

Illinois Coaches Association

1996 Tournament Round 2

TRIAD QUESTIONS

1.

TOSS-UP MATH

If a 45-45-90 special right triangle has a hypotenuse with a length of 26 meters, then what is the perimeter of the triangle?

ANSWER—(26 plus 26 times the square root of 2 meters or 26 times the quantity 1 plus the square root of 2 quantity closed meters)

1.

BONUS MATH

Calculate the areas of the following geometric figures.

1. A circle with a circumference of 36 Pi meters.
2. A regular hexagon with a length of a side of 4 meters.
3. A trapezoid with bases of lengths 9 meters and 21 meters and a height of 8 meters.
4. The area contained inside a larger circle, but not a smaller circle given that they are concentric and that they have radii of 17 and 8 meters.

ANSWER—1.(324 Pi Square Meters) 2.(24 times the square root of 3 meters)
3.(120 Square Meters) 4.(225 Square meters)

2.

TOSS-UP FINE ARTS

For the new ballet he was going to compose, choreographer Marius Petipa gave this man detailed instructions for the tempo, time signature and meter. Upon Petipa's illness, the job fell to Lev Inanov and at its opening everything aspect except the music was considered a failure. For ten points name the Russian whose The Nutcracker is now a time honored success.

ANSWER—(Pyotr Tchaikovsky)

2.

BONUS FINE ARTS

Answer the following about the legendary character Peer Gynt.

1. Name the country in which Peer Gynt is a character in their folklore.
2. Name the dramatist who wrote a verse drama in 1867 titled Peer Gynt.
3. Name the composer whose masterpiece was a 22 part piece of incidental music to the drama.
4. Name any one of the four movements that make up the celebrated first suite of the composer in part three's incidental music.

ANSWER—1.(Norway or Sweden) 2.(Henrik Ibsen) 3.(Edvard Grieg)
4.(Morning or Dawn, The Death of Ase, Anitra's Dance and In the Hall of the Mountain King)

3.

TOSS-UP LITERATURE

Charlie Gordon is a man with an IQ of 70 before undergoing surgery which enhances his brain power. The reader is able to follow Charlie in his journey from dimwit to genius back to dimwit by reading the diary that Charlie keeps. For ten points name this story by Daniel Keyes.

ANSWER—(Flowers for Algernon)

3.

BONUS LITERATURE

Given a book name the author

1. The Life and Opinions of Tristram Shandy
2. The Family Reunion
3. Dover Beach
4. Jumpers

ANSWERS—1.(Laurence Sterne) 2.(T.S. Eliot) 3.(Matthew Arnold) 4.(Tom Stoppard)

4.

TOSS-UP SCIENCE

Lord Kelvin once related the story that he observed this man who was on his honeymoon in Chamonix, France, performing an experiment in which he tested the hypothesis that when water falls 778 feet its temperature is raised one degree Fahrenheit. For ten points name this man who thus had the SI unit of energy named after him.

ANSWER—(James Joule)

4.

BONUS SCIENCE

Identify the following terms dealing with chemical reactions and energy.

1. This is the term for a reaction in which the enthalpy change is negative, that is heat is released into the environment.
2. This is the term for a reaction in which the enthalpy change is positive, that is heat is absorbed from the environment.
3. This is the term for a reaction in which there is no change in the enthalpy, that is, no heat flow.

ANSWER—1.(Exothermic or Exoergic) 2.(Endothermic or Endoergic) 3.(Thermoneutral)

5.

TOSS-UP SOCIAL STUDIES

He served as a judge and this probably helped prepare him for the committee which as a senator from North Carolina he was to head. It was dubbed "The Greatest Show on Earth" and millions tuned in to watch his committee which consisted four Democrats and three Republicans. Its first hearing was held on May 17th and by the fateful day of August 9th it had taken over 7,000 pages of testimony. For ten points name this man who headed the committee which investigated Watergate.

ANSWER—(Sam Ervin)

5.

BONUS SOCIAL STUDIES

Identify the following treaties from early American History.

