

ABT OPEN 1995 Round 10

Finals

Questions written and edited by
TRIAD QUESTIONS

1.

TOSS-UP SOCIAL STUDIES

He served as a brigadier general under General Scott during the Mexican War, and is also well known as a classmate and friend of Nathaniel Hawthorne. During this president's term such events took place as Mathew Perry opening Japan to world trade, the Ostend Manifesto, the Gadsden Purchase and the Nebraska Kansas Act. For ten points name this 14th president from New Hampshire who served while Kansas bleed.

ANSWER----(Franklin Pierce)

1.

BONUS SOCIAL STUDIES

Identify the vice-president of the United States, given the President they served under.

1. Gerald Ford. 2. Calvin Coolidge. 3. Rutherford Hayes. 4. James Monroe.
5. Grover Cleveland's first term.

ANSWER----1.(Nelson Rockefeller) 2.(Charles Dawes) 3.(William Wheeler)
4.(Daniel Tompkins) 5.(Thomas Hendricks)

2.

TOSS-UP MATH

Given the ellipse X^2 divided by 5 plus Y^2 divided by 6 equals 36, if line segments are drawn from the points where x equals 5 to the origin and the x axis, then what is the area of the triangle that is formed between the x axis and the line segments?

ANSWER----(5 times the square root of 186 divided square meters or 5)

2.

BONUS MATH

Simplify each of the following into a single trigonometric function.

1. The quantity secant squared of X minus tangent squared of X divided by the quantity cosecant squared of X .
2. Two divided by the quantity 1 plus the cosine of $2X$.
3. Cosine to 4th power of X minus sine raised to the 4th power of X .

ANSWER----1.(Sine squared of X) 2.(Secant squared of X) 3.(Cosine of $2X$)

3.

TOSS-UP LITERATURE

He graduated from the University of Iowa before releasing his first important play Battle of Angels. It was not successful so he rewrote it and released it as Orpheus Descending. He would go from failure to success with the plays Night of the Iguana and Sweet Bird of Youth. For ten points name this playwright who also wrote The Glass Menagerie.

ANSWER----(Tennessee Williams)

3.

BONUS LITERATURE

Given the first novel of an author, name the author.

1. Our Mr. Wrenn.
2. The Young Lions.
3. Windy McPherson's Son.
4. The Wapshot Chronicle.

ANSWER---1.(Sinclair Lewis) 2.(Irwin Shaw) 3.(Sherwood Anderson) 4.(John Cheever)

4.

TOSS-UP SCIENCE

First isolated from pus in 1869 by Johann Mischer, who called it nuclein, its existence was kept secret for two years by his boss, Ernst Hoppe-Seyler, while they studied it. It wasn't until 1944 though that its importance began to emerge as a carrier of genetic information. For ten points name this type of acid which comes in ribo and deoxyribo forms.

ANSWER---(Nucleic acids)

4.

BONUS SCIENCE

Given a DNA molecule, answer the following.

1. & 2. Name the two purine base.
3. & 4. Name the two pyrimidine bases.

ANSWER---1 & 2.(Adenine & Guanine) 3 & 4.(Thymine & Cytosine)

5.

TOSS-UP MISCELLANEOUS

The name of the palace of Knossos on Crete, it meant Place of the Double Axe in Greek. More commonly it refers to a maze, especially the one constructed by Daedalus for King Minos. For ten points name this structure.

ANSWER---(Labyrinth)

5.

BONUS MISCELLANEOUS

Identify the day of the week given the Norse or Germanic god after whom the day was named.

1. The Norse god of war.
2. The chief English or German god.
3. The Norse goddess of love and wife of Odin.
4. The Norse god of thunder.

ANSWER---1.(Tuesday [Tyr]) 2.(Wednesday [Wodin]) 3.(Friday [Frigga]) 4.(Thursday [Thor])

6.

TOSS-UP FINE ARTS

His most famous work is based on a series of anonymous writings by a group of twelfth century students about wine, love and the stupidity of elders. For ten points name this composer whose one hundredth birthday was recently celebrated and who composed the cantata Carmina Burana.

ANSWER---(Carl Orff)

6.

BONUS FINE ARTS

Moderator: This is an audio bonus.

You will hear about ten seconds apiece of four overtures, identify the name of each piece.

ANSWER---1.(William Tell) 2.(1812) 3.(The Flying Dutchman) 4.(Light Cavalry)

7.

TOSS-UP SOCIAL STUDIES

Located on the Tweed River near Leicester in the English Midlands, on August 22, 1485, King Richard III charged for the standard of Henry Tudor and was killed when Lord Stanley's men surrounded him. For ten points name this battle at which the York family and the War of the Roses ended, and the line of Tudor kings started with Henry VII.

