Round 4

First Half

1. A character in this author's first novel may have committed suicide, leading to Pudge's narration of the events leading up to and after the (*) car crash. The fictional town of Agnew, New York is the destination of Margo in this author's novel *Paper Towns*. For 10 points, name this author of *The Fault in Our Stars* and *Turtles All the Way Down*.

ANSWER: John Green

Bonus 1. Can you doubleplusgoodthink? For 10 points each:

[10] Name this novel in which Winston Smith is arrested by an Inner Party member for his thoughtcrimes. He betrays his lover Julia in Room 101.

ANSWER: 1984

[10] 1984 begins and ends with Winston describing a huge poster of this character, the semi-mythical head of the government. The concept that this character "is always watching" has spawned a reality TV show.

ANSWER: **Big Brother**

[10] This British novelist of 1984 wrote about his time in Burma and satirically depicted Stalin in his novella *Animal Farm*.

ANSWER: George Orwell

2. The artist of this painting use his dentist and sister as its models, with the latter being depicted wearing a colonial apron. This painting takes his name from the ornate window installed on the Iowa house in its background. (*) For 10 points, name this painting by Grant Wood which shows a balding man holding a pitchfork standing next to a female relative.

ANSWER: American Gothic

Bonus 2. This painting shows a man in orange smoking a pipe and a lady with a monkey on a leash. For 10 points each:

[10] Name this painting by Georges Seurat which shows people relaxing at a park on the title French Island.

ANSWER: A Sunday Afternoon on the Island of La Grande Jatte

[10] A Sunday Afternoon on the Island of La Grande Jatte is painted in this style. This technique creates a coherent image composed of thousands colored dots.

ANSWER: Pointillism

[10] A Sunday Afternoon on the Island La Grande Jatte is currently held by this Midwestern art museum. This museum also contains works by Grant Wood and Edward Hopper.

ANSWER: The Art Institute of Chicago

3. Non-canonical types of these texts include ones "of Thomas" and "of Judas." These texts may be classified as synoptic and the four most famous people who wrote them are known as Evangelists. (*) Matthew, Mark, Luke and John wrote, for 10 points, which Christian texts that tell of the life of Jesus?

ANSWER: Gospels (prompt on books of the Bible or New Testament)

Bonus 3. This man rallied against German farmers in his *Against the Murderous, Thieving Hordes of Peasants*. For 10 points each:

[10] Name this religious reformer who created the 95 Theses and led a break from the Catholic Church.

ANSWER: Martin Luther

[10] Luther was particularly upset about the sale of these things, which in the Catholic Church, allowed sinners to be forgiven and spared afterlife punishment.

ANSWER: indulgences

[10] In response to the Protestant Reformation, the Church called this meeting. This council, held in a northern Italian city, was a key portion of the Counter Reformation.

ANSWER: Council of Trent

4. Striations on these structures are known as ogives, and fissures are known as crevasses. These objects deposit moraines, and form U-shaped (*) valleys with their movement. When these objects meet the sea, they can produce icebergs. For 10 points, name these large sheets of ice that mostly receded north at the end of the last ice age.

ANSWER: Glaciers

Bonus 4. For 10 points each, answer the following questions about the French scientist Antoine Lavoisier.

[10] Lavoisier is famous for his discovery of oxygen's role in this phenomenon which involves an exothermic chemical reaction.

ANSWER: Combustion

[10] Lavoisier served a committee that was set up to establish this universal system of measurement, opposed to the imperial system.

ANSWER: Metric system

[10] Joseph Priestley discovered this gas which Lavoisier used in his experiments. This gas forms about ½ of the Earth's atmosphere.

ANSWER: Oxygen

5. This city is where Chris Patten departed in 1997 on the yacht *Britannia*. This city replaced an old airport in Kowloon with one built on land reclaimed from the South China Sea. This city, together with nearby (*) Macau, is known as a Special Administrative Region. For 10 points, name this port city of Southern China, that was part of the British Empire for over a century.

ANSWER: **Hong Kong**

Bonus 5. For 10 points each, answer the following about US state nicknames.

[10] This state's nickname, the Old Line State, comes from a regiment in the Revolutionary War and not from another old line, the Mason-Dixon, which divides it from Pennsylvania to its north.

