

Game Four

Round 1 - Toss Up

1. Science

In the modern system of classification in biology, into what phylum of invertebrate animals are sponges classified?

Porifera

2. Social Studies

What American politician stated at the Democratic convention of 1896, "You shall not crucify mankind upon a cross of gold?" This "Cross of Gold" speech won him the nomination, but he lost the general election.

William Jennings Bryan

3. Math (Calculation)

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

135 and 315 degrees

4. Literature

Name the naturalistic French author who created the famous 1857 work Madame Bovary.

Gustave Flaubert

5. Fine Arts

Name the British twentieth century composer who wrote the operas The Rape of Lucretia and Peter Grimes. He is also known for the popular 1942 work A Ceremony of Carol.

Benjamin Britten

6. Philosophy

What German philosopher wrote the 1927 work Being and Time, a work which had a major impact on the development of existentialism?

Martin Heidegger

7. Social Studies

What was the 45th U.S. state to join the Union? It was admitted in January of 1896 and was the last state to join in the nineteenth century.

Utah

8. Science

Name the only planet of the solar system which has a density less than that of water.

Saturn

9. Literature

What modern author wrote the novel The Color Purple, on which a popular movie was based?

Alice Walker

10. Math

What is the term given in geometry to a triangle in which all of the sides are of different length?

Scalene

11. Language Arts

What is the term in grammar given to pairs of words which are almost identical in meaning?

Synonyms

12. Social Studies

When Abraham Lincoln was assassinated in 1865, who assumed the office of U.S. president?

Andrew Johnson

13. Science

Identify element number 20 on the periodic table. It is a common metal which readily forms positive ions. It is also very common in the soil in certain areas.

Calcium

14. Math (calculation)

What is the perimeter of a rectangular room which has an area of 252 square feet and has one side of length 14 feet?

64 Feet

15. Literature

What U.S. author of the early twentieth century coined the term "Lost Generation" to describe the group of expatriates living in Paris in the 1920's? Her best known works are Three Lives and The Making of Americans.

Gertrude Stein

Round 2 - Toss Up/Bonus

Who discovered the nucleus of cells?
Brown

1. Science

Name the English scientist who built an early compound microscope and is credited with the discovery and naming of cells.

Robert Hooke

Bonus 1 - Math (Calculation)

Solve the following simultaneous equations for X and Y:

- | | | | | |
|------------------|-----|----------------|---|-----------------|
| 1. $X + Y = 7$ | and | $2X + 3Y = 18$ | - | $X = 3, Y = 4$ |
| 2. $2X + Y = 6$ | and | $X + 2Y = 0$ | - | $X = 4, Y = -2$ |
| 3. $X + 2Y = -1$ | and | $2X + 3Y = 1$ | - | $X = 5, Y = -3$ |
| 4. $2X + Y = 1$ | and | $2X + 4Y = 28$ | - | $X = -4, Y = 9$ |

2. Social Studies

In what U.S. state would you be if you were visiting the Padre Island National Seashore?

Texas

Bonus 2 - Science

Identify the following terms from the science of biology:

1. Small molecules which make up proteins - Amino Acids
2. Protein catalysts in the body - Enzymes
3. Cell formed from fertilization - Zygote
4. Carbohydrate stored in the liver and muscles - Glycogen

3. Literature

In what 1900 Joseph Conrad novel does the main character desert his ship and passengers when he fears that the ship is sinking? He spends the remainder of his life searching for self-respect.

Lord Jim

Bonus 3 - Fine Arts

Give the original nationalities of the following composers:

1. Franz Joseph Haydn - Austrian
2. Johann Sebastian Bach - German
3. Hector Berlioz - French
4. Edvard Grieg - Norwegian

4. Math (Calculation)

Give the two real number solutions to the equation $5X^2 + 11X = -2$

$$X = -2, -1/5$$

Bonus 4 - Literature

Name the poets who created the following poems:

1. "The Raven" - Edgar Allan Poe
2. "Miniver Cheevy" - Edwin Arlington Robinson
3. "Spontaneous Me" - Walt Whitman
4. "Ode to a Nightingale" - John Keats

5. Agriculture

Name the U.S. state which leads the nation in the amount of tobacco grown each year.

North Carolina

Bonus 5 - Social Studies

Name the countries in which you would find the mouths of the following rivers:

- | | |
|-----------------------------|----------------------------|
| 1. Mekong River - Vietnam | 3. Dneiper River - Ukraine |
| 2. MacKenzie River - Canada | 4. Tagus River - Portugal |

6. Fine Arts

What Massachusetts-born composer, music director of the New York Philharmonic from 1958 to 1969, wrote the score for the popular musical West Side Story?

Leonard Bernstein

Bonus 6 - Sports

Name the colleges where the following basketball stars played in the NCAA:

1. Michael Jordan - University of North Carolina
2. Danny Manning - University of Kansas
3. Chris Webber - University of Michigan
4. Magic Johnson - Michigan State University

7. Social Studies

longest: Wm Henry Harrison (died 30 days later)

What U.S. president made the shortest inaugural address in history at only 133 words? It was delivered at his second inauguration.

