

Game Five

Round 1 - Toss Up

1. Science

What is the term in biochemistry given to pairs of organic molecules which have the same formulas but different atomic structures?

Isomers

2. Social Studies

To whom did Pope Leo X give the title "Defender of the Faith" in 1521 for his book written in answer to the Protestant Reformation? Within ten years, however, they became bitter enemies.

King Henry VIII

3. Math (calculation)

Give the volume of a cylinder in terms of pi cubic units if the cylinder has a radius of 4 inches and a height of 10 inches.

160 pi

4. Literature

In George Eliot's 1861 novel Silas Marner, what character steals the gold of Silas, only to have his skeleton found with it 16 years later?

Dunstan Cass

5. Fine Arts

What Broadway musical, later turned into a popular film starring Julie Andrews and Christopher Plummer, was based on the play The Trapp Family Singers?

The Sound of Music

6. Social Studies

In psychology, what number was originally established as the average score on an intelligence test?

100

7. Math (calculation)

Simplify the following: $16X^2 - 62X - 90$ divided by $2X - 10$.

$8X + 9$

8. Science

Name the chemical element formed when a radium atom undergoes alpha decay.

Radon

9. Literature

In Greek mythology, what titan, the son of Iapetus and Themis, stole fire from heaven to give to man?

Prometheus

10. Driver's Education

On a U.S. interstate highway, what is the standard background color for a sign indicating upcoming motorists' services, such as food, fuel, and lodging?

Blue

11. Math (calculation)

What would be the length of the base of a triangle which has an area of 100 square inches and a height of 20 inches?

10 inches

12. Language Arts

An entrepreneur is a businessman. Spell entrepreneur.

E-N-T-R-E-P-R-E-N-E-U-R

13. Social Studies

What South American nation contains the Atacama Desert and the cities of Concepcion and Valparaiso?

Chile

14. Science

What is the term in astronomy given to the point in the orbit of a planet at which the planet is closest to the sun and is thus moving at its most rapid orbital speed?

Perihelion

15. Literature

James Jones 1962 novel The Thin Red Line was a sequel to what earlier work for which Jones had won a National Book Award?

From Here to Eternity

Round 2 - Toss Up/Bonus

could be Avogadro or Charles

1. Science

What law in chemistry states that under constant pressure, the volume of a gas varies directly with its absolute temperature?

direct

Charles' Law

Bonus 1 - Math (calculation)

1. What is the tangent of an angle of 135 degrees?

- 1 LC

2. What is the sum of the interior angles of an octagon?

NS

1080 degrees

3. 19.5 is 30% of what larger number?

65 NS

4. What is the square of the sine of a 60 degree angle?

3/4 or .75 NS

2. Social Studies

Who was crowned as king of England in 1661 with the restoration of the monarchy after the English Civil War and the period of Puritan rule?

Charles II

Bonus 2 - Science

Name the flower parts described by the following clues:

- 1. The sticky part of the pistil to catch pollen - Stigma
- 2. The top of the stamen to make pollen - Anther
- 3. The collective term for all of the sepals of a flower - Calyx
- 4. The collective term for all of the petals of a flower - Corolla

NS
NS

3. Literature

What is the literary term given to a repetition of consonant sounds in a series of words? This is a common poetic device.

Alliteration

Bonus 3 - Fine Arts

Name the composers of the following works:

- 1. Rhapsody in Blue - George Gershwin
- 2. Fireworks Music - George F. Handel
- 3. Three Places in New England - Charles Ives
- 4. Spanish Rhapsody - Maurice Ravel

NS
LC

4. Math (calculation)

Factor the expression $6X^2 + X - 1$.

1st Draft $12X + 1$

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

Bonus 4 - Literature

Name the authors of the following works:

1. The Blithedale Romance - Nathaniel Hawthorne
2. The Count of Monte Cristo - Alexandre Dumas *NS*
3. Ethan Frome - Edith Wharton *NS*
4. A Bell for Adano - John Hersey *NS*

5. Health

What is the term for the poorly understood and often fatal condition which occurs sometimes in children when aspirin is used to treat influenza?

Reye's Syndrome

Bonus 5 - Social Studies

Name the U.S. presidents who appointed the following men to the Supreme Court:

1. William Rehnquist - Richard Nixon
2. Thurgood Marshall - Lyndon Johnson
3. John Jay - George Washington *LC*
4. William Brennan - Dwight D. Eisenhower

6. Fine Arts

What Russian-born artist of the early twentieth century created the paintings The Green Violinist, Self-Portrait with Seven Fingers, and I and the Village?

Marc Chagall

Bonus 6 - Sports

What major league baseball teams play their home games in the following stadiums:

1. Camden Yards - Baltimore Orioles *NS*
2. Fenway Park - Boston Red Sox *NS NS*
3. The Metrodome - Minnesota Twins
4. Joe Robbie Stadium - Florida Marlins *NS*

7. Social Studies

The islands of Aruba and Curacao, both owned by the Netherlands, lie off the coast of what South American nation?