1. This treaty was negotiated for the US by John Jay, John Adams and Benjamin Franklin and ended the Revolutionary War.
2. This treaty of 1795 was named after the man who negotiated it and stated that Great Britain would open the West Indies and India to American trading vessels and that by June 1st, 1796 Great Britain would leave the frontier fur post in American territory.
3. This treaty was concluded with Spain in October of 1795 and had three main points, the US would have free navigation of the Mississippi, the 31 degree north latitude as the southern boundary of the United States and the "right of deposit" in New Orleans.
4. This treaty was concluded in 1795 with the chiefs of the Delaware, Shawnee, Wyandot and Miami Confederacy after the Battle of Fallen Timbers and agreed to open up most of the Ohio territory to settlement.

**ANSWER—1.(Treaty of Paris) 2.(Jay's Treaty)
3. (Pickney's Treaty) 4.(Treaty of Greenville)**

6.

TOSS-UP MISCELLANEOUS

An amateur in this sport, known as a patzer, would learn the moves of Ruy Lopez, the King's Indian Attack and the Dutch Defense, not to mention fianchetto, en passant and castling. For ten points name this board game whose world champion is Gary Kasparov

ANSWER—(Chess)

6.

BONUS MISCELLANEOUS

Used during WWII, the Korean War and the Persian Gulf War, the last four battleships of the US Navy are being permanently removed from the mothballed fleet lists and are being transferred to interested cities as tourist attractions. Name these four ships which are all named after states.

ANSWER—(Missouri, Iowa, New Jersey and Wisconsin)

7.

TOSS-UP LITERATURE

An uncle of Sir Lionel and the son of King Ban of Benwick he fought many battles and killed many knights including Phelot, Carados and Turquin and was one of the few knights who defeated Sir Gawain. For ten points name this father of Galahad and knight of the Round Table who resisted the love of all women but Queen Guenever.

ANSWER—(Launcelot du Lake)

7.

BONUS LITERATURE

Answer the following questions about the children of King Agenor and the founding of Thebes.

1. When this king of the Greek gods fell in love with Agenor's daughter Europa, he appeared as a white bull and carried her off.
2. This son of Agenor, and later the founder of the city of Thebes, then journeyed around the world unsuccessfully searching for his sister.
3. The man in part two then visited an oracle which told him to give up the search and to find this type of farm animal which had the markings of the full moon and follow it until the animal rested and then he was to found the city of Thebes.
4. As he was about to start, a dragon sent by this Greek god of war appeared and he slew it. He then sowed its teeth and men grew from the ground who helped him build the city.

ANSWER—1.(Zeus) 2.(Cadmus) 3.(Cow) 4.(Ares)

8.

TOSS-UP MATH

If the Sine of a 30 degree angle equals one half, then what angle in the second quadrant has a magnitude also equal to $\frac{1}{2}$ when the Cosine of it is evaluated?

ANSWER—(120 Degrees)

8.

BONUS MATH

Convert the following degree measures radians in simplest terms.

1. 240 Degrees
2. 330 Degrees
3. 750 Degrees.
4. 200 Degrees.

ANSWER—1.(4Pi over 3) 2.(11Pi over 6) 3.(25Pi over 6) 4.(10Pi Over 9)

9.

TOSS-UP SOCIAL STUDIES

When Niko Tangaroa tried to travel from Sydney to his homeland on what he claimed was a passport issued by the new country of Aotearoa, Tangata Wheua and Tangata Tiriti, officials denied him until he used the one issued by the capital at Wellington. For ten points name the Pacific country whose Maori natives are trying to gain independence.

ANSWER—(New Zealand)

9.

BONUS SOCIAL STUDIES

Identify the European capital city given the name of the river on which it lies.

1. Seine.
2. Thames
3. Tagus.
4. Vltava.

ANSWER—1.(Paris) 2.(London) 3.(Lisbon) 4.(Prague)

10.

