Academic Bowl Round 8

First Half

(1)   **One of this man's paintings was previously called *Profane Love*, and the upper portion of that work by this man was destroyed in 1880 but likely gave it its current name, *Opening of the Fifth Seal*. (*)** One of this man's works depicts two saints lowering the Count of Orgaz into his grave, while another features a painting of Toledo, where this man worked. For ten points, name this Spanish artist whose name reflects his birth on the island of Crete.

ANSWER: **El Greco** (or Domenikos **Theotokopoulos**)

(bonus)   An anamorphic skulls figures prominently at the bottom of this painting. For ten points each,

*   Name this painting depicting two Frenchmen. A globe and other instruments appear in the background.

ANSWER: The **Ambassadors** (accept The **French Ambassadors**)

*   *The Ambassadors* was created by this Reformation era painter who hailed from Augsburg.

ANSWER: Hans **Holbein** the Younger (accept Hans Holbein der **Jüngere**)

*   A patron of Hans Holbein the Younger was this English author of *Utopia*.

ANSWER: Sir Thomas **More** (accept Saint Thomas **More**)

(2)   **This city's Dōtonbori entertainment district was created following the construction of a canal after a 1615 siege. A man named Hidetada reconstructed a *shiro* in this city using stones from the Seto Inland Sea. In a campaign fought in this city, Sanada Yukimura was killed at the Battle of Tennoji. (*)** Ieyasu [[ee-eh-YAH-soo]] Tokugawa besieged a castle owned by the Toyotomi clan in this city, the burning of which signaled the end of the Sengoku period. For ten points, name this third-most populous city in Japan.

ANSWER: **Osaka**

(bonus)   Mencius, or Meng Ki, is considered the "Second Sage of China." For ten points each:

*   Mencius followed in the tradition of this "First Sage," a Chinese philosopher who espoused the Golden Rule and promoted filial piety.

ANSWER: **Confucius** (accept **Kong** Fuzi)

*   Mencius is recorded as saying that this Confucian concept of right virtue is inherent to all people.

ANSWER: **_Ren_**

*   Mencius served as an advisor to the ruler of Qi [[CHEE]] during this tumultuous period of Chinese history that followed the Spring and Autumn period.

ANSWER: **Warring States** Period (accept _Zhànguó **Shídài**_)

(3)   **Johan Hittorf discovered this element's crystalline violet allotrope. This element's amorphous red allotrope is produced by heating its tetrahedral [[teh-trah-HEE-drul]] white allotrope above 300 degrees Fahrenheit. This element's namesake "jaw" (*)** was a condition suffered by matchstick workers, as this element's white form was previously used in match heads. For ten points, name this element with atomic number 15 and symbol P.

ANSWER: **Phosphorus** (accept **P** before mentioned; prompt on "Phossy Jaw")

(bonus)   NADH is formed during this process whose initial reactant is glucose. For ten points each,

*   Name this ten-reaction sequence that turns out a product of pyruvic acid.

ANSWER: **Glycolysis**

*   Glycolysis occurs in this liquid portion of the cell.

ANSWER: **Cytosol**

*   These non-liquid portions of the cell carry out specific functions. Chloroplasts and mitochondria are examples.

ANSWER: **organelle**s

(4)   **The romances in this 1623 play are set in motion when a company of soldiers arrive after a campaign at the home of Leonato. In this play, Claudio and Hero are betrothed quickly and set about matchmaking for another (*)** pair, a quick-witted woman and a romance-averse man. Beatrice and Benedick proclaim their love for one another at the end of, for ten points, what William Shakespeare comedy?

ANSWER: **_Much Ado About Nothing_**

(bonus)   This author wrote a poem memorializing the catastrophic consequences of the German invasion of Poland in his poem "September 1st, 1939." For ten points each

*   Name this Anglo-American poet who wrote the Old English inspired *Age of Anxiety*. He also wrote "Funeral Blues."

ANSWER: W.H. **Auden**

*   Auden wrote the poem "The Shield of [this Hero]," describing its forging by Hephaestus and eventual use in the Trojan War by this hero who defeated Hector.

ANSWER: **Achilles**

*   While being a gay man, he marries this author's daughter Erika to secure her passage out of Nazi Germany. This man wrote *Death in Venice* and *The Magic Mountain*.

