

## **2015 OAC Regionals – Round 1**

Questions written by Ike Jose, Jasper Lee, and Steven Wellstead

### **Category Round**

**American Literature: Give the following related to characters with intellectual disabilities in literature.**

Team A: A mentally deficient character named Lennie Small is shot by his companion George Milton at the end of what John Steinbeck novel?

ANSWER: *Of Mice and Men*

Team B: What Daniel Keyes novel and short story of the same name focuses on a namesake lab mouse and Charlie Gordon, both of whom are given a surgery to greatly increase intelligence which they eventually slowly lose?

ANSWER: “Flowers for Algernon”

Tossup: This author wrote a novel about a mentally depressed woman who befriends Doreen and has a relationship with Buddy Willard. That novel’s protagonist gets a summer internship at a magazine named *Ladies’ Day*, undergoes electroconvulsive therapy, and is named Esther Greenwood. In one of this author’s poems, the speaker states “There’s a stake in your fat black heart and the villagers never liked you”; that poem by her ends “you bastard, I’m through.” Name this author who wrote the novel *The Bell Jar* and the poem “Daddy.”

ANSWER: Sylvia Plath

**Mathematics: Pencil and paper ready. Give the following related to trigonometric functions. You will have 20 seconds for each team question.**

Team B: Simplify, as much as possible, the following trigonometric expression:  $\tan x / \sec x$  (“tangent of x divided by secant of x”).

ANSWER: sine of x

Team A: Simplify, as much as possible, the following trigonometric expression: “ $\sin x \cot x$ ” (“sin of x times cotangent of x”).

ANSWER: cosine of x

Tossup: **Pencil and paper will not be necessary.** The derivative of the hyperbolic version of this trigonometric function is  $(e^x - e^{-x}) / 2$  (“e to the x minus e to the negative x, all divided by 2”). The Taylor series expansion of this function consists of terms in which a variable raised to an odd power is divided by the factorial of that power. The equation stating that a triangle side’s length divided by this function of its opposite angle is equal for all combinations of angles and sides is known as the “law of” this function. This trigonometric function is the reciprocal of the cosecant. Name this function that, for a given angle in a right triangle, is equal to “opposite over hypotenuse.”

ANSWER: sine of x

**World History: Name these English or British monarchs.**

Team A: This youngest son of Eleanor of Aquitaine is best remembered for meeting at Runnymede to sign the Magna Carta in 1215.

ANSWER: King **John** of England [accept **John** Plantagenet or **John** Lackland]

Team B: The Acts of Union, which combined England and Scotland into the Kingdom of Great Britain, took effect in 1707 during the reign of this woman, who was the last monarch of the House of Stuart.

ANSWER: Queen **Anne** of Great Britain

Tossup: This monarch was recognized as ruler by the Treaty of Abernethy two years after waging a war known as the Harrying of the North. This monarch's greatest military victory occurred at Senlac Hill, and shortly thereafter he established the Tower of London. A property survey known as the Domesday ("doomsday") Book was ordered by this king, who came to power following a battle that was depicted in the Bayeux ("BYE"- "you") Tapestry and included the death of Harold Godwinson. Name this first Norman king who won the 1066 Battle of Hastings.

ANSWER: **William the Conqueror** [or **William I** of England or **William the Bastard** or **William II of Normandy**; prompt on "William"; do not accept or prompt on "William II"]

**Fine Arts: Name these paintings which feature animals.**

Team B: Ants are seen crawling on an orange timepiece in this Salvador Dali painting with three drooping clocks.

ANSWER: The **Persistence of Memory** [or *La persistencia de la memoria*]

Team A: A child puts her left foot on top of a sitting dog in this Diego Velazquez painting which depicts the artist creating a portrait of Spanish King Philip IV (the fourth).

ANSWER: *Las* **Meninas** (meh-NEE-nahss) [or *The* **Maids of Honor**]

Tossup: Shortly after its creation, Gerrit Lundens created a copy of this painting, the left side of which shows a boy holding onto a railing that has since been cut out of the original. After it was painted, the artist added a shield to an archway in the background which lists the names of eighteen people in this work. In this painting, a well-dressed man in red loads a musket while standing in front of a girl who holds a dead chicken. A yellow and blue flag is being waved behind the primary figures, Willem van Ruytenburch and Frans Banning (\*) Cocq. Name this Rembrandt painting of a Dutch militia that is actually set during the day.