TOSS-UP SCIENCE

Joseph Priestley was the first scientist to demonstrate that plants consume this substance, and Jan Ingenhousz confirmed his findings, but also discovered an additional fact, that they consumed it only in the presence of light, and if they were in the dark, then they actually produced it just as animals did. Because the process that consumed this was so dependent on light it was named for the Greek word for "to put together by light". For ten points name this compound which plants consume during photosynthesis and which has a formula of C O two.

ANSWER—(Carbon Dioxide)

10.

BONUS SCIENCE

Give the common name of the following diseases.

1. Down Syndrome
2. Hansen's Disease
3. Pertussis
4. Consumption
5. French Disease

ANSWER—1.(Mongolism) 2.(Leprosy) 3.(Whooping Cough) 4.(Tuberculosis) 5.(Syphilis)

Half-Time

11.

TOSS-UP SOCIAL STUDIES

Along with their doctor, cook, valet, maid and pet dog, the seven members of this family were led into the Ipatiev House in Ekaterinburg, Siberia where they were shot, bayoneted and bludgeoned by a squad of Bolsheviks under the command of Yakov Yurovsky. For ten points name this royal family of Russia killed on July 16, 1918.

ANSWER—(Romanovs)

11.

BONUS SOCIAL STUDIES

Answer the following questions about the history of Latin and South America.

1. Their history is divided into the Classic and Mexican periods, in which these Indians of the Yucatan peninsula invented writing, the zero and calendars before falling around 1200.
2. When Napoleon invaded Portugal the royal family fled to Brazil where they ruled, when the king returned his son stayed and declared it independent and became its first emperor. Name him.
3. Born Doroteo Arango, this man vied for power in Mexico with Carranza before turning into an outlaw and being chased by the General Pershing and the US Army.
4. Having the longest tradition of stability and democracy of any South American country, in 1970 Dr. Salvador Allende defeated Eduardo Frei and took office in Santiago. Becoming the first Marxist ever to be freely elected President in any country.

ANSWER—1.(Mayas) 2.(Dom Pedro I) 3.(Pancho Villa) 4.(Chile)

12.

TOSS-UP LITERATURE

His poetry was affected by his marriage to his wife Caitlin and his alcoholism. He was imitated by the New Apocalypse movement and became known to the general public with the poems "In My Craft and Sullen Art" and "A Child's Christmas in Wales". For ten points name this Welsh poet famous for the poem "Do Not Go Gentle Into that Good Night".

ANSWER—(Dylan Thomas)

12.

BONUS LITERATURE

Given a character in a Jane Austen novel name the novel in which the characters appear.

1. Elizabeth Bennett
2. Fanny Price
3. Marianne Dashwood
4. Catherine Morland

**ANSWERS—1. (Pride and Prejudice) 2. (Mansfield Park) 3. (Sense and Sensibility)
4. (Northanger Abbey)**

13.

TOSS-UP FINE ARTS

Most of his life belongs to Impressionism, but he exhibited with them for the last time in 1877 and in a letter to his friend Pissarro on April 1, 1879 conveyed his decision to break with them, because of "difficulties raised by the picture he sent to the Salon". Experts believe though that it was mainly because he resented the public ridicule that the Impressionists were subjected to. For ten points name this artist which said nature should be treated "through the cone, the cylinder and the sphere" to Picasso and who was famous for his still lifes.

ANSWER—(Paul Cezanne)

13.

BONUS FINE ARTS

Identify the architects responsible for the following structures.

1. Guggenheim Museum
2. American Pavillion or Biosphere
3. Segrum Building
4. Chrysler Building

**ANSWER—1. (Frank Lloyd Wright) 2. (Buckminster Fuller) 3. (Mies van der Rohe)
4. (William Van Alen)**

14.

TOSS-UP MATH

What is the limit of the function F of X equals the quantity X squared minus $2X$ divided by the quantity X squared minus $5X$ plus 6 as X approaches 2 ?

ANSWER—(Negative 2)

14.

BONUS MATH

Find the values of the definite integrals of the following functions over the specified intervals.

1. F of X equals $2X$ squared minus X from 0 to 3 .
2. F of X equals $5X$ minus 10 from 2 to 4 .
3. F of X equals 4 times e raised to the $2X$ power minus 9 times e raised to the $3X$ power from 0 the natural logarithm of 3 .
4. F of X equals the Sine of X from 0 to 4π .

