

## **2016 OAC Regionals – Round 9**

Questions written by Ike Jose and Steven Wellstead

### **Category Round**

**American Literature: Answer the following about traveling in literature.**

Team A: In this novel by Jack Kerouac, Dean Moriarty and Sal Paradise maintain a carefree lifestyle as they travel across the U.S. and Mexico.

ANSWER: **On the Road**

Team B: This book by Mark Twain documents his days of being a steamboat pilot serving Horace Bixby. It is named for the river on which he would often pilot his ship.

ANSWER: **Life on the Mississippi**

Tossup: This author wrote about how Ken Kesey purchased a bus and named it *Further* in his book about the travels of the “Merry Pranksters.” This author also wrote about the Mercury astronauts in a book of “New Journalism.” In addition to *The Electric Kool-Aid Acid Test* and *The Right Stuff*, this man authored a novel named for a female student at DuPont University in Pennsylvania. In another of his novels, the bond trader Sherman McCoy accidentally runs over a black youth, causing him to be put on trial in the midst of a media frenzy. Name this author of *I am Charlotte Simmons* and *The Bonfire of the Vanities*.

ANSWER: Tom **Wolfe** [or **Thomas Kennerly Wolfe**; do not accept or prompt on “Thomas Wolfe” or “Thomas Clayton Wolfe”]

**Mathematics: Name these mathematicians.**

Team B: This mathematician names an algorithm for polynomial interpolation and introduced a formal system of logic in a 1687 book.

ANSWER: Sir Isaac **Newton**

Team A: This mathematician is credited with giving the first proof showing that there are an infinite number of primes, which was included as part of a treatise written around 300 BC.

ANSWER: **Euclid** (YOO-klid) of Alexandria [or **Eukleides**]

Tossup: This man’s namesake equation is the hyperbolic differential equation applied over his namesake “sphere.” A question posed by this mathematician asks whether or not all non-trivial zeroes lie on the “critical line” of a certain function. Delta x times a function of x are approximations named for this mathematician; that approximation is used to divide the area under a curve into approximately rectangular regions. This man’s namesake “hypothesis” is a Millennium Prize problem. Name this 19th century German mathematician whose namesake “sums” are used when performing integration.

ANSWER: Georg Friedrich Bernhard **Riemann** (REE-mahn) [accept **Riemann**’s differential equations or **Riemann** spheres or **Riemann** hypothesis or **Riemann** sums]

**World History: Name the following related to the history of Africa.**

Team A: During a 1487 to 1488 expedition, this Portuguese explorer became the first European to sail past the Cape of Good Hope at the southern tip of Africa.

ANSWER: Bartolomeu Dias

Team B: The breakaway state of Biafra lost a civil war within this West African nation, where the city of Port Harcourt became modernized following the oil boom that led to it becoming a member of OPEC (OH-“peck”) in 1971.

ANSWER: Nigeria [or Federal Republic of Nigeria]

Tossup: This man served as the Volunteer-in-Chief for a movement known as the “Defiance Campaign.” He delivered the “I Am Prepared to Die” speech while facing conspiracy charges at the Rivonia (rih-VOHN-ee-uh) Trial. This man’s autobiography, *Long Walk to Freedom*, recounted the 18 years he spent in prison at Robben Island. After his release from prison, he was elected as the presidential successor to F.W. de Klerk. Name this leader of the African National Congress who helped negotiate the end of apartheid and served from 1994 to 1999 as South Africa’s first black president.

ANSWER: Nelson Rolihlahla Mandela

**Fine Arts: Answer the following about non-modern sculptures.**

Team B: Phidias used both ivory and gold to create a massive sculpture of this figure, which inspired Horatio Greenough’s sculpture of George Washington.

ANSWER: Zeus [accept Zeus at Olympia]

Team A: Phidias also created a massive gold and ivory sculpture of this other figure to stand in the Parthenon.