ANSWER: The **Night Watch** [or De **Nachtwacht**; before (\*) accept The Shooting **Company of** Captain Frans Banning **Cocq** and Lieutenant Willem van Ruytenburch or The **Militia of** Captain Frans Banning **Cocq** and Lieutenant Willem van Ruytenburch or De **compagnie van** kapitein Frans Banning **Cocq** en luitenant Willem van Ruytenburgh maakt zich gereed om uit te marcheren; prompt thereafter]

**Life Science: Name these diseases caused by bacteria.**

Team A: A scare in 2001 came in the form of mailed letters containing powder that would cause this disease. This often-fatal disease is caused by a bacterium of the genus *Bacillus*.

ANSWER: **anthrax**

Team B: This disease, caused by species of the genus *Borrelia*, is carried by a tick and named after a town in Connecticut.

ANSWER: **Lyme** disease

Tossup: In 2013, a new form of this disease was discovered and named type H. In this disease, a toxin splits into its heavy and light chains, allowing it to degrade SNARES and prevent vesicle fusion, which stops neurotransmitter release. This disease is usually contracted when spores of the causative bacteria are ingested or directly enter the bloodstream, and it is classified into foodborne, infant, and wound types. This disease causes muscle weakness that can escalate to paralysis and respiratory failure. It is caused by a species of genus *Clostridium*. Name this disease that is caused by the same toxin used in botox (BOH-tox).

ANSWER: **botulism** (BOTCH-uh-lizm)

**English / World Literature: In this set of questions, you will name writers who wrote about alchemy.**

Team B: What writer, the husband of Elizabeth Barrett, wrote about an alchemist who contemplates his achievements in *Paracelsus* (“PAIR”-uh-SELL-suss)?

ANSWER: Robert **Browning**

Team A: What author, the wife of Percy, wrote about a scientist named Victor who creates a monster through assemblages and alchemy?

ANSWER: Mary Wollstonecraft **Shelley**

Tossup: This writer wrote a story about a canon who tricks a clergyman into thinking mercury can be alchemized into quicksilver. Another story by this writer concerns a fox getting outwitted by a proud cock named Chaucer (CHAWN-tih-“clear”). In another story by this author, Nicholas farts into the face of Absolon (ab-SO-lawn), who then uses a red hot poker to singe Nicholas’ rear end. All of those stories by this author appear in a collection that opens with a General Prologue in which pilgrims stay at the Tabard Inn. Name this medieval English author who included “The Miller’s Tale” as one of his many *Canterbury Tales*.

ANSWER: Geoffrey **Chaucer**

**American Government / Economics: Name the following related to the U.S. Congress.**

Team A: The Constitution's "Necessary and Proper" clause is used as justification to give Congress powers of this type, which are not expressly granted by the Constitution.

ANSWER: **implied** powers

Team B: When combining the House of Representatives and Senate, this is the number of voting members of which Congress is comprised.

ANSWER: **five hundred thirty-five** or **535**

Tossup: Proceedings related to this action are not subject to judicial review according to the ruling of a 1993 Supreme Court case involving Walter Nixon. William Belknap was the only Cabinet member to whom this action was applied, and in 15 of the 19 times in which this action took place, the target was a federal judge. It first occurred to a U.S. president after a violation of the Tenure of Office Act in 1868. A trial overseen by the Senate occurs after the House of Representatives takes this action, which can be initiated due to "treason, bribery, or other high crimes and misdemeanors." Name this action in which a federal official is removed from office.

ANSWER: **impeachment** [accept word forms]

**Physical Science: Name these chemists.**

Team B: This man, who invented dynamite, lends his name to a set of annual prizes given out in Oslo and Stockholm.

ANSWER: Alfred Bernhard **Nobel** (no-BELL) [accept **Nobel** Prizes]

Team A: This Russian scientist's most notable contribution was his creation of the periodic table.