Venezuela

Bonus 7 - Math

Convert the following Roman numerals to modern decimal notation:

1. XXIII - 23 NS
2. XCVI - 96 NS
3. CDLI - 451 NS
4. MMCMLXX - 2970 NS

8. Science

What is the term for the process through which water is lost through the stomates in the leaves of plants?

Transpiration

Bonus 8 - Literature

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

1. Duncan and Banquo - Macbeth NS
2. Goneril, Regan, and Cordelia - King Lear NS
3. Oberon and Titania - A Midsummer Night's Dream NS
4. Antipholus and Dromio - The Comedy of Errors

9. Math (calculation)

Karen has made 92, 87, and 88 on her three math tests. What grade must she make on her next test to have an average of 90?

93

Bonus 9 - Social Studies

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

1. Vietnam - China NS
2. Ecuador - Colombia
3. Namibia - Angola NS
4. Mali - Algeria

10. Literature

What famous novel by John Steinbeck is loosely based upon the Biblical story of Cain and Abel?

East of Eden

Bonus 10 - Science

Give the metric or SI units for the following in the kilogram-meter-second system in physics:

1. Force - Newton NS
2. Power - Watt NS
3. Work - Joule NS
4. Electrical Potential - Volt

Round 3 - Toss Up

1. Social Studies

In what U.S. state would you be if you were visiting the Monongahela National Forest?

West Virginia

2. Math (calculation)

Find the average of the following five numbers: 27, 32, 36, 41, 45.

Ave = 36.2

3. Literature

What American author described the lives of two generations of wealthy Texans in the 1952 novel Giant?

Edna Ferber

4. Science

In botany, what is the term for the stored food in a seed which contains three complete sets of chromosomes in each cell?

Endosperm

5. Language Arts

Give the present participle of the verb "to eat."

Is Eating

6. Math (calculation)

What would be the total surface area of a regular rectangular solid measuring 3 inches by 6 inches by 10 inches?

216 Square Inches

7. Social Studies

Queen Elizabeth I was the last Tudor monarch of England. What royal house succeeded the Tudors in 1603?

House of Stuart

8. Science

Name the physicist who invented the electrostatic generator in 1931. This device, found in most physics classrooms today, now bears his name.

Robert Van de Graaf

9. Literature

Name the American playwright who created the 1920 play The Emperor Jones.

Brutus Jones!

Eugene O'Neill

10. Fine Arts

Name the famous painting which was stolen from the Louvre in Paris on August 22, 1911. It was recovered over two years later and is today considered the most valuable painting in the world.

The Mona Lisa

11. Math (calculation)

A right triangle has a hypotenuse of 8 inches and one side of length square root of 15 inches. What would be the length of the third side?

7 inches

12. Science

Name the Alaskan volcano which erupted in 1912 to form an area now known as the Valley of Ten Thousand Smokes.

Mount Katmai

cat

13. Sports

What is the only way in which a football team can score without any of its players touching the football on the play?

Safety

14. Literature

What colonial American poet wrote the volume The Tenth Muse Sprung Up ~~Later~~ in America?

Cabely ~~later~~
Anne Bradstreet

15. Social Studies

Its capital is Winnipeg. Name this Canadian province bordering North Dakota and Minnesota.

Manitoba

Round 4 - Toss Up/Bonus

1. Literature

Name the Spanish author who is remembered for his famous novel Don Quixote.

Miguel Cervantes

Bonus 1 - Social Studies

Name the men who are given credit for the discoveries of the following:

1. The Pacific Ocean - Vasco Balboa *NS*
 2. The Hawaiian Islands - James Cook *NS*
 3. The West Indies - Christopher Columbus *NS*
 4. The Mississippi River - Hernando de Soto *LC*
- ship the Endeavour

2. Math (calculation)

Solve the following equation for X and answer as a mixed numeral in lowest terms: $14X - 7 = 6X + 13$.

$$X = 2 \frac{1}{2}$$

Bonus 2 - Science

Tell what the following abbreviations stand for in biology:

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

3. Science

The earth is approximately 93 million miles from the sun. Which planet lies approximately 484 million miles from the sun?

Jupiter

Bonus 3 - Language Arts

Give the Spanish words for the following:

1. White - Blanca
2. Cat - Gato
3. Hat - Sombrero
4. Summer - Verano

1st to walk in space:
Leonov

4. Social Studies

Name the Soviet cosmonaut who became the first man to enter space in April of 1961.

Yuri Gagarin

Bonus 4 - Health

Name the human body parts which contain the following structures:

- 1. Semicircular Canals - Ear NS
- 2. Islets of Langerhans - Pancreas NS
- 3. Alveoli - Lungs; also, tooth socket! NS
- 4. Vitreous Humor - Eye NS

5. Language Arts

Name the three moods of English verbs.

Indicative, Imperative, Subjunctive

Bonus 5 - Math (Calculation)

Convert the following binary numbers to base ten:

- 1. 1000 - 8 NS
- 2. 101 - 5 NS
- 3. 11001 - 25 NS
- 4. 10001 - 17 NS

6. Health

What is the term in dentistry used to refer to the condition in which the gums are red, swollen, and bleeding due to poor oral hygiene?