George Washington

Bonus 7 - Math (calculation)

Convert the following decimals to fractional form:

(1) .375 - $\frac{3}{8}$

(2) .6875 - $\frac{11}{16}$

(3) .450 - $\frac{9}{20}$

(4) .65625 - $\frac{21}{32}$

8. Science

What is the term for an instrument used to measure the specific gravity of liquids? These can be used to test storage batteries.

atmospheric humidity = hygrometer

Hydrometer

Bonus 8 - Literature

Identify the following figures from Greek mythology:

1. The builder of the Cretan Labyrinth - Daedalus
2. The wife of Menelaus - Helen
3. The nymph changed to a laurel tree by Apollo - Daphne
4. The mother of Dionysus - Semele

9. Math (calculation)

Solve the following equation and state your answer as a mixed numeral in lowest terms: $8X - 4 = 3X + 5$

$X = 1 \frac{4}{5}$

Bonus 9 - Social Studies

Name the English monarchs who succeeded the following rulers:

- | | |
|---------------------------|-------------------------|
| 1. Victoria - Edward VII | 3. Richard I - John |
| 2. George V - Edward VIII | 4. Mary I - Elizabeth I |

10. Literature

What late author was considered one of the founders of the "Theater of the Absurd" movement of the 1950's with his play Waiting for Godot?

Samuel Beckett

Bonus 10 - Science

Answer the following questions:

1. Of what chemical compound is limestone composed? Calcium Carbonate
2. What is the chemical formula for ethane? C_2H_6
3. How many protons are in one molecule of glucose? $C_6H_{12}O_6$ 132 ? 96
4. How many protons and how many neutrons are in an alpha particle?

2 protons, 2 neutrons

Round 3 - Toss Up

1. Social Studies

Name the ancient Greek military commander who won the decisive battle of Marathon against the Persians in 490 B.C..

Miltiades

2. Math

What is the term in geometry used to describe two circles of different sizes which have the same center?

Concentric

3. Literature

What American author, noted for his portrayals of Jewish life in New York, wrote the novels The Fixer and The Natural?

Bernard Malamud

4. Science

Name the German astronomer and mathematician of the early seventeenth century who discovered that the square of a planet's year was directly proportional to the cube of its distance from the sun. He also found that all planets travel in elliptical orbit.

Johannes Kepler

5. Language Arts

What are you asking of someone in Spanish if you say, "Que hora es?"?

What time is it?

6. Math (calculation)

Name the five consecutive integers whose sum is 100.

18, 19, 20, 21, 22

7. Social Studies

What famous Italian city serves as capital of the large region of Tuscany?

Florence

8. Science

How many calories of heat energy must be absorbed by one gram of ice at its normal melting point to convert it from a solid to a liquid?

80 Calories

9. Literature

In Greek mythology, what daughter of Zeus and Hera was the goddess of eternal youth and served as one of the cupbearers to the gods?

Hebe

10. Fine Arts

Name the French composer who wrote the 1920 music for dance entitled La Valsa.

Maurice Ravel

11. Math (Calculation)

A right triangle has a hypotenuse of 9 inches and one side of length 4 square roots of 2 inches. What would be the length of the third side?

7 inches

12. Science

What property of a chemical element measures the amount that the element can be drawn into a wire without breaking?

Ductility

13. Health

What is the term for the outer, transparent portion of the front of the human eye through which light passes to enter the eyeball?

Cornea

14. Literature

In what Charles Dickens novel do you meet the characters Dr. Mannette and his daughter Lucie?

A Tale of Two Cities

15. Social Studies

Two different men were inaugurated as U.S. president in 1841. Name these two presidents.

William H. Harrison and John Tyler

Round 4 - Toss Up/Bonus

1. Literature

What British poet and author wrote the lines "An' the dawn comes up like thunder outer China cross the bay!" in his 1892 poem "Mandalay?"

Rudyard Kipling

Bonus 1 - Social Studies

Name the U.S. states which contain the following national historic sites:

1. Abraham Lincoln Birthplace - Kentucky
2. Golden Spike - Utah
3. Sagus Iron Works - Massachusetts
4. Carl Sandburg Home - North Carolina

2. Math

In geometry, what is the term for a line which intersects two given lines to form eight angles?

Transversal

Bonus 2 - Science

Give the general terms for the orders of mammals which include the following:

1. Humans, apes, and monkeys - Primates
2. Rats, beavers, and squirrels - Rodents
3. Dolphins and whales - Cetaceans
4. Moles and shrews - Insectivores

3. Science

What chemical element, one of the noble gases, has an atomic number of 54?

Xenon

Bonus 3 - Language Arts

Spell the following words:

1. Ventriloquist - V-E-N-T-R-I-L-O-Q-U-I-S-T
2. Inadmissible - I-N-A-D-M-I-S-S-I-B-L-E
3. Mississippi - M-I-S-S-I-S-S-I-P-P-I
4. Catholically - C-A-T-H-O-L-I-C-A-L-L-Y

4. Social Studies

What cabinet-level department in the U.S. government supervises the National Oceanic and Atmospheric Administration?