ANSWER: Dmitri Ivanovich **Mendeleyev** (MEN-duh-LAY-eff)

Tossup: This scientist determined that diamond was an allotrope of carbon, and he correctly noted that water was not a separate element. In his *Methods of Chemical Nomenclature*, he set up the first widely-used chemical naming system. After experiments in which he heated solids inside closed containers and found no change in weight, he formulated the law of conservation of matter. This scientist discredited the phlogiston theory and named the element that was discovered out of it, oxygen. Identify this "father of modern chemistry", a French scientist who was guillotined (GEE-uh-teend) during the French Revolution.

ANSWER: Antoine-Laurent de **Lavoisier** (lah-VWAH-zee-ay OR luh-vwah-ZYAY)

**Geography: Name these Asian rivers.**

Team A: The Kara Su and Murat Su combine to form this river which, along with the Tigris River, flows through the region known as Mesopotamia.

ANSWER: Euphrates (yoo-FRAY-teez) River [or al-Furat]

Team B: The Bay of Bengal receives the delta of this chief river of northeastern India that is holy to practitioners of Hinduism.

ANSWER: Ganges (GAN-jeez) River [or Ganga River]

Tossup: The Fengdu Ghost City is a notable tourist attraction along this river, into which the Poyang Lake empties. This river was the last known home of the baiji (“bye”-JEE) dolphin, which was declared functionally extinct in 2006. The world’s longest bridge, the Danyang-Kunshan, runs along this river’s delta. This river flows through the cities of Wuhan, where it meets the Han River, and Chongqing (CHONG-ching) before emptying into the East China Sea. The Three Gorges Dam was constructed on what Chinese river that flows past the city of Shanghai and is the world’s third longest?

ANSWER: Yangtze River [or Chang Jiang]

**American History: Name the following related to slavery in the United States.**

Team B: The Fugitive Slave Act was one of several provisions of this 19th century legislation which was drafted by Henry Clay and Stephen Douglas and resulted in California being admitted to the Union as a free state.

ANSWER: Compromise of 1850

Team A: Attorney Thomas Gray published the *Confessions of* this slave best remembered for leading a Virginia slave rebellion in August 1831.

ANSWER: Nathaniel Turner

Tossup: Prior to this man’s most notable action, he used the alias Isaac Smith while lodging at the Robert Kennedy Farmhouse. This man fought against Henry Pate at the Battle of Black Jack; shortly thereafter, he attempted but failed to prevent an attack on a town that later became his nickname, Osawatomie. He led a group that killed five pro-slavery Kansans in the Pottawatomie Massacre. During his best known action, he was captured by troops under Robert E. Lee in response to his seizure of a Federal Armory in Virginia. Name this abolitionist who attempted to incite a slave revolt in 1859 by raiding the town of Harpers Ferry.

ANSWER: John Brown

### Alphabet Round – Letter M

1. **(NAME AND REGNAL NUMBER REQUIRED)** – Final sultan of the Ottoman Empire.
2. This American poet authored the play *J.B.* and declared “a poem should not mean, but be” in *Ars Poetica*.
3. 15th century Italian artist who painted such works as *The Expulsion from the Garden of Eden* and *Tribute Money*.
4. **(ONE OR TWO WORD ANSWER)** – Name for the simplest alcohol.
5. This branch of philosophy, which analytic philosophy seeks to eliminate, is concerned with the nature of being. Aristotle wrote a treatise named for this branch of philosophy that introduces his idea of “potentiality” and “actuality.”
6. Musical form in 3/4 time, often paired with a Trio in symphonies.
7. **(TWO WORD ANSWER)** – 2nd century Roman Emperor who authored the Stoic work *Meditations*.
8. In Percy Shelley’s poem “Ozymandias,” the speaker finds a statue with the lines “look on my works ye \_\_\_\_ and despair!” Fill in the blank.
9. Most populous port city in the country of Kenya.
10. Giuseppe Verdi composed an opera named for this character, whose chorus includes witches and whose characters include Fleanzio and Banquo.
11. **(MULTI-WORD ANSWER)** – The parallel axis theorem is a method of computing what quantity, which is often called the rotational analog of mass?
12. American Revolutionary War battle at which Molly Pitcher supposedly supplied water to soldiers before taking part in the battle herself.
13. This American author wrote *A View from the Bridge* and *After The Fall* but is better known for writing a play about Joe Keller, who manufactures faulty airplane parts in *All My Sons*.
14. In Kabbalah, this term refers to a mystical strain of thought that places emphasis on meditating on the structure of heaven. It is named for the chariot of God in the Book of Ezekiel.
15. **(TWO WORD ANSWER)** – These investment schemes are a collection of bonds and stocks that are brought together by a company; they are usually more diversified and thus less risky than investing in an individual stock.
16. Term for a symbiotic relationship between a plant and fungus.
17. 16th century Flemish cartographer who developed a namesake map projection in which lines of latitude and longitude are perpendicular to each other.
18. Woman from Greek mythology who bore Adonis after tricking her own father into sleeping with her.
19. Hardness is often measured using this scale, which assigns a value of one to talc and two to gypsum.
20. This author wrote about Gustave von Aschenbach, a writer who develops an attraction to Tadzio and eventually perishes, in his novella *Death in Venice*.