Gingivitis

Bonus 6 - Literature

Identify the novels in which you meet the following characters:

- 1. Becky Thatcher - The Adventures of Tom Sawyer (or Huck Finn) LC
- 2. Natasha Rostova - War and Peace NS
- 3. Henry Fleming - The Red Badge of Courage
- 4. Isabel Archer - Portrait of a Lady

7. Math (calculation)

Give the first derivative of the expression $4X^2 - 7X + 1$

$8X - 7$

Bonus 7 - Science

Name the parts of the human brain described by the following:

1. The largest part of the brain - Cerebrum
2. It coordinates muscular movements - Cerebellum
3. It directly controls the endocrine system - Hypothalamus
4. It connects the two hemispheres of the brain - Corpus Callosum

LC
NS

8. Science

What planet of the solar system is orbited by the moons Tethys, Dione, Rhea, and Titan, among others?

Saturn

Bonus 8 - Social Studies

Name the government agencies for which the following acronyms stand:

1. NASA - National Aeronautics and Space Administration
2. SEC - Securities and Exchange Commission
3. NRC - Nuclear Regulatory Commission
4. CAB - Civil Aeronautics Board

NS
—
—

9. Literature

In what 1904 Jack London novel do you meet the characters Maude Brewster, a beautiful poet, and Humphrey Van Weyden, a wealthy literary critic?

The Sea Wolf

Bonus 9 - Math

Convert the following fractions to their equivalent decimals:

1. $\frac{3}{8}$ - .375
2. $\frac{1}{25}$ - .04
3. $\frac{7}{8}$ - .875
4. $\frac{2}{5}$ - .4

10. Social Studies

Name the influential German philosopher who wrote the metaphysical work Critique of Pure Reason.

Immanuel Kant

Bonus 10 - Literature

Name the American poets who wrote the following poems:

1. "Mending Wall" - Robert Frost
2. "Evangeline" - Henry Wadsworth Longfellow
3. "Patterns" - Amy Lowell
4. "Chicago" - Carl Sandburg

Replacement Questions - Round 5

Toss Up

Science

What is the term in cell biology given to the division of the cytoplasm of a cell, usually occurring after mitosis?

Cytokinesis

Math (calculation)

85 is 17% of what larger number?

500

Social Studies

What U.S. state was named by Sir George Carteret after his native island in the English Channel?

New Jersey

Literature

What 1860 Nathaniel Hawthorne novel, set in Rome, contains the characters Kenyon, Hilda, Miriam, and Donatello?

The Marble Faun

Fine Arts

What term in music, derived from the Greek word for air, is used to refer to an elaborate composition for solo voice with instrumental accompaniment?

Aria

Language

What part of speech is the word "extremely," as in the sentence "The rocket flew extremely fast."?

Adverb

Misc-Home Economics

Name the process in which food is cooked in butter or fat in a skillet until it is lightly browned? This is usually done to thin, tender food.

Sauteing

Bonus

Science

Indicate whether the following diseases are caused by bacteria, viruses, or protozoa:

- | | |
|-----------------------|---|
| 1. Malaria - Protozoa | 2. Measles - Virus |
| 3. Cholera - Bacteria | 4. African Sleeping Sickness - Protozoa |

n (calculation)

Factor the following expressions:

1. $X^2 + 7X + 10 - (X + 5) \text{ times } (X + 2)$
2. $2X^2 + 15X + 27 - (2X + 9) \text{ times } (X + 3)$
3. $15X^2 + 7X - 30 - (3X + 5) \text{ times } (5X - 6)$
4. $X^3 - X^2 - 4X + 4 - (X + 2) \text{ times } (X - 2) \text{ times } (X - 1)$

Social Studies

In what U.S. states are the following colleges and universities located:

1. Mount Holyoke College - Massachusetts
2. James Madison University - Virginia
3. Drake University - Iowa
4. Canisius University - New York

Kuhniskus

Literature

Name the poets who wrote the following poems:

1. "The Rime of the Ancient Mariner" - Samuel Taylor Coleridge
2. "To a Skylark" - Percy Bysshe Shelley
3. "Daffodils" - William Wordsworth
4. "Richard Cory" - Edwin Arlington Robinson

Fine Arts

Name the composers who wrote the following operas:

1. Falstaff - Giuseppe Verdi
2. Tristan and Isolde - Richard Wagner
3. La Boheme - Giacomo Puccini
4. The Old Maid and the Thief - Gian-Carlo Menotti

Language

Name the female counterparts to the following male animals:

- | | |
|---------------------|----------------------------|
| 1. Buck - Doe | 2. Ram - Ewe |
| 3. Peacock - Peahen | 4. Billy Goat - Nanny Goat |

Misc-Sports

Name the major league baseball teams which won the World Series in the following years:

- | | |
|-----------------------------|-------------------------------|
| 1. 1991 - Minnesota Twins | 2. 1988 - Los Angeles Dodgers |
| 3. 1983 - Baltimore Orioles | 4. 1967 - St. Louis Cardinals |