ANSWER—1. (27/2) 2. (10) 3. (Negative 62) 4. (0)

15.

TOSS-UP MISCELLANEOUS

This novel is a re-creation of the 1992 presidential race veiled in a fictional plot. It has become famous this year because of the quality of its inside information and because its author has chosen to remain anonymous, leading some to believe that it was written by a Clinton insider. For ten points name this book revolving around the character Jack Stanton.

ANSWER—(Primary Colors)

15.

BONUS MISCELLANEOUS

Identify the following about the breakup of Prince Charles and Lady Di.

1. What title will Diana have after the divorce.
2. Name the woman with which Charles had an affair.
3. Name the man with whom Diana had an affair, he betrayed her with a tell all book.
4. Name the son of Charles and Diana who will be the next king of England.

ANSWERS—1.(Princess of Wales) 2.(Camilla Parker Bowles) 3.(James Hewitt) 4.(William)

16.

TOSS-UP SCIENCE

Discovered by Martin Kamen, it was put to its best known use in 1947 by Willard Libby. Produced in the atmosphere by the bombardment of cosmic rays on nitrogen-14, it has a half-life of 5,700 years, and thus an equilibrium is reached when it is absorbed by living tissue. For ten points name this isotope which is used in dating the age of materials.

ANSWER—(Carbon-14)

16.

BONUS SCIENCE

Identify the following types of electrodes from a description.

1. The electrode at which reduction takes place in an electrochemical cell, this is also the electrode which is the primary source of electrons in an electron tube.
2. The opposite of part one, this is the electrode at which oxidation takes place as well as the collector of electrons.
3. Used in photomultiplier tubes, a cascade of this type of electrode is used to magnify a signal because it produces 10^6 or 10^7 electrons for each impacting photon.

ANSWER—1.(Cathode) 2.(Anode) 3.(Dynode)

17.

TOSS-UP SOCIAL STUDIES

As Louis Botha pointed a rifle at this correspondent for the Morning Post, Napoleon's famous line "When one is alone and unarmed, a surrender may be pardoned," ran through his head. He remained a prisoner in Pretoria for less than a month escaping to Portuguese East Africa. For ten points name this man who went onto lead Britain in World War Two as Prime Minister.

ANSWER—(Winston Churchill)

17.

BONUS SOCIAL STUDIES

Identify the following islands of New York State.

1. Comprising the counties of Kings, Queens, Nassau and Suffolk this island is separated from the Bronx by the East river and contains Brooklyn and JFK airport.
2. One of the five boroughs of New York city, it was bought by the Dutch from the local Indians and contains Wall Street, the Empire State Building and Greenwich Village.
3. Another of the boroughs of New York, it was named after the ancient Dutch States General assembly and consists of Richmond county
4. This government owned island in Upper New York Bay used to be an examination center for immigrant wishing to enter the US.

ANSWER—1.(Long Island) 2.(Manhattan) 3.(Staten Island) 4.(Ellis Island)

18.

TOSS-UP LITERATURE

She wrote The March of Folly which was an account of 4 situations mismanaged by governments, but she is more famous for the works for which she won 2 Pulitzer Prizes in non-fiction. For ten points name this author of the Pulitzer Prize winning works Stilwell and the American Experience in China and The Guns of August.

ANSWER—(Barbara Tuchman)

18.

BONUS LITERATURE

Identify the following about Moby Dick.

1. The name of the ship on which the story is set.
2. The name of the cabin boy in the story.
3. Who prepares the coffin on which Ismael escapes.
4. The name of the 1st mate.

ANSWERS—1.(Pequod) 2.(Pip) 3.(Queequeg) 4.(Starbuck)

19.

TOSS-UP SCIENCE

Scientists have recently discovered a new type of this phenomenon, called elves, or emissions of light and very low frequency perturbations due to electromagnetic pulse sources, which are 400-kilometer-wide doughnut shaped emissions of electrons. For ten points name this atmospheric light phenomenon which also comes in ball and sheet varieties.