ANSWER: Maryland

[10] This state's license plates have carried its nickname as the *Land of Lincoln*. Lincoln was not born here, but he lived here before becoming president, and he is buried here.

ANSWER: Illinois

[10] This Southern state is known both as the Land of Opportunity and the Natural State. Its Ozark Mountains and many lakes inspired that latter nickname.

ANSWER: Arkansas

6. This object's surface area is equal to twice the area of ones of its bases plus two times pi times radius times height. This three-dimensional object has two circular (*) bases, and its volume is equal to pi times radius squared times its height. For 10 points, name these geometrical objects that look like cans.

ANSWER: **cylinder**(s)

Bonus 6. Bayes' theorem determines this concept in situations where another example of this concept is given, as that extra information can change this quantity. For 10 points each, [10] Name this mathematical concept, the chance that something will occur. For a fair coin, this quantity is 50 percent for flipping heads.

ANSWER: probability

[10] If the outcome of one event has no impact on the outcome of another event, then the two events have this relationship.

ANSWER: independent (accept word forms)

[10] Consider rolling two standard six-sided dice and getting a sum of 10. Find the probability that either of the two dice showed a 3.

ANSWER: 0 (accept descriptive answers noting that it is **impossible**)

7. German writers of this literary movement included Schiller and Goethe. This literary movement is often understood as a reaction to the Enlightenment, and it is exemplified by the poem (*) "Ode on a Grecian Urn." For 10 points, name this style of literature common to the poetry of Wordsworth and Keats, which emphasized emotion and connection to nature.

ANSWER: Romanticism

Bonus 7. The title character of a play solves the riddle of the sphinx and becomes king of Thebes. For 10 points each:

[10] Name this man who gouges out his eyes after making the terrible discovery that he had killed his father and married his mother.

ANSWER: Oedipus

[10] This daughter of Oedipus commits suicide in the play titled for her, after being arrested for burying her brother Polyneices [Pol-y-NIGH-seas].

ANSWER: **Antigone**

[10] Both Antigone and Oedipus Rex were written by Sophocles, who wrote in this language.

ANSWER: Ancient Greek

8. Auxins promote the growth and branching of these structures. These structures are often home to nitrogen-fixing bacteria, and usually extend above the waterline on mangrove (*) trees. Carrots and radishes are edible examples of these plant parts. For 10 points, name this part of a plant, which absorbs nutrients from soil in the ground.

ANSWER: Roots

Bonus 8. This type of organism is notable for having membrane-enclosed nuclei and other organelles. For 10 points each:

[10] Name this domain of life that is not prokaryotic.

ANSWER: <u>Eukaryota</u> (accept alternatives and word forms like <u>Eukarya</u>, <u>Eukaryote</u>, or <u>Eukaryotic</u>)

[10] The domain Eukaryota contains three of these phylogenetic groups, one of which is Plantae.

ANSWER: Kingdom

[10] Eukaryotes contain this organelle which was obtained via endosymbiosis. It is often referred to as the "Powerhouse of the Cell."

ANSWER: Mitochondrion (accept plural mitochondria)

Halftime

Lightning Rounds

- 1. Mathematical Functions
- 2. The Fall of the House of Usher
- 3. World War I

Mathematical Functions

Parts of this lightning round ask about the function f of x equals e to the x power. Name the...

(1) Value of f of x when x equals 0.

ANSWER: 1

(2) Function, notated with an exclamation point, that finds the product of all integers less than the input.

ANSWER: factorial function

(3) Set of input values for a function, as opposed to the output values in the range.

ANSWER: domain

(4) Only real number that cannot be the input of the function one over x.

ANSWER: zero

(5) Geometric object used to graphically "test" whether a graph is of a function.

ANSWER: vertical line test (prompt on line)

(6) Inverse function of f of x equals e to the x power. I only need the name of the function.

ANSWER: (f inverse of x equals the) natural **log**arithm of x

The Fall of the House of Usher

In the short story "The Fall of the House of Usher," who or what is...

(1) The story's author, who also wrote "The Cask of Amontillado?"

ANSWER: Edgar Allan Poe

(2) The fate that befalls the last female Usher after a long illness, although she manages to escape her tomb?