ANSWER: Thomas **Mann**

(5)   **The practice of 'just sitting' was introduced by Rujing, a monk of the Caodong [[TSAO-DONG]] school of this religion, and was adapted by Japanese practitioners as *shikantaza*. The name of this religion originated from the (*)** Japanese pronunciation of the Sanskrit word *dhyana*. For ten points, name this Chinese school of Mahayana Buddhism that heavily emphasizes meditation, and spread to Vietnam, Korea and Japan.

ANSWER: **Zen Buddhism** (prompt on partial answer; prompt on "Mahayana Buddhism")

(bonus)   Author and magistrate Henry Fielding founded the "Bow Street Runners," an early form of this organization. For ten points each,

*   Name this "force" which was preceded by the thief-takers, who were private citizens who collected bounties. A modern iteration of this force in England have officers known as "Bobbies"

ANSWER: The **Police** (Accept **Cop**s

*   The Bobbies are named for this Prime Minister of the UK who undid the Corn Laws

ANSWER: Robert **Peel**

*   The police districts of the English countryside are broken up into these districts, named for the civil force which operates within them

ANSWER: **Constabulary** (Accept **Constable**s)

(6)   **Sewall Wright visualized this quantity using an adaptive landscape. W. D. Hamilton developed the "inclusive" form of this quantity to explain why organisms engage in kin selection. This quantity is lowered by both inbreeding (*)** depression and deleterious mutations. Natural selection favors the survival of organisms with higher values for this quantity. For ten points, name this ability of an organism to reproduce and pass off its genes.

ANSWER: **fitness** (accept inclusive **fitness**; prompt on descriptive answers)

(bonus)   Sewall Wright sometimes lends his name to this effect, which can result from a population bottleneck. For ten points each,

*   Name this phenomenon by which the frequency of alleles [[ah-LEELS]] can change due to random events.

ANSWER: **Genetic drift** (accept **Allelic drift**; accept **Sewall Wright** effect)

*   Genetic drift can result in the peripatric form of this process, other forms of which include allopatric and sympatric.

ANSWER: **Speciation**

*   This English scientist discussed the difficulties he found in the study of species in his work *On the Origin of Species*.

ANSWER: Charles **Darwin** (or Charles Robert **Darwin**)

(7)   **When sent into town to get supplies, one character in this novel purchases bologna, cigarettes, and a copy of *Gone with the Wind*. The pointing of an unloaded gun by Dally Winston leads to his death by the police at this novel's end. In this novel, the character Johnny dies from severe burns after rescuing schoolchildren, telling one character to "Stay (*)** Golden" shortly before passing. For ten points, name the S.E. Hinton novel centered on the conflict between the "Greasers" and the "Socs" [[SOH-shiz]], narrated by "Ponyboy" Curtis.

ANSWER: The ***Outsiders***

(bonus)   The protagonist of this work is born as a "Third" and is an exception to his society's two-child policy. For ten points each,

*   Name this 1985 work in which the title boy attends Battle School to train in preparation for an invasion.

ANSWER: ***Ender's Game*** (prompt on "Ender Wiggin")

*   *Ender's Game* was written by this man who also wrote *Speaker for the Dead*.

ANSWER: Orson Scott **Card**

*   As of 2021, there were nineteen titles in the *Ender's Game* series, the nineteenth being *The Last* [this word]. That missing word is a term for an area in which light is blocked by an object.

ANSWER: **Shadow** (accept *The Last **Shadow***)

(8)   **Edgar Mitchell watched this man hit a golf ball in the Fra Mauro highlands on this man's first mission after having been previously grounded with Meniere's Disease. This man co-authored a book with Deke Slayton titled (*)** *Moon Shot: The Inside Story of America's Race to the Moon* and was one of the original Mercury Seven astronauts. Having walked on the moon during the Apollo 14 mission, for ten points, who was this first American in space?

ANSWER: Alan **Shepard** (or Alan Bartlett **Shepard** Jr.)

(bonus)   The Grolier Club was made up of prominent literary figures in this city. For ten points each,

*   Name this city in which the entrance to the public library's main branch is guarded by lion statues named Patience and Fortitude.

ANSWER: **New York** City (accept **NYC**)

*   Among the honorary members of the Grolier Club was this president who led the U.S. recovery from the Great Depression.

ANSWER: **F**ranklin Delano **Roosevelt** (accept **FDR**; prompt on "Roosevelt")

*   A 400 thousand dollar donation to help create the New York Public Library was left in the will of this fur trading magnate and first multi-millionaire in the U.S.