ANSWER: Athena [accept Athena Parthenos]

Tossup: This sculpture is commemorated in the third section of a 1917 symphonic poem by Ottorino Respighi (OHT-toh-REE-noh reh-SPEE-gee), which uses trombones to indicate the arrival of Neptune. Though Pope Urban VIII (“the 8th”) commissioned Gian Lorenzo Bernini to create this work, it wasn’t actually built until 100 years later, when Giuseppe Pannini finished it. This artwork was designed by Nicola Salvi and can be found in front of the Palazzo Poli. The Acqua Vergine (AH-kwah VAYR-jee-nay) aqueduct provides water to this object, into which thousands of coins are thrown each day. Name this large fountain in Rome.

ANSWER: Trevi Fountain [or Fontana de Trevi]

**Life Science: Answer the following about moths and butterflies.**

Team A: Moths often use this technique, which comes in “active” and “motion” types, to evade predators.

ANSWER: camouflage [accept active camouflage or motion camouflage]

Team B: Viceroy butterflies are able to evade predators by utilizing the “Batesian” (BATES-ee-un) form of this phenomenon.

ANSWER: mimicry [accept Batesian mimicry]

Tossup: The heterozygote disadvantage often arises as a result of this selection mechanism, which is exemplified by the peppered moth, since the white and black moths are favored due to their abilities to hide from predators. This type of selection creates a bi-modal distribution, unlike stabilizing or directional selection. Name this type of (\*) natural selection in which the mean is selected against and the extremes are characterized by higher fitness.

ANSWER: disruptive selection or diversifying selection [prompt on “natural selection” before (\*)]

**World Literature: Answer the following about doctors in literature.**

Team B: *The Doctor's Dilemma*, which depicts Sir Colenso Ridgeon's cure for tuberculosis, is a play by this author of *Major Barbara*.

ANSWER: George Bernard Shaw

Team A: H.G. Wells wrote a novel in which Edward Prendick visits the “Island of” this vivisectionist who makes many part-human/part-animal creatures.

ANSWER: Doctor Moreau (mor-OH) [accept *The Island of Doctor Moreau*]

Tossup: This doctor collaborates with a man who used a wax effigy to trick the criminal Sebastian Moran into being arrested. In one story, this man is surprised to learn that one of his friends, disguised as a plumber, has become engaged with a housemaid. In that story, this man is silenced as he is about to reveal to the reader who killed Charles Augustus Milverton. This doctor has just returned from fighting in the second Anglo-Afghan War at the beginning of the novel *A Study in Scarlet*. This doctor's most notable friend lives at 221B (“two twenty-one B”) Baker Street. Name this doctor who narrates most of the stories featuring the detective Sherlock Holmes.

ANSWER: Doctor John H. Watson

**U.S. Government/Economics: Name these amendments to the U.S. Constitution.**

Team A: This amendment gives the residents of Washington D.C. the right to vote in presidential elections.

ANSWER: 23rd Amendment

Team B: This amendment provided for the popular election of U.S. Senators, who were previously elected by state legislatures prior to its passage.

ANSWER: 17th Amendment

Tossup: In one case, the Supreme Court found that this amendment had been violated because of “excessive government entanglement.” In addition to *Lemon v. Kurtzman*, this amendment was at the center of a 1991 case which struck down a New York Son of Sam law. A provision of the McCain-Feingold (“FINE-gold”) Act, which regulates campaign financing, was deemed to have violated this amendment in the 2010 *Citizens United* case. This amendment begins with the Establishment and Free Exercise Clauses, which are concerned with religion. Name this Bill of Rights amendment that protects free speech.

ANSWER: 1st Amendment

**Physical Science: Answer the following about layers of the Earth’s atmosphere.**

Team B: Most of Earth’s satellites orbit within this outermost layers of the atmosphere.

ANSWER: exo·sphere

Team A: Luminous events known as red sprites appear in this third highest layer of the atmosphere, which contains the lowest portion of the iono·sphere.