ANSWER: <u>buried alive</u> (accept equivalent descriptions like <u>entombed alive</u>)

(3) The name of the last male Usher, whom the narrator visits?

ANSWER: Roderick

(4) The name of the last female Usher?

ANSWER: Madeline

(5) The literary genre to which the story belongs, which depends on elements of horror, the supernatural, and ornate, medieval-style buildings?

ANSWER: Gothic Romance

(6) The creature that the narrator thinks he hears roaring as the female Usher escapes her tomb?

ANSWER: dragon

World War I

Name the...

(1) Decade in which the war was fought.

ANSWER: 1910s (prompt on "tens" or "teens")

(2) Central power led by Wilhelm II that fought Russia and France on separate fronts.

ANSWER: Germany (accept German Empire)

(3) Country which fought Austria-Hungary in the Alps and was led by Vittorio Orlando.

ANSWER: Italy

(4) American president who pushed his 14 Points during peace talks.

ANSWER: Woodrow Wilson

(5) Ocean liner sunk by a submarine that convinced America to join the war.

ANSWER: RMS Lusitania

(6) General who led the American Expeditionary Force and was nicknamed Black Jack.

ANSWER: John Joseph Pershing

Second Half

9. The construction of this residence, begun by Louis Le Vau, was largely completed by 1715. The Petit Trianon portion of this palace stands as a separate residence for the Queen not far from (*) where the treaty with Germany to end World War I was signed. For 10 points, name this opulent palace in northern France built by Louis XIV.

ANSWER: Palace of Versailles [ver-SY or vair-SY]

Bonus 9. Answer the following about the historical geography of Ancient Rome and its empire for 10 points each.

[10] The Roman province of Lusitania today corresponds to this European country whose capital is Lisbon.

ANSWER: Portugal

[10] Rome was said to be a city founded on this many hills. This number also names the traditional number of kings of early Rome.

ANSWER: Seven

[10] Rome never conquered this island in Northern Europe, which the Romans called Hibernia.

The Romans certainly knew of it though, as their province of Britannia was close to it.

ANSWER: Ireland

10. One of these pieces is nicknamed because it was written for the Emperor of Austria, and is the 76th of these works by that composer. Joseph Haydn is often known as the father of this kind of musical composition. (*) For 10 points, name this type of piece played by four musicians: two violins, a viola, and a cello.

ANSWER: String Quartet

Bonus 10. Answer the following about an Italian baroque composer for 10 points each.

[10] This composer composed a set of violin concerti inspired by different times of year called The Four Seasons

ANSWER: Antonio Vivaldi

[10] Vivaldi was a native of this Italian port city which was once the center of a maritime empire and is known for its many canals.

ANSWER: Venice or Venezia

[10] Vivaldi's opera La Fida Ninfa premiered in this Italian city which is perhaps most famous for being the primary setting of Shakespeare's Romeo and Juliet.

ANSWER: Verona

11. These objects were first formally investigated by Galileo, and they help provide accurate measurements of the acceleration due to gravity. These objects have a period depending on their length, but not their (*) angle, and approximate harmonic oscillators. For 10 points, name these devices consisting of a weight swinging freely from a pivot.

ANSWER: Pendulums

Bonus 11. Calorimetry is used to measure the flow of this. For 10 points each:

[10] Name this form of energy that can be transferred by convection.

ANSWER: **Heat** (accept **thermal** energy)

[10] Heat can also be transferred by conduction and this third method, the only form of heat transfer that can occur through a vacuum.

ANSWER: Radiation

[10] Thermal radiation is carried by these particles, which move at the speed of light and exhibit wave-particle duality.

ANSWER: Photon

12. In this country in 2017, Alexander van der Bellen began serving as Europe's first President from the Green Party. Also, in 2017, Sebastian Kurz, the chancellor of this country became the world's youngest head of government, which has led to tensions with its neighbor (*) Germany. For 10 points, name this European country whose capital is Vienna.

ANSWER: Austria

Bonus 12. This economic concept forms the vertical axis of a Keynesian cross graph. For 10 points each:

[10] Name this concept, a consumer's desire to purchase a certain good or service.