ANSWER: John Jacob **Astor** (accept Johann Jakob **Astor**)

Halftime

The categories are:

   1. Vincent van Gogh

   2. Independence from Britain

   3. Mathematicians

Vincent van Gogh

Concerning the painter Vincent van Gogh, name the...

(1)   Type of art he created, usually involving a canvas and a brush.

ANSWER: **Paint**ing

(2)   Body part he cut off, leading to a self-portrait of him wearing bandages.

ANSWER: Left **ear**

(3)   Type of yellow flower found in many of his paintings, known as Tournesols [[toor-neh-SOHL]] in French.

ANSWER: **Sunflower**s (accept ***Helianthus***)

(4)   First name of his brother who looked after Vincent in his later years.

ANSWER: **Theo**dorus van Gogh

(5)   1885 work he created depicting peasants eating the title food.

ANSWER: *The **Potato Eaters*** (or *De **Aardappeleters***)

(6)   French artist, known for his time in Polynesia, with whom van Gogh lived in 1888.

ANSWER: Paul **Gauguin** [[goh-GAHN]] (or Eugène Henri Paul **Gauguin**)

Independence from Britain

What freedom fighter in the British Empire...

(1)   Organized the salt march and led the Indian Independence Movement?

ANSWER: Mahatma **Gandhi** (accept Mohandas Karamchand **Gandhi**)

(2)   Led the Americans at the Siege of Yorktown and became known as the U.S. "Father of the Nation"?

ANSWER: George **Washington**

(3)   Created the philosophy of "Harambee" as the first president of Kenya under the KANU party?

ANSWER: Jomo **Kenyatta** (accept **Kamau** wa Ngengi)

(4)   Allied with the Axis as the leader of Azad Hind during World War Two?

ANSWER: Subhas Chandra **Bose** (accept **Netaji**)

(5)   Led the All-India Muslim League and served as the first Governor-General of Pakistan?

ANSWER: Muhammad Ali **Jinnah** (or Mahomedali **Jinnahbhai**)

(6)   Proposed an independent Muslim state in Northwestern India through the Allahabad Address?

ANSWER: Muhammad **Iqbal** (accept **Allama**)

Mathematicians

Name the mathematician who...

(1)   Is the namesake of a theorem concerning right triangles.

ANSWER: **Pythagoras** (prompt on "Pythagorean theorem")

(2)   Names a triangle that consists of an array constructed by summing adjacent elements.

ANSWER: Blaise **Pascal** (accept **Pascal**'s Triangle)

(3)   Theorized that the earth was at the center of the universe and wrote the *Almagest*.

ANSWER: Claudius **Ptolemy** (or Claudius **Ptolemaeus**)

(4)   Was the daughter of Lord Byron and envisioned the first computer.

ANSWER: Ada **Lovelace** (or Augusta Ada **King**; or Countess of **Lovelace**; or Augusta **A**da **Byron**)

(5)   "Father of the computer" who developed a namesake "Analytical Engine."

ANSWER: Charles **Babbage** (accept **Babbage**('s) engine)

(6)   Succeeded her father, Theon, as the leading mathematician in Alexandria and invented the astrolabe.

ANSWER: **Hypatia**

Second Half

(1)   **Works of art found in this structure include Ariel Moscovici's *Between Earth and Sky* and Robert Indiana's *1-0* [[ONE-THROUGH-ZERO]]. All across this structure is the recurring motif of the traditional *ruyi* talisman. This building (*)** was passed as the world's largest edifice by the Burj Khalifa. Named for both its number of floors and the city in which it is found, for ten points, what is this skyscraper in the capital of Taiwan?

ANSWER: **Taipei 101** (accept **Taipei World Financial Center** before "number of floors")

(bonus)   Answer the following about the "Seven Wonders of the Modern World." For ten points each

*   This wonder's 1930 completion was the most recent. It can be found on Corcovado Mountain.

ANSWER: **Christ the Redeemer** Statue (accept **Cristo Redentor**)

*   A far older Wonder is this defensive line of defensive palisades which were used for border control in its namesake country.

ANSWER: **Great Wall of China** (accept **Wànlǐ Chángchéng**; prompt on "Great Wall")

*   The ancient city of Petra is found in this governorate of Jordan, the largest in the kingdom by area.