ANSWER: meso·sphere

Tossup: The Dynamics Explorer mission mapped the namesake “hiss” of these phenomena, whose “quiet arc” patterns are partly determined by the forbidden transition of oxygen. This phenomena is best viewed at a time of day known as magnetic midnight. These phenomena form when the solar wind hits the magneto·sphere and causes radiation to enter the thermo·sphere. The polar regions are the best locations to view this phenomena, which exist in forms called “australis” and “borealis.” Name these natural light phenomena known as the “southern lights” and “northern lights.”

ANSWER: aurorae or auroras [accept aurora australis or aurora borealis; prompt on “southern lights” or “northern lights” before they are mentioned]

**World Geography: Name these narrow waterways.**

Team A: Engineer David Gaillard (“guy”-LARD) oversaw the construction of the Culebra (koo-LAY-bruh) Cut that is part of this 48 mile waterway, which runs through the artificial Gatun (gah-“TOON”) Lake.

ANSWER: Panama Canal [or Canal de Panama]

Team B: The Musandam (moo-SAHN-dahm) Peninsula is bordered to the north by this strait, which connects the Gulf of Oman (oh-MAHN) to the Persian Gulf.

ANSWER: Strait of Hormuz (hor-MOOZ) [or Madiq Hurmuz or Tangeh-ye Hormoz]

Tossup: This body of water contains the disputed Perejil (“pair”-uh-“HEEL”) Island, which is just west of the enclave of Ceuta (“SAY”-ew-tuh). A peninsula at the east end of this waterway is served by an airport runway that intersects with a road named after Winston Churchill. The promontories on either side of this waterway were known in ancient times as the “Pillars of Hercules.” The city of Tangier (“tan”-JEER) is along the south side of this strait, which separates Spain from Morocco. Name this strait that connects the Mediterranean Sea to the Atlantic Ocean.

ANSWER: Strait of Gibraltar [or Estrecho de Gibraltar]

**U.S. History: Name these 19th century events.**

Team B: Deaf Smith’s burning of Vince’s Bridge signaled the start of this 1836 battle, at which Mexican General Santa Anna was captured, thereby securing the independence of Texas.

ANSWER: Battle of San Jacinto (hah-SEEN-toh)

Team A: The Freeport Doctrine was first articulated by one participant in these 1858 events, the seventh and last of which was held in Alton.

ANSWER: Lincoln-Douglas debates [accept any answer indicating a debate between Abraham Lincoln and Stephen Arnold Douglas; prompt on answers like “1858 Illinois Senate debates”]

Tossup: This event affected the towns of Mineral Point and Woodvale. In the aftermath of this event, a build-up of debris led to a fire occurring at Stone Bridge. One contributing cause of this event was actions that the South Fork Fishing and Hunting Club made on Lake Conemaugh (KAHN-uh-maw). Clara Barton led the American Red Cross, which had been founded only eight years earlier, in providing relief in the aftermath of this event that killed over 2,200 people. Name this 1889 disaster that inundated a certain Pennsylvania town.

ANSWER: Johnstown Flood [accept Great Flood of 1889 before (\*)]