ANSWER—(Lightning)

19.

BONUS SCIENCE

Identify the following types of hills and mounds.

1. This type of mobile ridge is composed of windblown material which is usually sand.
2. A type of erosion remnant, this broad, isolated, flat-topped hill is usually found in desert country and is bounded by a steep slope or cliff.
3. With its long axis pointing in the direction of the glacier that formed it, this type of hill with a half-ellipsoidal form is composed of bedrock and glacial drift.
4. Also known as a torso mountain, this geologic feature rises abruptly out of a level peneplain and is hill of rock which resisted erosion.

ANSWER—1.(Dune) 2.(Mesa) 3.(Drumlin) 4.(Monadnock)

20.

TOSS-UP MATH

What decimal number is equivalent to the binary number 10110011?

ANSWER—(179)

20.

BONUS MATH

Given the following expressions expand and then simplify then into a polynomial in simplest terms.

1. $3X^2 + 5X - (3X + 2)$, quantity squared.
2. The quantity $2X + 1$ times the quantity $X + 7$ minus the quantity $3X + 5$ times the quantity $5X - 1$.
3. The quantity $3X + 2$, quantity squared minus the quantity $6X + 2$ quantity squared.
4. The quantity $2X + 1$ quantity squared plus the quantity $X + 3$, quantity squared.

ANSWER—1.(Negative $6X^2$ minus $7X$ minus 4)

2.(Negative $13X^2$ minus $7X$ plus 12)

3.(Negative $27X^2$ minus $12X$)

4.($5X^2$ plus $10X$ plus 10)

Replacement Questions

TOSS-UP MATH

What is the discriminant of the function F of X equals $2X$ squared minus $6X$ plus 7 ?

ANSWER—(Negative 20)

BONUS MATH

Give the exact values in simplest form of the following trigonometric functions.

1. The Sine of 45 degrees.
2. The Tangent of negative 60 Degrees
3. The Cosine of 150 Degrees.
4. The Secant of 300 Degrees.

ANSWER—1.(Square root 2 over 2) 2.(Negative square root of 3) 3.(Negative Root 3 over 2)
4.(2)

TOSS-UP LITERATURE

For ten points name the author who won the Pulitzer Prize for Biography in 1993 for his biography of Harry S. Truman.

ANSWER—(David McCullough)

BONUS LITERATURE

Given a title identify the author.

1. Watch on the Rhine
2. The Executioner's Song
3. The Great God Brown
4. A Century of Dishonor

ANSWERS—1.(Lillian Hellman) 2.(Norman Mailer) 3.(Eugene O'Neill) 4.(Helen Hunt Jackson)

TOSS-UP SOCIAL STUDIES

Consisting of the dormant Kibo peak and the extinct Mawenza peak, this world heritage site is one the border of Kenya and Tanzania. For ten points name this tallest mountain in Africa.

ANSWER—(Mount Kilimanjaro)

BONUS SOCIAL STUDIES

Given a nickname name the state.

1. Volunteer State
2. Gem State
3. Bay State
4. Tar Heel State

ANSWERS—1.(Tennessee) 2.(Idaho) 3.(Massachusetts) 4.(North Carolina)

TOSS-UP SCIENCE

Garlock, San Leandro, New Madrid, San Jacinto, Hayward and San Andreas are some well known examples of them. For ten points name the rock fractures whose lateral displacement is the cause of earthquakes.

ANSWER—(Fault lines)

BONUS SCIENCE

Answer the following questions related to the microscope.

1. What was the name of the biologist who used a light microscope to create the science of microbiology?
2. In 1986 Gert Binnig and Heinrich Rohrer were awarded the Nobel Prize in Physics for their development of the STM, what does STM stand for?
3. Another man was awarded the Nobel prize in physics with Rohrer and Binnig in 1986 for his development of the electron microscope in 1926. What was this man's name.

ANSWER—1.(Anton Van Leeuwenhoek) 2.(Scanning Tunneling Microscope)
3.(Ernst Ruska)