ANSWER: **Ma'an** Governorate

(2)   **This man was born into a Quaker family in colonial Pennsylvania and fought under Hugh Waddell during the "Cherokee Uprising." This pioneer fought in the French and Indian War and later discovered the Cumberland Gap (*)** and built the Wilderness Road. This frontiersman was a well-known trail-blazer, and created a namesake settlement in Kentucky. For ten points, name this folk hero who was a Revolutionary War officer and served three terms in the Virginia General Assembly.

ANSWER: Daniel **Boone** (accept **Boonesboro**)

(bonus)   Harriet Jacobs wrote a prominent work in this genre detailing her experiences with one Dr. Flint. For ten points each,

*   Name this genre of works, the best known of which was written by Frederick Douglass.

ANSWER: **slave narrative** (accept autobiographies of **slave**s or similar answers)

*   A preface to the slave narrative written by Frederick Douglass was authored by this abolitionist editor of *The Liberator*.

ANSWER: William Lloyd **Garrison**

*   *The Liberator* was based out of this city which Brookline voted against being annexed by in 1873. The Charles River was not involved in the later 1919 Molasses Flood that affected its North End neighborhood.

ANSWER: **Boston**

(3)   **This quantity comes in "kinematic" and "dynamic" varieties. This property is a frictional force influenced by the heat of the material and is sometimes mistakenly referred to as "thickness." (*)** This property can be easily measured using techniques such as timing a ball bearing falling through honey. For ten points, name this property that is defined as "a fluid's resistance to flow."

ANSWER: **Viscosity** (accept **Viscous**ness)

(bonus)   The light-dependent reactions of photosynthesis take place in the membrane of these structures. For ten points each:

*   Name these discs found within the chloroplast that make up stacks called grana.

ANSWER: **Thylakoid**s

*   This green pigment found in the thylakoid membrane absorbs sunlight to power photosynthesis.

ANSWER: **Chlorophyll**

*   According to this theory proposed by Lynn Margulis, chloroplasts initially developed from free-living bacteria that were absorbed by other cells to form eukaryotic cells.

ANSWER: **Endosymbiotic** theory (accept **Endosymbiosis**; accept **Symbiogenesis**) Edited by Noah Sheidlower

(4)   **This novel, which takes its name from a line in W.B. Yeats's poem "The Second Coming," was followed up by the novel *No Longer at Ease*. This novel's protagonist goes into exile after killing his adopted son, Ikemefuna. That protagonist of this novel commits suicide in response to the introduction of Christianity. Centered on an Igbo (*)** man named Okonkwo, for ten points, what is this novel written by Chinua Achebe [[SHIN-wah ah-SHEH-beh]]?

ANSWER: ***Things Fall Apart***

(bonus)   A novel from this nation chronicles the path of a family from wine distillers to freedom fighters during the 1930s. For ten points each,

*   Name this nation, the setting of *Red Sorghum* by Mo Yan. One of this nation's "Classics" is the book *Water Margin*.

ANSWER: People's Republic of **China** (or **PRC**; or **Zhonghua** Renmin Gongheguo; or **Zhongguo**)

*   This most recently published of the "Four Great Classical Novels" concerns the fall of the Jia clan in Qing [[CHING]] China.

ANSWER: ***Dream of the Red Chamber*** (or ***Hongloumeng***)

*   The dialogue between characters in *Dream of the Red Chamber* is written in this Chinese dialect, used as the court language in Qing China alongside Manchu.

ANSWER: Beijing **Mandarin**

(5)   **A region partly named for this body is home to the Khitan-descended Daur people. This body of water with the only species of freshwater seals was raised 1.5 meters after the building of the Irkutsk Hydroelectric Plant. Davsha, (*)** which is on the coast of this lake, is one nation's first nature reserve, initially founded by Tsar Nicholas II. For ten points, name this deepest freshwater lake on Earth, found in modern Siberia.

ANSWER: Lake **Baikal** (accept Trans**baikal**)

(bonus)   Answer the following about the Angkor temple complex. For ten points each,

*   This word, which designates a Buddhist temple in Thailand, also designates the largest temple and the flagship structure of the Angkor complex.

ANSWER: **Wat** (accept Angkor **Wat**)

*   Angkor Wat was built by the Khmer Empire in what is today this country.

ANSWER: Kingdom of **Cambodia** (or Preahreacheanachakr **Kampuchea**)

*   Angkor Wat was designed to represent this sacred five-peaked mountain which in Hindu cosmology holds the palace of Indra.