ANSWER: demand

[10] This concept, often paired with demand, is the amount of a good or service that is available on the market. A storm that wiped out a country's sugarcane stock would decrease this value for sugar.

ANSWER: **supply**

[10] A major increase in the supply of money can create the "hyper-" form of this phenomenon, where prices rise over time. This phenomenon's regular variety helps explain why Hershey's bars cost five cents in 1950 but are more than a dollar today.

ANSWER: inflation

13. Odin owned an eight-legged one of these creatures named Sleipnir. A hippocampus was a sea-dwelling one of these creatures that (*) pulled Poseidon's chariot, and Bellerophon was a famous rider on top this animal in Greek myth. For 10 points, name this type of animal exemplified by Pegasus, who unusually for this animal had wings.

ANSWER: Horses

Bonus 13. For 10 points, name some women from Greek mythology:

[10] In one account, this woman was created from earth by Hephaestus. She unleashed great suffering upon the earth by opening a box.

ANSWER: Pandora

[10] This woman, a huntress who slew the Calydonian boar, vowed to only marry a man who could outrun her. She lost a footrace to Hippomenes when she was distracted by golden apples.

ANSWER: Atalanta

[10] This goddess was born from Zeus's forehead or thigh in varying accounts after he swallowed her mother Metis. She is the goddess of wisdom.

ANSWER: Athena

14. Henry Clay supported a high one of these to protect American industry in his "American System". In 1828 one of these things was referred to as one of "Abominations" and led to the Nullification Crisis (*). For 10 points, name this tax on goods imported into a country.

ANSWER: Tariff

Bonus 14. Answer the following about a series of battles fought in Ancient Asia.

[10] Name the Macedonian conqueror, the son of Philip II and Olympia, who won the Battles of the Granicus River, Issus, and Gaugamela.

ANSWER: Alexander the Great

[10] Name the empire that lost all three of those battles, which was overrun by Alexander and his troops.

ANSWER: Persian Empire (also accept Achaemenid Empire)

[10] Alexander the Great defeated the third Persian king of which name at the Battle of Gaugamela?

ANSWER: **Darius** III

15. In this novel, The Knight of the White Moon defeats the protagonist. This novel's protagonist goes on adventures with his horse Rocinante and his squire (*) Sancho Panza. For 10 points, name this novel by Miguel Cervantes in which the deluded title character thinks he is a knight and tilts at windmills in Spain.

ANSWER: Don Quixote

Bonus 15. For 10 points each, answer the following about notable American memoirs:

[10] A memoir by this man chronicles his early life as a slave in the hands of men such as Mr. Covey and his eventual escape to freedom. He later became a prominent Abolitionist orator.

ANSWER: Frederick Douglass

[10] This memoir chronicles the weekly meetings and conversations of author Mitch Albom and his former sociology professor.

ANSWER: Tuesdays with Morrie

[10] This former US president described his African safari he took in 1909 in the memoir *African Game Trails*.

ANSWER: Teddy or Theodore Roosevelt (prompt on "Roosevelt", accept "TR")

16. One leader of this country implemented special economic zones as part of his Southern tour. That leader of this country also famously declared that "it doesn't matter whether a cat is black or white, as long as it catches mice" as this country began to emprace (*) capitalism after the death of its longtime Chairman. For 10 points, name this country where Deng (pr. dung) Xiaopeng introduced economic reforms after the death of Mao.

ANSWER: China

Bonus 16. This President won both his elections with less than 50% of the popular vote. For 10 points,

[10] Name this former Governor of Arkansas whose wife ran for president in 2016.

Answer: Bill Clinton

[10] Clinton feuded with Newt Gingrich, a Republican holder of this Congressional office, which follows the Vice President in the presidential succession.

Answer: **Speaker of the House**

[10] Name the third-party candidate who ran against Clinton in both elections, garnering more votes than him in Utah in the first election in 1992.

Answer: Ross Perot

Tiebreaker / Backup

This country's states include Quintana Roo and Tabasco in its southeast and Jalisco and Nayarit on its Pacific coast. It's not the USA, but this country is the only one to border the Gulf of (*) California. For 10 points, name this country found on the Southern bank of the Rio Grande, where Spanish is spoken in cities such as Guadalajara and Veracruz.

ANSWER: Mexico