ANSWER---(Bosworth Field)

7.

BONUS SOCIAL STUDIES

Answer the following questions about Joan of Arc.

1. Joan of Arc led the French forces for a short time during what war fought from 1337 to 1453.
2. Joan of Arc appeared on the scene in 1429 and rallied the French troops against this nation, giving them their first defeat in many years.
3. Name the French king who allowed Joan to lead his armies to victory but made no effort to rescue her after her capture.
4. Name the French city where she was burned at the stake for being a witch in 1431.

ANSWER---1.(Hundred Years' War) 2.(England) 3.(Charles VII) 4.(Rouen [Roo-a])

8.

TOSS-UP LITERATURE

Born in Russia, he became an associate professor of biochemistry at Boston University in 1955 and a full professor in 1979. In that same year he published Opus 200, which was a collection of pieces from his second hundred books. Sometimes writing under the pseudonym Paul French, he is best known for his works of science fiction including The Stars, Like Dust and The Robots of Dawn. For ten points name this author of Nightfall.

ANSWER---(Isaac Asimov)

8.

BONUS LITERATURE

Given the nickname of an American author name the author.

1. The American Socrates.
2. The American Wordsworth.
3. The American Kipling.
4. Mickey.

ANSWER---1.(Benjamin Franklin) 2.(William C. Bryant) 3.(Jack London)
4.(Frank Spillane)

9.

TOSS-UP MATH

You are given a hemisphere with the 30 meter line segment AB as its diameter. Inside this hemisphere is three smaller, but equal hemispheres which are tangent to each other at the line segment AB and whose diameters lie on the line segment AB. For ten points what is the area contained in the larger hemisphere but not in the smaller ones?

ANSWER---(75 pi square meters)

9.

BONUS MATH

Given a sphere with a diameter of 18 meters, answer the following.

1. What is the surface area of the sphere?
2. What is the volume of the sphere?
3. What is the area of the largest circle you can form by intersecting the sphere with a plane?
4. What is the length of the side of a cube with the same volume as this sphere?

ANSWER---1.(324 pi square meters) 2.(972 pi cubic meters) 3.(81 pi square meters)
4.(3 times the cubed root of 36 pi meters)

10.

TOSS-UP SCIENCE

The depletion of this element from the mines in Cyprus is the first example of the overuse of a natural resource and forced ancient mariners to venture all the way to Cornwall in England to obtain new sources. For ten points name this element with atomic number fifty, known in Latin as stannum.

ANSWER—(Tin)

10.

BONUS SCIENCE

Answer the following questions about the history of electricity and magnetism.

1. This man first proved that both electricity and magnetism were governed by the inverse-square law which he applied in his formula F equals K times Q -one times Q -two divided by R squared.
2. One day in 1820 while lecturing to his class, this man placed a live wire across a compass needle and noticed it jump and first demonstrated the connection between electricity and magnetism.
3. Later that year this French scientist, who had the unit of current named after him, showed that if two parallel wires had currents flowing through them in the same direction they would be attracted.
4. This American physicist made use of the connection between electricity and magnetism to build the first electric motor and electric generator and the world's most powerful electromagnet.

**ANSWER—1.(Charles Coulomb) 2.(Hans Christian Oersted) 3.(Andre Ampere)
4.(Joseph Henry)**

11.

TOSS-UP MATH

What is the second derivative of the equation y equals the sine of $5x$?

ANSWER—(Negative 25 times the sine of 5X)

11.

BONUS MATH

Give the first derivatives of each of the following trigonometric functions in simplest form.

1. The Tangent of X .
2. Ten times the sine of $5X$ squared.
3. The cosine of negative $2X$.
4. The secant of X .

ANSWER—

- 1.(Secant squared of x)
- 2.(100X times the Cosine of $5x$ squared times the Sine of $5X$ squared)
- 3.(2 times the sine of negative $2X$)
- 4.(The secant of X times the tangent of X)

12.

TOSS-UP LITERATURE

After becoming famous in 1952 with the publication of his only novel, he worked on his next one for forty years. Destroyed once in a fire, his widow has now given permission to John Callahan to piece together his notes to finish it. For ten points name this author of Invisible Man.

ANSWER—(Ralph Ellison)

12.

BONUS LITERATURE

Identify the following concerning the book Patriot Games.

1. The author.
2. The hero of the story who saves the life of the English royalty.
3. The head of the operation to kill English royalty.
4. The name of the terrorist organization to which the man in part three belongs.