ANSWER: Mount **Meru** (accept Su**meru**; accept **Sineru**; accept Mahā**meru**)

(6)   **Performing a Gaussian elimination on these structures gives their rank. Arthur Cayley developed a technique for these structures that involves switching their row and column indices. Transpose and tracing are operators (*)** concerning these structures that come in orthogonal and identity types. For ten points, identify these mathematical structures of arrayed numbers.

ANSWER: **Matrix** (or **Matrices**; accept Orthogonal **Matrix**; accept Taking the Transpose of a **Matrix** and similar answers; accept Identity **Matrix**)

(bonus)   A "natural" type of this function uses the number *e* as a base. For ten points each,

*   Name this function, the inverse of the exponential function. With a base of ten, this function returns a value of two when applied to one hundred.

ANSWER: **Log**arithmic function (accept **Log**; accept Natural **log**; accept **Ln**)

*   Natural logarithms can be approximated by a method that repeatedly calculates this value, found by multiplying the two numbers X and Y and then taking the square root.

ANSWER: **Geometric mean** (prompt on "mean")

*   A logarithmic example of these shapes commonly occurs in nature, describing both the shell of a nautilus and the arms of a type of galaxy.

ANSWER: Logarithmic **Spiral** (accept **Spiral** galaxy)

(7)   **Hel said that she would release this god from the underworld if every living thing wept for him, but the giantess Thokk refused to do so. Every object on earth was forced to vow never to hurt (*)** this god, but mistletoe did not make the vow and ultimately caused this god's death at the hands of his blind brother, Hodr. For ten points, who was this beloved Norse god?

ANSWER: **Baldr**

(bonus)   Thor, the mighty Norse god of thunder, has returned to popularity thanks to the Marvel Cinematic Universe. For ten points each,

*   Thor carries a mighty hammer known by this Old Norse name.

ANSWER: **Mjölnir** [[MYUHL-neer]]

*   Thor fathered the goddess Thrud with this wife who had golden hair in Norse myth, unlike her MCU counterpart.

ANSWER: **Sif**

*   According to the *Poetic Edda*, Thor rides a chariot pulled by two animals of this kind that he kills, eats, and resurrects the next day.

ANSWER: **Goat**s

(8)   **It's not Donald Trump, but three garbage cans worth of this president's papers were burned by his son. Due to this man's predecessor being assassinated by a disgruntled bureaucrat-hopeful, this president signed the Pendleton (*)** Civil Service Reform Act and used a budget surplus to rebuild the navy. For ten points, name this president who ended the spoils system after replacing James Garfield in 1881.

ANSWER: Chester Alan **Arthur**

(bonus)   Answer the following about the first inauguration of Lyndon B. Johnson. For ten points each:

*   Lyndon Johnson was sworn in as president after the assassination of this Catholic predecessor, who was assassinated by Lee Harvey Oswald.

ANSWER: John F[itzgerald] **Kennedy** (accept **JFK**)

*   The inauguration took place at Love Field in this city, where Kennedy had been assassinated.

ANSWER: **Dallas**, Texas

*   This is the call sign of the presidential plane on which the inauguration was held.

ANSWER: **Air Force One** Edited by Noah Sheidlower

Extra Question

(1)   **A commonly accepted explanation for this European city's etymology arises from a town that was founded in modern day Forsby Village along the Vantaa River. The functionalist architect Alvar Aalto designed many civic structures in this (*)** capital city. The 1952 Summer Olympics were hosted in this city that is a short boat ride away from Tallinn. For ten points, name this largest city and capital of Finland.

ANSWER: **Helsinki** (or **Helsingfors**)

(bonus)   During one experiment, these animals began to salivate upon hearing the ringing of a bell. For ten points each,

*   Name these animals that were the subject of a classical conditioning experiment conducted by a Russian physiologist in the 1890s.

ANSWER: **Dog**s

*   The aforementioned experiments that gave rise to the idea of the "conditioned reflex" were carried out by this psychologist.

ANSWER: Ivan **Pavlov** (or Ivan Petrovich **Pavlov**)

*   A number of conditioning experiments were conducted by this U.S. behaviorist who invented a namesake puzzle box that required animals to pull a lever to escape.

ANSWER: B.F. **Skinner** (or Burrhus Frederic **Skinner**; accept **Skinner** Box)