### Alphabet Round – Letter K

1. **(TWO WORD ANSWER)** – Jerusalem hotel at which 91 people were killed in a 1946 bombing carried out by the Irgun militia.
2. QWERTY and Dvorak are the two most commonly used layouts of these computer devices.
3. This author of *Zorba the Greek* controversially depicted the “human” side of Jesus in his novel *The Last Temptation of Christ*.
4. This term literally means “master of the chapel.” J.S. Bach served as one of these “directors of music” for Prince Leopold.
5. World leader who criticized his predecessor in the 1956 Secret Speech.
6. The Loch Ness Monster is thought to be one of these legendary shape-shifting monsters that are said to appear in many lakes of Scotland.
7. This philosopher argued that “paradigm shifts” altered the way the conception of certain scientific theories worked in his magnum opus *The Structure of Scientific Revolutions*.
8. This noble gas is often used to make excimer lasers that are used to manufacture integrated circuits.
9. *Profiles in Courage* is a Pulitzer Prize-winning book by this writer, who also wrote about the rise of Nazi Germany in *Why England Slept*.
10. This actor and choreographer directed and starred in *Singin’ in the Rain*.
11. **(TWO WORD ANSWER)** – Communist government which controlled Cambodia during the rule of Pol Pot.
12. Claude Levi-Strauss wrote about “The Elementary Structures of” this phenomenon, which is defined as the system of ties that comprises a family.
13. This 17th century form of Japanese theatre and dance features stylized movement and elaborate costumes.
14. Austrian artist who utilized gold leaf in the making of his 1909 painting *The Kiss*.
15. C4 plants often have this “wreath” anatomy that allows them to use the C4 pathway and save water in times of drought or in other arid conditions.
16. **(TWO WORD ANSWER)** – 1780 battle of the American Revolutionary War at which British militia leader Patrick Ferguson was killed.
17. Asian mountain range which contains the world’s second highest peak, K2.
18. Alfred Lord Tennyson wrote a poem about how the “roaring of” man will cause this creature “beneath, in the abysmal sea” to “rise and on the surface die.”
19. The theory of gases described by this adjective assumes that the gas particles are point masses and the gases are in constant, random motion.
20. Meaning “free,” this is the term for the group of all practicing, initiated Sikhs in the world.

### Alphabet Round – Letter K Answers

1. King David Hotel (TWO WORD ANSWER)
2. keyboard
3. Nikos Kazantzakis (NEE-kaws kah-zuhn-ZAH-kis)
4. kapellmeister (kah-PELL-“my”-“stir”)
5. Nikita Sergeyevich Khrushchev (KROOSH-choff)
6. kelpies
7. Thomas Samuel Kuhn
8. krypton
9. John Fitzgerald Kennedy
10. Eugene Curran “Gene” Kelly
11. Khmer Rouge (kuh-MAIR roozh) [or Khmer Kraham] (TWO WORD ANSWER)
12. kinship
13. kabuki (kuh-BOO-kee)
14. Gustav Klimt
15. kranz anatomy
16. Battle of Kings Mountain (TWO WORD ANSWER)
17. Karakoram (KAIR-uh-KOR-um) Range
18. Kraken [accept “The Kraken”]
19. kinetic molecular theory of gases
20. khalsa

## Lightning Round

1. In an attempt to alter chalcone synthase in these organisms, RNAi (“R-N-A-I”) was first discovered. These organisms’ *axillaris* species, or “white moon” species, was crossed with the *integrifolia* species to create its *atkinsiana* hybrid. These South American flowers are in the same family as tomatoes and gooseberries, and their name comes from a Guarani word meaning “tobacco.” Name this genus of flowers which includes a “wave” variety that often grows over the sides of pots.  
ANSWER: petunias

2. Before it was first displayed, this painting was described by its artist as a “complete flat tire.” The Farnsworth Art Museum owns one of the buildings in the background of this painting, which is set in Cushing, Maine. This painting depicts Anna Olson, who was afflicted with polio, looking at a distant house while wearing a pink dress and laying in a field. Name this best known painting by Andrew Wyeth.  
ANSWER: Christina’s World

3. A trilogy by this writer imagines a future in which the Yellowstone super volcano erupts. In another of his novels, the L.A. lawyer Nicole Gunther-Perrin finds that she has been transported to the Roman Empire ruled over by Marcus Aurelius. In addition to *Household Gods*, this author wrote *The War that Came Early*, which imagines Adolf Hitler starting World War 2 two years earlier. Name this contemporary American writer known for his alternate fiction novels.  
ANSWER: Harry Norman Turtledove

4. During one event, a letter sent by John Jameson allowed this man to escape aboard a ship named the *Vulture*. The Battle of Valcour (val-KOR) Island was a defeat for this commander, whose most notable action was done with the aid of his wife, Peggy Shippen. That action involved correspondence with Major John Andre, who was a British spy. Name this Revolutionary War general who plotted to surrender West Point to the British, which led to his name becoming synonymous with “traitor.”  
ANSWER: Benedict Arnold V (“the 5th”)

