

Game Four

Round 1 - Toss Up

1. Science

What organelle in a eukaryotic cell contains enzymes which digest materials within the cell?

Lysosomes

2. Social Studies

In what country would you be if you were launching a boat into Encounter Bay or Discovery Bay?

Australia

3. Math

In trigonometry, what is the value of the secant of an angle of  $\pi$  radians?

- 1

4. Literature

In which of Charles Dickens' novels do you meet Mr. Wackford Squeers, the ignorant schoolmaster of Dotheboys Hall?

Nicholas Nickleby

5. Fine Arts

Name the ragtime composer, the most famous composer of this genre of popular music, who wrote the "Maple Leaf Rag."

Scott Joplin

6. Social Studies

What philosophy was put forward in the seventeenth century by Baruch Spinoza? His philosophy was based on the idea that the universe is one fundamental entity.

Rationalism

7. Math (calculation)

Jack works part-time in a department store selling shoes. He makes \$5.00 per hour plus a 7 per cent commission on all the shoes he sells. What would be Jack's gross pay for a week in which he worked 25 hours and sold \$450 of shoes?

\$156.50

8. Science

Without changing the materials which make up the pendulum, what is the only aspect of a freely swinging pendulum which can be altered in order to change the period of the pendulum?

Length

9. Literature

In Roman mythology, who was the virgin goddess of the hearth and keeper of the sacred fire?

Vesta

10. Health

What is someone unable to do properly if they have the condition known as dysphasia?

Speak

11. Math

What are the four prime numbers between ten and twenty?

11, 13, 17, 19

12. Language Arts

Sentences can be classified according to their structure. What is the term for a sentence which has an independent clause and one or more dependent clauses?

Complex Sentence

13. Social Studies

The seventeenth century was a period of great political turmoil in England. What is the term given to the overthrow of King James II in 1688 with the rise of William and Mary to the throne as joint rulers?

Glorious Revolution

14. Science

Of what major geologic era are the Ordovician and Cambrian periods a part?

Paleozoic Era

15. Literature

Give the name of John Thornton's sled dog who is the subject of Jack London's popular 1903 novel The Call of the Wild.

Buck

Round 2 - Toss Up/Bonus

1. Science

Name the two nitrogen bases in DNA which have single-ring structures and are thus classified as pyrimidines.

Cytosine and Thymine

Bonus 1 - Math (calculation)

1. What is the cosine of a 30 degree angle?

Square root of 3 / 2

2. What is the logarithm of 3125 to the base 5?

5

3. Convert the base ten number 17 to base 2.

10001

4. Using imaginary numbers, what is the square root of - 324 minus the square root of - 196?

4i

2. Social Studies

Other than tiny Djibouti, what two African countries share a border with the troubled nation of Somalia?

Ethiopia and Kenya

Bonus 2 - Science

Identify the vitamins which perform the following functions:

1. Prevents scurvy - Vitamin C
2. Prevents night blindness - Vitamin A
3. Helps blood to clot - Vitamin K
4. Helps strengthen bones - Vitamin D

3. Literature

Name the American author of the posthumously published 1970 novel Islands in the Stream.

Ernest Hemingway

Bonus 3 - Fine Arts

Name the artists who created the following works:

1. Luncheon on the Grass - Edouard Manet
2. The Gulf Stream - Winslow Homer
3. The Death of Socrates - Jacques Louis David
4. The School of Athens - Raphael

4. Math (calculation)

Solve the following equation for X and answer as a mixed numeral in lowest terms:  $6X - 17 = 3X + 5$

$$X = 7 \frac{1}{3}$$

Bonus 4 - Literature

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

1. Henry Higgins - Pygmalion
2. Tom Joad - The Grapes of Wrath
3. Gregor Samsa - The Metamorphosis
4. Eustachia Vye - The Return of the Native

5. Driver's Education

U.S. traffic signs are standardized to certain shapes. What is the shape of a railroad crossing sign?

Round

Bonus 5 - Social Studies

Name the English monarchs who succeeded the following:

1. George VI - Elizabeth II
2. Victoria - Edward VII
3. Charles II - James II
4. Harold II - William I (Wm. of Normandy or Wm. the Conqueror)

6. Fine Arts

In what century did the famous composer Wolfgang Amadeus Mozart live and work?

Eighteenth (1700's)

Bonus 6 - Sports

Name the major league baseball teams for which the following players competed in 1993.

1. Bo Jackson - Chicago White Sox
2. Ken Griffey, Jr. - Seattle Mariners
3. Sammy Sosa - Chicago Cubs
4. Chris Hoiles - Baltimore Orioles

7. Social Studies

What ancient philosopher is credited with making the statement, "The life which is unexamined is not worth living."?