**ANSWER—1.(Tom Clancy) 2.(Jack Ryan) 3.(Sean Miller)
4.(ULA or Ulster Liberation Army)**

Half-Time

13.

TOSS-UP SOCIAL STUDIES

Surrounded by Dagestan, North Ossetia, Ingushetia, Georgia and Russia; the Caucasus Mountains can be found in its southern region while the Russian military drives down from the north. For ten points name this breakaway enclave whose capital is Grozny.

ANSWER---(Chechnya)

13.

BONUS SOCIAL STUDIES

Identify some of the famous sites which the staff of the Chicago Tribune chose as the New Seven Wonders of the World.

1. Containing the largest bas reliefs in the world, this one square mile Hindu temple is located near Siem Reap in Cambodia. Name this abandoned site built by Suryavarman III in the 1100's.
2. Located on a 100,000 square foot marble base, the Indian king Shah Jahan built this mausoleum for his wife Mumtaz who died in childbirth.
3. Costing 800,000 dollars, this statue was built by France to commemorate America's Centennial and is reminiscent of the Colossus of Rhodes.
4. Also known as the Rose-Red city, this site near Ma'an in Jordan was rediscovered in 1812 and is best known for its appearance in Indiana Jones and the Last Crusade.

ANSWER----1.(Angkor Wat) 2.(Taj Mahal) 3.(Statue of Liberty) 4.(Petra)

14.

TOSS-UP SCIENCE

Discovered at Gona, Ethiopia, near the Afar triangle, Donald Johanson was listening to a Beatles' song when he made the discovery, and as a result named it this. For ten points name this famous Australopithecus afarensis skeleton named after the song, 'blank in the Sky with Diamonds'.

ANSWER---(Lucy)

14.

BONUS SCIENCE

Jean-Marie Chauvet discovery's of a cave containing hundreds of paintings done by 20,000 year old Cro-Magnons has brought attention to these remarkable drawings. Answer the following questions about them.

- 1 + 2. These two neighboring European countries contain the best known examples of cave paintings, including the ones above as well as previous known sites such as Altamira and Combe d'Arc.
3. The new discovery rivals this most famous cave site in the region that was accidentally discovered nearly fifty years ago.
4. The idea that these sites are the first examples of human art is now being challenged with the discovery of a 50,000 year-old crayon in Death Adder Gorge in this country's outback.

ANSWER----1 + 2.(France and Spain) 3.(Lascaux [Las-co]) 4.(Australia)

15.

TOSS-UP MISCELLANEOUS

He photographed Ernest Hemingway, Winston Churchill, and Marilyn Monroe in a career that spanned over 60 years. He was one of the original photographers of Life magazine, but he is best remember for a picture he took in 1945 of an American sailor kissing a woman in Times Square on V-J day. For ten points name this man who died in 1995.

ANSWER---(Alfred Eisenstaedt)

15.

BONUS MISCELLANEOUS

Identify the following about the world chess championship that took place in September and October of 1995.

- 1 + 2. Name the two players that were competing.
3. In what building in New York City are the championships being held.
4. Name the company sponsoring the matches.

ANSWER---1 + 2. (Gary Kasparov + Viswanathan Anand) 3. (World Trade Center)
4. (Intel)

16.

TOSS-UP LITERATURE

One day King Midas was walking along in the woods and he came upon a lost follower of this god. When Midas led the man back to the god, he was granted his wish of having everything he touched turn to gold. For ten points name the Greek god of wine who granted the wish.

ANSWER---(Dionysus)

16.

BONUS LITERATURE

Answer the following questions about Aeneas' voyage and adventures in the Aeneid.

1. From what city destroyed by the Greeks was he fleeing.
2. During his journey he landed in north Africa near Carthage. Name the widowed queen of Carthage who fell in love with him and killed herself when he left.
3. Name Aeneas' mother who gave her son a magnificent suit of armor, forged by her husband Vulcan, so that he would not be injured.
4. Name the city that was founded by Aeneas' grandchildren, Romulus and Remus.

ANSWER---1. (Troy) 2. (Dido) 3. (Venus) 4. (Rome)

17.

TOSS-UP SOCIAL STUDIES

Niihau, Kahoolawe, Lanai [La-ni], Kauai [Kow-i], Molokai, Maui, and Oahu. For ten points these are seven of the eight major islands that make up what last state to join the union.

ANSWER---(Hawaii)

17.

BONUS SOCIAL STUDIES

Answer the following questions about the invasion of England by the Spanish Armada.