### Alphabet Round – Letter M Answers

1. Mehmed VI (the sixth) (NAME AND REGNAL NUMBER REQUIRED)
2. Archibald MacLeish
3. Masaccio
4. methanol or methyl alcohol (ONE OR TWO WORD ANSWER)
5. metaphysics
6. minuet
7. Marcus Aurelius Antoninus Augustus (TWO WORD ANSWER)
8. mighty
9. Mombasa
10. Macbeth or Macbetto
11. mass moment of inertia or polar moment of inertia (MULTI-WORD ANSWER)
12. Battle of Monmouth
13. Arthur Asher Miller
14. Merkaba [or Merkavah]
15. mutual funds (TWO WORD ANSWER)
16. mycorrhizae
17. Gerardus Mercator
18. Myrrha
19. Mohs scale
20. Paul Thomas Mann

### Lightning Round

1. Prokaryotes (PRO-“carry”-“oats”) and eukaryotes (“YOU”-“carry”-“oats”) have differing forms of this organelle, as they are either 70 or 80 Svedberg units in size. Amino·acyl-tRNAs occupy the A, P, and E sites in this organelle, which is also the destination for mRNA. These organelles are often found near the endo·plasmic reticulum (reh-TIK-“you”-lum). Name this organelle that is the site of protein synthesis.

ANSWER: ribosomes

2. In a tone poem by this composer, the “blues” sections represent homesickness. In the score to that piece, he included taxi horns. This composer’s most famous piece was written for the program “An Experiment in Modern Music” and opens with a glissando from the clarinet. Name this American composer who wrote *An American in Paris* and *Rhapsody in Blue*.

ANSWER: George Gershwin [or Jacob Gershvin or Jacob Gershovitz]

3. One character in this play states “He hath borne me upon his back a thousand times” upon learning that a certain character was killed. In that scene, the title character calls a certain man that he knew well “a fellow of infinite jest.” This drama features a play called *The Murder of Gonzago*, which its protagonist uses to “uncover the conscience of the king.” Horatio and Fortinbras are characters in what Shakespeare play about a Prince of Denmark?

ANSWER: *The Tragedy of* Hamlet, Prince of Denmark

4. This leader purportedly castrated and married a teenage boy named Sporus because he looked like this man’s deceased wife, Poppaea (pah-PEE-uh). The Pisonian conspiracy sought to overthrow this leader, who ruled during Boudicca’s (BOO-dik-kuhz) revolt in Britain. This leader’s mother, Agrippina the Younger, orchestrated the death of his predecessor, Claudius, in 54 AD. Name this Roman Emperor who ruled until 68 AD and did not actually play a fiddle during the Great Fire of Rome.

ANSWER: Nero Claudius Caesar Augustus Drusus Germanicus

5. This model was superseded by Hantaro Nagaoka’s now incorrect Saturnian ring model. It predicts a sea of positive charge with negatively charge corpuscles occupying the intermediate space. The Geiger-Marsden experiments disproved this model through the use of gold foil and alpha particles, which led to the discovery of the nucleus of the atom. Name this model of the atom that was proposed by J.J. Thomson and named for an English dessert.