Plato

Bonus 7 - Math (calculation)

Covert the following radian measures to degrees:

1.  $\pi/4$  - 45 degrees
2.  $7\pi/3$  - 420 degrees
3.  $4\pi/5$  - 144 degrees
4.  $3\pi/8$  - 67.5 degrees

8. Science

According to Kepler's first law of planetary motion, what type of geometrical shape do the orbits of the planets follow?

Ellipses

Bonus 8 - Literature

Name the English authors who created the following works:

1. Ivanhoe - Sir Walter Scott
2. The Vicar of Wakefield - Oliver Goldsmith
3. Chitty-Chitty, Bang-Bang - Ian Fleming
4. Tristram Shandy - Lawrence Stern

9. Math

In trigonometry, what is the value of the cosecant of  $\pi/4$ ?

Square root of 2

Bonus 9 - Social Studies

Give the familiar nicknames of the following American figures.

1. John J. Pershing - Blackjack
2. William H. Bonney - Billy the Kid
3. William F. Cody - Buffalo Bill
4. George Patton - Old Blood and Guts

10. Literature

Name the famous poem by Henry Wadsworth Longfellow which begins with the line, "Listen my children and you shall hear."

"Paul Revere's Ride"

Bonus 10 - Science

Give the proper names for the studies of the following branches of biology.

1. Birds - Ornithology
2. Reptiles - Herpetology
3. Cells - Cytology
4. Freshwater Environments - Limnology

Round 3 - Toss Up

1. Social Studies

Name the amendment to the U.S. Constitution which prohibits "cruel and unusual" punishment.

Eighth Amendment

2. Math

What is the value of an angle in degrees if it has a radian measure of  $16\pi/9$  ?

320 Degrees

3. Literature

Although he is best remembered as a poet, what English literary figure wrote the 1790 prose work The Marriage of Heaven and Hell?

William Blake

4. Science

Name the North American mammal which is considered to be the largest member of the deer family.

Moose

5. Language Arts

What grammatical term is used to refer to one of two or more words which are spelled and pronounced alike, but which have different meanings?

Homonyms (or Homophones)

6. Math (calculation)

Factor the expression  $6X^2 + 5X - 4$

$(3X + 4)$  times  $(2X - 1)$ .

7. Social Studies

Name the wife of King Henry VIII of England to whom he was privately married less than two weeks after the execution of Anne Boleyn. She gave birth to his only son.

Jane Seymour

8. Science

Name the human pituitary hormone produced in females which stimulates contractions of the uterus during labor and birth.

Oxytocin

9. Literature

In which of Shakespeare's plays do you find the lines, "Between the acting of a dreadful thing/ And the first motion, all the interim is like a phantasma, or a hideous dream."?

Julius Caesar

10. Fine Arts

What is the term in art given to a pigment which is mixed with egg to form an opaque medium?

Tempera

11. Math (calculation)

A certain triangle has an area of 192 square inches. If the height of this triangle is 16 inches, what is the length of its base?

24 Inches

12. Science

Solution A is 100 times more acidic than solution B. What would be the pH of solution A if solution B has a pH of 6?

pH 4

13. Health

What is the term given to the medical condition in which the hemoglobin content of the blood is below normal limits?

Anemia

14. Literature

What American novelist, famous for historical novels, wrote of the Jewish resettlement of Palestine and subsequent creation of the state of Israel in the 1957 work Exodus?

Leon Uris

15. Social Studies

In what Central American nation was General Carlos Humberto Romero deposed in October of 1979? A civil war was fought in this country throughout the 1980's and into the 90's.

El Salvador

Round 4 - Toss Up/Bonus

1. Literature

What British Romantic poet wrote the popular poem "Ode to the West Wind?"

Percy Bysshe Shelley

= Shelley  
or (a Grecian Urn)  
= Keats

Bonus 1 - Social Studies

Name the U.S. states in which the following Revolutionary War battles were fought.

1. Saratoga - New York
2. Lexington and Concord - Massachusetts
3. Yorktown - Virginia
4. Camden - South Carolina

2. Math (calculation)

Give the most simplified form of the square root of 72.

6 square roots of 2

Bonus 2 - Science

Answer the following:

1. What familiar acid is used in automobile batteries?

Sulfuric Acid

2. Give the formula for sodium hydride.

NaH

3. How many calories per gram is the heat of fusion of water?

80

4. What is the formula for aluminum chloride?

AlCl<sub>3</sub>

3. Science

Sugars and starches make up which of the major groups of biochemical compounds?

Carbohydrates

Bonus 3 - Language Arts

Give the meanings of the following prefixes:

1. Contra - Against or opposed
2. Peri - Around
3. Retro - Back
4. Juxta - Near (or beside)



#### 4. Social Studies

In what U.S. state would you be if you were visiting the Craters of the Moon National Monument?

Idaho

#### Bonus 4 - Health

In what body organs do you find the following structures:

1. Bowman's Capsule - Kidney
2. Sclera - Eye
3. Cochlea - Ear
4. Jejunum - Small Intestine

*section of small intestine between duodenum and ileum*

#### 5. Language Arts

Nouveau riche is a French term used to refer to people who have recently acquired wealth. Spell nouveau riche.