Department of Commerce

Bonus 4 - Health

Answer the following:

1. What vitamin is needed to prevent night blindness? Vitamin A
2. What part of the brain controls balance? Cerebellum
3. Name the iron-containing compound in human blood. Hemoglobin
4. What is the term for the medical condition in which the hemoglobin content of the blood is low? Anemia

5. Language Arts

Literally "fear of the marketplace," what is the term given to an unnatural fear of open spaces?

Agoraphobia

Bonus 5 - Math (Calculation)

Give the first derivatives of the following expressions:

1. $3X^3 - 10X^2 + X$ † $9X^2 - 20X + 1$
2. Sine X † Cosine X
3. $3X^4 - 5X^2 + 7X$ † $12X^3 - 10X + 7$
4. $8X^3 - 5X^2 + X + 1$ † $24X^2 - 10X + 1$

6. Math (calculation)

168 is 24 percent of what larger number?

700

Bonus 6 - Science

Give the standard SI units for the following:

1. Energy - Joule
2. Power - Watt
3. Electrical Current - Ampere
4. Electrical Resistance - Ohm

7. Health

Name the two long bones which form the lower leg in humans.

Tibia and Fibula

Bonus 7 - Literature

Name the Greek playwrights who created the following works:

1. Antigone - Sophocles
2. Lysistrata - Aristophanes
3. Prometheus Bound - Aeschylus
4. Iphigenia in Tauris - Euripides

8. Science

What is the term given to the fluid-filled membrane which surrounds a developing human fetus to provide a watery environment?

Amnion

Bonus 8 - Social Studies

Give the names of the historical figures who had the following nicknames:

1. Old Hickory - Andrew Jackson
2. Buffalo Bill - William Cody
3. Old Blood and Guts - George Patton
4. The Great Commoner - Henry Clay, also Great Compromiser

9. Literature

What popular American humorist wrote the 1942 work My World and Welcome to It! ?

James Thurber

Bonus 9 - Math (calculation)

Find the cube roots of the following numbers:

1. 125 - 5
2. 343 - 7

3. 2744 + 14
4. 15,625 + 25

10. Social Studies

What explorer led the expedition which was the first to round the Cape of Good Hope in 1486? This set the stage for exploration of the Indian Ocean and the finding of a sea route to Asia.

Bartholomew Diaz

Bonus 10 - Literature

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

1. Banquo - Macbeth
2. Viola - Twelfth Night
3. Gertrude - Hamlet
4. Antipholus - The Comedy of Errors

Replacement Questions - Game 4

Toss Up

Science

What alloy of copper and tin is considered the oldest of the man-made metals?

Bronze

Math (calculation)

What would be the volume of a cylinder in terms of pi cubic inches if the cylinder has a radius of 6 inches at its base and a height of 5 inches?

180 pi cubic inches

Social Studies

What country became the fifth nation to possess nuclear weapons when it tested its first atomic bomb in October of 1964? The United States, the Soviet Union, Great Britain, and France previously had these weapons.

China

Literature

In what Charles Dickens novel do you meet the character Uriah Heep?

David Copperfield

Fine Arts

What term in music, literally Italian for "going," is used to indicate a moderate speed between Allegretto and Adagio?

Andante

Language Arts

What personal pronoun is considered the third person, masculine, singular, nonnitive pronoun?

He

Agriculture (Misc)

Name the U.S. state which leads the nation in the number of cattle that are grown each year.

Texas

Bonus

Science

Give the atomic numbers of the following elements:

- | | |
|------------------|-------------------|
| 1. Fluorine - 9 | 3. Magnesium - 12 |
| 2. Beryllium - 4 | 4. Copper - 29 |

Math (calculation)

Give the square roots of the following numbers:

- | | |
|-------------|--------------|
| 1. 529 - 23 | 3. 784 - 28 |
| 2. 676 - 26 | 4. 1681 - 41 |

Social Studies

Of what U.S. states have the following people recently served as governor:

1. Ann Richards - Texas
2. Douglas Wilder - Virginia
3. James Florio - New Jersey
4. Carroll Campbell - South Carolina

Literature

Complete the following titles of famous literary works:

1. Brideshead... by Evelyn Waugh - Revisited
2. All Quiet... by Erich Maria Remarque - On the Western Front
3. Of Human... by W. Somerset Maugham - Bondage
4. The Autocrat... by Oliver Wendell Holmes - Of the Breakfast Table

Fine Arts

Name the composers of the following operas:

1. La Boheme - Giacomo Puccini
2. Rigoletto - Giuseppe Verdi
3. Tristan and Isolde - Richard Wagner
4. The Bartered Bride - Bedrich Smetana

Language Arts

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

- | | |
|-------------------------|------------------------------|
| 1. Heights - Acrophobia | 3. Open Spaces - Agoraphobia |
| 2. Animals - Zoophobia | 4. Stealing - Kleptophobia |

Health (Misc)

In what body organs do you have the following structures:

- | | |
|-----------------------|-------------------------------|
| 1. Nephrons - Kidneys | 3. Duodenum - Small Intestine |
| 2. Alveoli - Lungs | 4. Sclera - Eye |