1. In what year did the English fleet defeat the Spanish Armada.
2. Name the English Queen that Phillip II was trying to punish for raiding Spanish shipping and supporting a Protestant rebellion in the Netherlands.
3. Name either the commander of the English fleet or the famous explorer who was made second-in-command.
4. Name the commander of the Spanish fleet.

ANSWER---1. (1588) 2. (Elizabeth I) 3. (Lord Howard of Effingham or Francis Drake)
4. (Duke of Medina Sidonia or Alonso Perez du Guzman)

18.

TOSS-UP MATH

For ten points what is the result in simplest form when $\frac{7}{8}$ is added to $\frac{5}{12}$ and the result is then divided by $\frac{2}{3}$?

ANSWER---($\frac{31}{16}$)

18.

BONUS MATH

Given the following, expand each and give it in simplest form.

1. 2 raised the seventh power.
2. 5 raised to the 4th power plus 3 raised the 4th power.
3. 12 cubed minus 9 raised to the fourth power.
4. 6 raised to the 4th power plus 9 cubed.

ANSWER---1.(128) 2.(706) 3.(Negative 4833) 4.(2025)

19.

TOSS-UP SCIENCE

Born in Alliston, Ontario, he entered the Army Medical Corps in 1915 and practiced medicine until 1921. In 1923 he was awarded the Noble Prize in Medicine with John Macleod [Muh-klowd], although he objected to the honor being given to Macleod, saying that it was Charles Best who deserved credit for discovering insulin with him. For ten points name this man who died in a plane crash in 1941.

ANSWER---(Sir Frederick Grant Banting)

19.

BONUS SCIENCE

Answer the following questions about the hidden reservoirs of comets in our solar system.

1. Scientists have long believed that at about one light-years distance from the sun there is a large group of comets orbiting the sun. This cloud is known by the name of the scientist who first proposed it.
2. Scientists have also proposed a second group of comets orbiting the sun just beyond this currently farthest planet from the sun.
3. Name this belt, also named after the astronomer who proposed it.
4. This theory has now been confirmed with the probable sighting of 23 comets by this orbiting space telescope.

ANSWER---1.(Oort cloud) 2.(Neptune) 3.(Kuiper belt) 4.(Hubble Space Telescope)

20.

TOSS-UP FINE ARTS

In this artist's short but brilliant life, he went through three distinct stages, the Umbrian-Perugino, the Florentine and the mature. His reputation is based on his frescos in the Stanza della Segnatura in the Vatican such as Prudence, Disputation, Parnassus and his most famous The School of Athens. For ten points name this High Renaissance master.

ANSWER---(Raphael or Raffaello Sanzio)

20.

BONUS FINE ARTS

Moderator, hand out the visual art bonus at the end of the packet. You have a choice for each of the following works of art, one you can choose either to name the artist responsible for work, or name the title for each work, choose carefully.

Moderator note: the answers are also at the end of the round on an accompanying sheet.

21.

TOSS-UP MATH

Samsung, Micropolis, Western Digital, Conner and Segate are all major manufacturers of what type of computer component which is the major storage center for today's PCs.

ANSWER---(Hard Drive)

21.

BONUS MATH

Identify the following special types of angles from a description.

1. Two adjacent angles that have two rays which are opposite rays.
2. Two angles whose sum is 90 degrees.
3. The type of angles formed which are not adjacent to each other and which are formed by the intersection of two lines.
4. The type of angle formed by two opposite rays.
5. Angles which are greater than 180 degrees, but less than 360 degrees.

ANSWER---1. (Linear pair) 2. (Complementary angles) 3. (Vertical angles)
4. (Straight angles) 5. (Reflexive angles)

22.

TOSS-UP SOCIAL STUDIES

British Foreign Secretary George Canning suggested that the US join Great Britain in this policy. Secretary of State John Quincy Adams agreed, but thought that the US should announce it as its own independent decision. So on December 2nd, 1823, President James Monroe in his annual address stated that interference by a European power with the independence of a republic in the Western Hemisphere would be considered an "unfriendly act". For ten points name this famous policy.

ANSWER---(Monroe Doctrine)

22.

BONUS SOCIAL STUDIES

Answer the following questions about previous events in history that occurred on October 21.

1. This 1805 battle between the English fleet and that of Napoleon's ended with a British victory, but the death of Admiral Nelson.
2. While traveling around the world in 1519, this explorer entered the South American strait that is now named after him.
3. In 1959 this New York museum designed by Frank Lloyd Wright opened.
4. In 1915 this company made the first transatlantic transmission of speech from Paris to Arlington.

ANSWER---1. (Trafalgar) 2. (Ferdinand Magellan) 3. (Solomon Guggenheim Museum)
4. (AT&T or American Telephone and Telegraph)

23.