N-O-U-V-E-A-U R-I-C-H-E

#### Bonus 5 - Math (calculation)

Given a sphere of radius 3, find the following (answer in terms of pi if applicable.)

1. Diameter - 6
2. Circumference -  $6\pi$
3. Volume -  $36\pi$
4. Surface area of circle drawn through the center -  $9\pi$

#### 6. Math (calculation)

Find the four consecutive integers whose sum is 310.

76, 77, 78, 79.

#### *Basic!!* Bonus 6 - Science

Name the phyla which contain the following types of invertebrates:

1. Starfish - Echinodermata
2. Clam - Molluska
3. Sponge - Porifera
4. Earthworm - Annelida

#### 7. Sports

If no foul balls are hit, what is the maximum number of pitches which a baseball pitcher can throw to one batter?

Six

### Bonus 7 - Literature

Name the poets who wrote the following poems:

1. "Birches" - Robert Frost
2. "Minever Cheevy" - Edwin Arlington Robinson
3. "Kubla Khan" - Samuel Taylor Coleridge
4. "The Eve of St. Agnes" - John Keats

### 8. Science

2 amperes of current is flowing through a wire attached to a 24 volt battery. What is the resistance of the wire in ohms?

12 ohms

### Bonus 8 - Social Studies

Name the nations which lie on the northern borders of the following countries:

1. Syria - Turkey
2. Sudan - Egypt
3. Nigeria - Niger
4. Finland - Norway

### 9. Literature

Name the American author who used a "stream-of-consciousness" technique in writing the novel As I Lay Dying.

Addie Bundren

William Faulkner

### Bonus 9 - Math

Convert the following fractions to their decimal equivalents:

1.  $\frac{5}{8}$  - .625
2.  $\frac{3}{25}$  - .12
3.  $\frac{1}{16}$  - .0625
4.  $\frac{3}{20}$  - .15

### 10. Social Studies

Name the American prohibitionist who gained fame at the end of the last century by leading groups of women into saloons and destroying them with hatchets.

Carrie Nation

### Bonus 10 - Literature

Name the counterparts in Roman mythology for the following Greek gods:

1. Ares - Mars
2. Poseidon - Neptune
3. Cronus - Saturn
4. Hera - Juno

Replacement Questions - Round 4

Toss Up

Science

What vector quantity in physics can be applied to a mass to produce an acceleration?

Force

Math

Give the tangent of a 30 degree angle.

SQUARE ROOT OF 3 OVER 3  
~~1 over square root of 3~~

Social Studies

What two U.S. states form the western border of the state of Minnesota?

*Red River*

South Dakota and North Dakota

Literature

What 1903 George Bernard Shaw play was subtitled A Comedy and a Philosophy?

Man and Superman

Fine Arts

What musical term indicates a note which is to be played a semitone higher than a natural note?

Sharp

Language

If a person is described as being a misogynist, of what are they said to hold a hatred?

Marriage

Misc-Health

What is the general term given to the class of drugs which increases the body's alertness and activity? Caffeine and amphetamines are examples.

Stimulants

Bonus

Science

Name the planets described by the following:

1. The largest planet - Jupiter
2. The last planet visited by Voyager II - Neptune
3. It moves with the fastest orbital speed - Mercury
4. It appears the brightest in our sky - Venus

### Math (calculation)

Find the square roots of the following numbers:

1. 289 - 17
2. 576 - 24
3. 961 - 31
4. 160,000 - 400

### Social Studies

Name the U.S. states which have the following nicknames:

1. The Garden State - New Jersey
  2. The Granite State - New Hampshire
  3. The Beaver State - Oregon
  4. The Badger State - Wisconsin
- Peace Garden : N. Dakota*

### Literature

Name the authors of the following works:

1. The Two Towers - J.R.R. Tolkien
2. Catcher in the Rye - J.D. Salinger
3. Invisible Man - Ralph Ellison
4. Sister Carrie - Theodore Dreiser

### Fine Arts

Name the composers of the following works:

1. A German Requiem - Johannes Brahms
2. The Unfinished Symphony - Franz Schubert
3. Don Giovanni - W.A. Mozart
4. Transfigured Night - Arnold Schoenberg

### Language

Give the Spanish words for the following:

1. Name - Nombre
2. The World - El Mundo
3. Horse - Caballo
4. Waiter - Camarero ?

*camarero means bed*

### Misc-Sports

Name the sports personalities described by the following:

1. The NFL record holder for most touchdown passes thrown in one season - Dan Marino
2. Olympic female individual figure skating winner in 1984 and 1988 - Katerina Witt
3. Youngest male Wimbledon singles champion - Boris Becker
4. The first gymnast to be awarded a perfect score for a routine in the Olympics - Nadia Comaneci