was elected Prime Minister in 1977? He signed the historic accords which made peace between his country and Egypt.

Menachem Begin



#### Bonus 4 - Health

Identify the following:

1. The body organ to break down old red blood cells - Spleen
2. The eye disorder in which the lens becomes opaque - Cataracts
3. The term for a disease of the gums around the teeth - Gingivitis
4. The metallic element used to treat manic depression - Lithium

#### 5. Fine Arts

What Italian term is used to denote choral music sung without instrumental accompaniment?

A Cappella

#### Bonus 5 - Math

Give the meanings of the following computer acronyms:

1. RAM - Random Access Memory
2. CPU - Central Processing Unit
3. VGA - Video Graphics Array
4. ASCII - American Standard Code for Information Interchange

#### 6. Math (calculation)

Convert the decimal 0.8125 into fractional form.

13/16

#### Bonus 6 - Science

Identify the following botanical terms:

1. Plants which lose their leaves annually - Deciduous
2. Water loss through stomates of leaves - Transpiration
3. Phylum containing mosses - Bryophyta
4. Tissue to transport food in a plant - Phloem

#### 7. Health

What is the term used in first aid to refer to the areas of the body where a main artery passes directly over a bone? Pushing on these spots can stop bleeding.

Pressure Points

#### Bonus 7 - Literature

In which of Shakespeare's plays do you meet the following characters:

1. Tybalt - Romeo and Juliet
2. Ophelia - Hamlet
3. Oberon and Titania - A Midsummer Night's Dream
4. Desdemona - Othello

### 8. Science

To the nearest tenth place, how many liters does one mole of a gas occupy at standard temperature and pressure?

22.4

### Bonus 8 - Social Studies

What U.S. states do the following people represent in the U.S. Senate:

1. Phil Gramm - Texas
2. Arlen Specter - Pennsylvania
3. Barbara Boxer - California
4. Lauch Faircloth - North Carolina

### 9. Literature

Name the author of science fiction and fantasy who created the Tarzan of the Apes series beginning in 1914.

Edgar Rice Burroughs

### Bonus 9 - Math (calculation)

1. Give the number 86 in Roman numerals. LXXXVI
2. 25.8 is 30 percent of what larger number? 86
3. Using  $i$  as the imaginary number, what is  $(2 - i)$  quantity squared?  
3 - 4i
4. Covert the base ten number 18 to base 8. 22

### 10. Social Studies

What amendment to the U.S. Constitution states in part that "no warrant shall issue, but upon probable cause, supported by oath or affirmation?"

Fourth Amendment

### Bonus 10 - Literature

Identify the following people from the Old Testament Bible:

1. The father of Jacob - Isaac
2. The prophet saved from lions - Daniel
3. The son of Jacob sold into slavery by his brothers - Joseph
4. The husband of Ruth and father of Obed - Boaz

## Replacement Questions - Game 6

### Toss Up

#### Science

Name the chemical element which lies just to the right of gold on the periodic table. It is one of the few elements to be a liquid at room temperature.

Mercury

#### Math (calculation)

Convert the base ten number 100 to base 16.

64

#### Social Studies

In what country would you be if you were vacationing on the resort island of Cozumel?

Mexico

#### Literature

In what popular play by Tennessee Williams do you meet the character Laura Wingfield?

The Glass Menagerie

#### Fine Arts

Name the French sculptor who created the classic work The Thinker.

Auguste Rodin

#### Language Arts

In Spanish, what is the word for Saturday?

Sábado

#### Home Economics (Misc)

Name the common meat sauce made primarily of soy, vinegar, anchovy, and shallots by the Lea and Perrins Company. It is named for a county in England.

Worcestershire Sauce

### Bonus

#### Math (calculation)

Convert the following numbers to Roman numerals:

1. 54 - LIV

2. 102 - CII

3. 567 - DLXVII

4. 398 - CCCXCVIII

## Science

Answer the following:

1. What chemical element has an atomic number of 9? Fluorine
2. What planet was discovered by William Herschel? Uranus
3. Name the bonds linking amino acids in proteins. Peptide Bonds
4. Give the formula for potassium permanganate.  $\text{KMnO}_4$

## Social Studies

Name the English monarchs who succeeded the following kings:

1. George VI - Elizabeth II
2. James I - Charles I
3. Henry II - Richard I
4. William IV - Victoria

## Literature

Name the authors of the following literary works:

1. Billy Budd - Herman Melville
2. Little Women - Louisa May Alcott
3. The Good Earth - Pearl Buck
4. Elmer Gantry - Sinclair Lewis

## Fine Arts

Name the composers who wrote the following operas:

1. The Marriage of Figaro - W.A. Mozart
2. Parsifal - Richard Wagner
3. Turandot - Giacomo Puccini
4. The Man Without a Shadow - Richard Strauss

## Language Arts

Correctly spell the following words:

1. Figuratively - F-I-G-U-R-A-T-I-V-E-L-Y
2. Muddily - M-U-D-D-I-L-Y
3. Psychologically - P-S-Y-C-H-O-L-O-G-I-C-A-L-L-Y
4. Suitability - S-U-I-T-A-B-I-L-I-T-Y

## Sports (Misc)

Give the nicknames for the following NFL franchises:

1. Kansas City - Chiefs
2. Seattle - Seahawks
3. Tampa Bay - Buccaneers
4. Jacksonville - Jaguars