TOSS-UP SCIENCE

Probably lost because of a failed pyrovalve which was supposed to inject hydrazine into the propulsion system, it proved a great public relations disaster for NASA. For ten points name this 487 million dollar satellite that was lost on August 21, 1994 while heading for Mars.

ANSWER---(Mars Observer)

23.

Identify the discoverer of each of the following.

1. Deuterium.
2. Positron.
3. Proton.
4. One of the three for nuclear fission.
5. The third law of thermodynamics.

ANSWER---1. (Harold Urey) 2. (Carl Anderson) 3. (Ernst Rutherford) 4. (Otto Hahn or Lise Meitner or Otto Stassman)
5. (Walther Hermann Nernst)

24.

TOSS-UP LITERATURE

The son of Elizabeth and King Meliodas of Liones, he was made a knight by King Mark of Cornwall so he could be his champion against Sir Marhaus whom he defeated. For ten points name this knight who married Isoud la Blanche Mains [mans], but loved La Beale Isoude.

ANSWER---(Sir Tristram or Tristan)

24.

BONUS LITERATURE

Identify the following about the novel A Tale of Two Cities.

1. The author.
2. The man who is sentenced to die at the guillotine.
3. The man who takes the place of the man in part 2.
4. The woman with whom the men in parts 2 and 3 are in love.

ANSWER—1.(Charles Dickens) 2.(Charles Darnay) 3.(Sidney Carton) 4.(Lucie Manette)

Replacement Questions

TOSS-UP LITERATURE

This author wrote about the emotional torment he felt as an African-American in such works as Giovanni's Room and If Beale Street Could Talk. His experiences as a store front preacher in Harlem were used as the basis for his first novel Go Tell It on the Mountain For ten points name this author.

ANSWER--(James Baldwin)

BONUS LITERATURE

Answer the following questions about author's names

- 1 and 2. What do the J and D stand for in J.D. Salinger
- 3 and 4. What do the T and S stand for in T.S. Eliot

ANSWERS--(1. and 2. Jerome David 3. and 4. Thomas Stearns)

TOSS-UP MISCELLANEOUS

He raised the ire of Andre Agassi at this year's Wimbledon by accusing Agassi of being coached during their match, which Agassi lost. Agassi gained revenge by defeating him in the semi-finals of the 1995 US Open. For ten points name this tennis player who became the first unseeded player to win Wimbledon in 1985.

ANSWER--(Boris Becker)

BONUS MISCELLANEOUS

Name the four women's semifinalists at this year's US Open.

ANSWERS--(Monica Seles, Steffi Graf, Conchita Martinez, Gabriella Sabatini)

TOSS-UP SOCIAL STUDIES

It was founded in 1920 to defend conscientious objectors during WWI. It has in more recent times it has been involved in Brown v. Board of Education and the Scopes Trail. For ten points name this organization whose activities include defending freedom of expression, privacy, and due process on behalf of anyone.

ANSWER--(ACLU or the American Civil Liberties Union)

BONUS SOCIAL STUDIES

Name the U.S. President on the following denominations of currency.

1. 5 dollar bill
2. 20 dollar bill
3. 500 dollar bill
4. 1000 dollar bill

ANSWERS--(1. Abraham Lincoln 2. Andrew Jackson 3. William McKinley 4. Glover Cleveland)

TOSS-UP SCIENCE

Scientists were soon expecting it to erupt in a vertical direction, and had sent up monitoring stations around it. However when its north slope collapsed, it triggered a landslide which killed geologist David Johnston who was stationed nine kilometers away. For ten points name this volcanic eruption that occurred in 1980 in Washington state.

ANSWER---(Mount St. Helens)

BONUS SCIENCE

Answer the following questions about the moons of Uranus that were known before Voyager 2 explored the planet.

1 + 2. Name any two of the five moons that were known before Voyager.

3. These moons were all named after characters in works by Alexander Pope or this great English dramatist.

4. Name any one of the three works from which the names came.

ANSWER---1 + 2. (Titania, Ariel, Umbriel, Miranda and Oberon) 3. (William Shakespeare)

4. (The Tempest, A Midsummer Night's Dream or The Rape of the Lock)

TOSS-UP MATH

What is the Tangent of 90 degrees?

ANSWER---(Undefined)

BONUS MATH

Given a line of personal computers identify the manufacturer.

1. Omniplex 2. Aptiva 3. PS/2 4. Millenium

ANSWER---1. (Dell) 2. (IBM) 3. (IBM) 4. (Micron)