ANSWER: plum pudding model

6. Various Greek myths identify either Zeus or this figure burying Enceladus (en-SEL-ah-dus) under Sicily following the Revolt of the Giants. Erichthonius (“air”-ik-THOH-nee-us) was born after an attempt by Hephaestus (huh-FESS-tuhss) to rape this figure, who was challenged to a weaving contest by Arachne. Tiresias was blinded after seeing this goddess bathing, and this goddess was born fully grown from the head of Zeus. Minerva was the Roman equivalent of what Greek goddess of wisdom who had the epithet Pallas?

ANSWER: Pallas Athena [or Pallas Athene; prompt on “Pallas” before mentioned]

7. This poet’s nonfiction works include one that suggests writers should not use Classical Latin. In addition to “De Vulgari Eloquentia” (DAY wol-GAR-ee ELL-oh-quen-tee-uh), he wrote a poem whose speaker ascends the seven terraces of a mountain to find the Garden of Eden on top. One of his poems includes the line “Abandon all hope ye who enter here” and features its author meeting the shade of Vergil as he travels through the nine levels of the Inferno. Name this Italian poet who authored *The Divine Comedy*.

ANSWER: Dante [or Durante degli Alighieri]

8. This city’s Isle of the Swans contains a replica of the Statue of Liberty which sits next to the Grenelle (gruh-NELL) Bridge. One museum in this city has wings named “Sully” and “Denon” (deh-NAHN). The Sacre-Coeur (SUH-kreh KUHR) Basilica is within this city’s Montmartre [mon-MAR-truh] district, and its Ile de la Cite (eel day lah SEE-tay) contains the Notre-Dame [NOH-truh dahm] Cathedral. The Champs-Elysees (shawm zay-lee-zay) runs southeast from the Arc de Triomphe (ark duh tree-YOHMF) in what French city that contains the Eiffel Tower?

ANSWER: Paris, France



9. Mississippi Governor Fielding Wright was a vice presidential candidate in this election. The winner of this election later survived an assassination attempt carried out at the Blair House by two Puerto Rican nationalists. The Dixiecrat Party nominated Strom Thurmond for the presidency in this election, the results of which were erroneously announced by the Chicago Daily Tribune. “Give ‘em hell Harry” was the campaign slogan of the winner in what election in which Dewey did not defeat Truman?

ANSWER: Presidential Election of **1948**

10. In one opera by this composer, a chorus of janissaries praise their mighty pasha. In that opera, Belmonte (bell-MON-tay) looks for his beloved Konstanze, who has been forcibly sold into Selim’s harem. In another opera by this composer, the extremely tough aria “Hell’s Vengeance Boils in My Heart” is sung by the Queen of the Night. In that opera, Tamino and Pamina are protected by a magical instrument. Name this composer of *Abduction from the Seraglio* (sur-AH-lee-oh) and *The Magic Flute*.

ANSWER: Wolfgang Amadeus **Mozart** [or Johannes Chrysostomus Wolfgangus Theophilus **Mozart**]

11. The Winkler test is used to detect the amount of this element. In a Hofmann voltameter (vol-TAH-muh-ter), a gas of this element is produced at the anode. An atom of this element is double bonded to a carbon in a carbonyl, and in an ether it is single bonded to two carbons. It is the most common element in the Earth’s crust, and three atoms of this element comprise ozone. Eight is the atomic number of what element, which we breathe?

ANSWER: **oxygen**

12. Two answers required. One text identifies Azura and Awan as daughters of this duo. In another text, the members of this duo are told “cursed be the ground because of you” and “in pain shall you bring forth children.” One son of this duo asks the question “am I my brother’s keeper” after killing his brother. Eating fruit from the Tree of Knowledge resulted in this duo being banished from the Garden of Eden. Name these Biblical parents of Cain and Abel who were the first humans created by God.