5. A memoir about mostly traveling to this continent famously begins “I hate traveling and explorers”; that book is *Tristes Tropiques* by Claude Levi-Strauss, who studied its Bororo peoples. Its enormous ruined city of Chan Chan was built by the Chimu peoples. This continent’s “fierce people” were studied by Napoleon Chagnon (SHAG-nun). In 1911, notable lost ruins on this continent were rediscovered by Hiram Bingham near the city of Cusco (KOOZ-coh). Name this continent where Machu Picchu (MAH-choo PEE-choo) sits within the Andes Mountains.  
ANSWER: South America

6. The final week of this period typically involves the recitation of the O Antiphons (ANT-ih-fonz). Jesse Trees are traditionally utilized during this period, the third week of which begins on Gaudete (gow-“DAY”-tay) Sunday. The beginning of the liturgical year in most Christian faiths is this period, which involves the lighting of four candles on a namesake wreath. Name this four week religious period that precedes Christmas.  
ANSWER: Advent

7. This metal is used to test for reducing sugars in Benedict’s test. The first high-temperature superconductors were oxides of this metal, whose electron configuration ends in  $4s^1 3d^{10}$  (“four S one, three D ten”). A bluish-green flame test characterizes this metal, which combines with zinc to form the alloy brass and tin to form the alloy bronze. Name this element used on the exterior of pennies whose symbol is (\*) Cu (“C-U”).  
ANSWER: copper [prompt on “Cu” before (\*)]

8. In one novel set in this state, Lee Mellon comes to believe that he is a descendant of a confederate general. Richard Brautigan set many of his novels in this U.S. state, which is where Lawrence Ferlinghetti opened up his City Lights Bookstore. At this state’s Six Gallery reading, Allen Ginsberg read “Howl” for the first time. Name this state where Beat generation intellectuals commonly gathered in its city of San Francisco.  
ANSWER: California



9. This man mentioned the existence of three female deities in his “Story of the Cranes.” He took the Farewell Pilgrimage over 20 years after first seeing visions in the Cave of Hira (HEE-ruh) of the angel Jibreel (jih-BREEL). Shortly after the death of his wife, Khadija (kuh-DEE-juh), he took a journey known as the *hijra* (HIJ-rah) to the city of Medina from Mecca, which he later conquered in AD 629. Name this “Holy Prophet” who founded the religion of Islam.

ANSWER: Muhammad or Mohammed

10. In one of this composer’s operas, Giunia (gee-EW-nee-uh) is the love interest of the title Roman soldier, Lucio Silla. A story by Christoph Martin Wieland inspired another of this composer’s operas, in which a character with a padlock on his mouth sings “Hm! Hm! Hm! Hm!” In that opera by him, the Queen of the Night sings an incredibly tough aria, and Tamino and Pamina pass three trials. Name this German who composed the opera *The Magic Flute*.

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

11. According to the “zens” of this programming language, “flat is better than nested” and “Readability counts.” Guido von Rossum is the inventor of this language which, along with two lesser used languages, is one the P’s in the acronym LAMP. This scripting language is often illustrated with examples making reference to “spam” and “eggs.” Name this programming language which takes its name from a British sketch comedy show.

ANSWER: Python [do not accept “Monty Python”]

12. These type of people populate an area known as the “Calais (kah-lay) jungle.” In 2015, Hungarian reporter Petra Laszlo was fired after video emerged of her kicking and tripping several of these people. Many of these people committed sexual assaults during 2016 New Year’s Eve celebrations in Cologne, Germany. One example of this type of person was three-year-old Alan Kurdi, who was recently photographed lying dead on a Turkish beach. Name this type of person, many of whom are trying to escape the Syrian Civil War.