ANSWER: **Adam** and **Eve** [accept in either order; do not accept or prompt on partial answers]

13. This author wrote about Georg Znaeym (GAY-org NAY-uhm) and Ulrich von Gradwitz, two men who come to a truce only to realize that they are about to be devoured by wolves, in his short story “The Interlopers.” One of his short stories ends with the line “Romance at short notice was her specialty.” Another of his stories focuses on Conradin, a menacing boy who cares for the title polecat-ferret. Name this British master of the short story, whose works include “The Open Window” and “Sredni Vashtar.”

ANSWER: **Saki** [or Hector Hugh **Munro**]

14. In the aftermath of this nation’s 1891 civil war, two members of the U.S. Navy were killed here during the USS *Baltimore* crisis. This nation acquired the province of Arica following its victory in the War of the Pacific. Bernardo O’Higgins helped secure independence for this nation, which was ruled by Salvador Allende (ah-YEN-day) until he was replaced during a 1973 coup by Augusto Pinochet (ow-“GOOSE”-toh PEE-noh-shay). Name this South American nation ruled from the city of Santiago.

ANSWER: Republic of **Chile** (CHEE-lay) [or Republica de **Chile**]

15. One controversy about these things was whether the agent found in them called thiomersal (“thigh”-OM-er-sahl) was hazardous. One opponent of these things claimed that chelation therapy cured her son of a condition induced by one of these tools; that opponent was Jenny McCarthy. Recent comments from Rand Paul revealed that he wanted to give parents the right to determine whether to use these things on their children. Name these preventative agents that some believe are responsible for autism.

ANSWER: **vaccines** [accept any specific types of **vaccines** mentioned]

16. One painting by this artist is a portrait of Cecilia Gallerani holding a weasel. Another of his paintings was utilized in the Marcel Duchamp (mahr-SELL doo-SHAHMP) readymade *L.H.O.O.Q.* This artist of *Lady with an Ermine* created a portrait of the wife of Francesco del Giocondo, as well as a fresco within a Milan, Italy church that shows Jesus and his twelve apostles gathered around a table. Name this Florentine Renaissance artist of *The Last Supper* and *Mona Lisa*.

ANSWER: **Leonardo** di ser Piero **da Vinci** [accept either underlined name]

17. The presence of the body Pan orbiting this body led to the formation of the Encke (ENK-ay) Gap. A probe that was sent to investigate this planet is known as the Cassini-Huygens (kuh-SEE-nee HOY-gens) spacecraft. Patches of phosphine (foz-FEEN) characterize this planet's periodic storms, known as the Great White Spot. Its largest moon is the only satellite known to have an atmosphere. Mimas and Titan are moons of what large, gaseous planet noted for its giant rings?

ANSWER: **Saturn**

18. Reporter Mark Kellogg was killed while covering this battle. The Battle of the Rosebud, which occurred eight days prior, prevented George Crook's involvement in this battle. The losers in this battle employed three battalions – Frederick Benteen and Marcus Reno led two of them, and a horse named Comanche was the sole survivor of the third. Lakota leaders Crazy Horse and Sitting Bull helped win what 1876 battle against the U.S. 7th Cavalry that included "Custer's Last Stand"?

ANSWER: Battle of the **Little Bighorn** River [or Battle of **Greasy Grass** Creek; prompt on "Custer's Last Stand" before mentioned]

19. According to Sigmund Freud's structural model, these entities are used by the ego to diffuse the tension spread via the super-ego. Anna Freud wrote a book titled for these psychological constructs, which she enumerated as isolation, projection, introjection, regression, and rationalization. Name these unconscious mental tendencies that distort reality to protect oneself from painful emotions.

ANSWER: **defense mechanisms** [accept **mechanisms of defense**]

20. One character in this novel signs letters as "Irving Washington" and "Washington Irving." Its main character sees acts of brutal madness while in Rome and escapes to Sweden after being affected by Snowden's death. Its other characters include Doc Daneeka, who is mistakenly declared dead after he disappears from the island of Pianosa (PEE-uh-no-suh). Milo Minderbender and John Yossarian are characters in what satiric, anti-war novel by Joseph Heller?

ANSWER: **Catch-22**