ANSWER: refugees [or asylum seekers or migrants or immigrants]

13. In the Fon religion, a person is initiated by seeing one of these objects completely surround the Earth. Anuenue (uh-“NEW-new”) was a goddess of these things in Hawaiian legend. In Greek legend, it was personified by the messenger of the gods, Iris. A bridge likened to this object was called Bifrost (BEE-“frost”) and connected Asgard (AZ-“guard”) to Midgard (MID-“guard”). Name these multi-colored objects whose ends often feature a pot of gold hidden by a leprechaun.

ANSWER: rainbow

14. In one of this author’s novels, the title character causes the death of the family horse Prince after falling asleep in a carriage. In that novel by this man, the title character is arrested at Stonehenge after murdering Alec. This author gave up writing fiction altogether after his novel *Jude the Obscure* was bitterly attacked by critics. Name this English novelist who used Wessex as the setting of many of his novels, including *Tess of the d’Urbervilles*.

ANSWER: Thomas Hardy

15. Shortly after the conclusion of this battle, Emmanuel de Grouchy (groo-SHEE) won a tactical victory at the nearby Battle of Wavre (WAHV-ruh). The Lion’s Mound was built on the site of this battle, in which the farmhouse La Haye Sainte (lah ay sahnt) was briefly captured by Marshal Ney (nay). A coalition army partly led by Gebhard von Blucher (BLOO-kur) won this battle, which resulted in the losing commander being exiled to Saint Helena. The Duke of Wellington was the victor at what 1815 battle that was the final defeat for Napoleon?

ANSWER: Battle of Waterloo

16. The coefficient of restitution is 1 for one of these events. In the center-of-mass frame, one of these events reverses the objects’ trajectories without altering their speeds. In these events, both momentum and kinetic energy are conserved, and the objects do not stick together. Name this type of collision that shares its name with materials which deform reversibly, such as springs.

ANSWER: elastic collisions [prompt on “collision”]

17. This body of water borders a stretch of land known as the Grand Sable Dunes. This body of water receives the discharge from nearby Lake Nipigon (NIH-pih-“gone”). The Apostle Islands are at the west end of this lake, which is near the iron-rich Mesabi (meh-SAH-bee) Range. The St. Marys River flows past Sault Sainte Marie (soo “saint” muh-REE) while draining this lake, which contains Isle Royale (“EYE”-uhl “royal”) National Park. The north side of Michigan’s Upper Peninsula is bordered by what body of water that is the largest of the Great Lakes?

ANSWER: Lake **Superior**

18. One version of the score for this work features the Latin word “Tacet” scrawled all over its pages. The creator of this work wrote a sequel which involves a man with a blender making a juice by blending together various vegetables. This work, which was inspired by Zen Buddhism, features a score which instructs the performers to not play their musical instruments. Name this experimental work that was composed by John Cage and named for its length.

ANSWER: **4’ 33”** (“four thirty-three” or “four minutes thirty-three seconds” or “four minutes and thirty-three seconds”)

19. In one of this author’s novels, the title character, Yasha, discovers sexual freedom when he sleeps with his assistant Magda. The Sabbatai Zevi religious movement inspired another of this author’s books set in Goraj. In one of his short stories, the devil convinces the title character to pee in some bread after the townsfolk convinced him that the moon is falling. *Satan in Goray* was written by what Yiddish author whose best-known short story is “Gimpel the Fool?”

ANSWER: Isaac Bashevis **Singer**

20. Some have hypothesized that this event was caused by the acrobat Joseph Spah. Captain Max Pruss (PROOSS) narrowly escaped death in this event, which was witnessed by radio reporter Herbert Morrison when he proclaimed “oh the humanity!” The Lakehurst Naval Air Station in New Jersey was the site of this event, which likely began when a spark ignited leaking hydrogen gas. Name this 1937 (\*) disaster involving the destruction of a German zeppelin (ZEP-uh-lin).

ANSWER: **Hindenburg disaster** [accept answers like **Hindenburg explosion** or **Hindenburg fire** that include **Hindenburg** and convey the notion of destruction, fire, or loss of life; accept **Hindenburg** after (\*)]