

## **2015 OAC Regionals – Round 7**

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

### **Category Round**

**American Literature: Name these authors who wrote works of nonfiction.**

Team A: What author of the novel *A Bell for Adano* wrote about six atomic bomb survivors in his book-length work *Hiroshima*?

ANSWER: John Richard Hersey

Team B: What author of the novel *Rabbit, Run* chronicled Ted Williams' final home run in his essay "Hub Fans Bid Kid Adieu"?

ANSWER: John Hoyer Updike

Tossup: This author wrote the statement "Nobody can add to the absurdity of this book" in regards to the hilariously-translated phrase book *English As She is Spoke*. Another of his nonfiction works is an essay attacking the rules of literary art that *The Deerslayer* violated. This author of "Fenimore Cooper's Literary Offenses" wrote about a town that tries to resist temptation in "The Man that Corrupted Hadleyburg." In another of his stories, Jim Smiley captures the title animal, names it Dan'l ("daniel") Webster, and teaches it to jump. Name this humorist who wrote "The Celebrated Jumping Frog of Calaveras County."

ANSWER: Mark Twain [or Samuel Langhorne Clemens]

**Mathematics: Pencil and paper ready. Give the following related to permutations. You will have 30 seconds for each team question.**

Team B: Six friends compete in an apple-picking competition at the local hootenanny and a gold, silver, and bronze medal are awarded to first, second, and third places, respectively. How many possible ways can the three medals be distributed?

ANSWER: 120

Team A: A panda bear has five different foraging spots. If he goes to a different one for morning, noon, twilight, and dusk, how many daily unique permutations does he have?

ANSWER: 120

Tossup: **Pencil and paper will not be necessary.** A permutation is made from the Fischer-Yates algorithm, which requires numbers with this property as an input. Variables with this property are functions that map from the set of all outcomes to the real numbers. Markov and Weiner processes possess this property. Generating numbers with this property is actually impossible; thus the "pseudo-" version of this property is desired instead. This property is synonymous with stochastic. Name this property of certain sequences of numbers which makes them unpredictable.

ANSWER: random [accept pseudo-random numbers or random variables]

**World History: Name these leaders of the ancient world.**

Team A: The 587 BC destruction of Jerusalem was overseen by this Babylonian king perhaps best known for constructing the Hanging Gardens of Babylon.

ANSWER: **Nebuchadnezzar II** (NEH-buh-kud-NEZ-zur “the second”) [accept **Nebuchadnezzar II** or **Nabu-kudurri-usur**; prompt on “Nebuchadnezzar” or “Nebuchadnezzar”]

Team B: This 19th Dynasty Egyptian pharaoh, who ruled in the 13th century BC, allegedly fathered over 100 children, including several with Nefertiti, during his sixty-six year reign.

ANSWER: **Ramses II** [RAM-zeez “the second”] [or **Ramesses II** or **Ramses the Great** or **Ramesses the Great** or **Ozymandias**; prompt on “Ramses” or “Ramesses”]

Tossup: This leader melted down a large gold statue of Marduk after his son-in-law, Megabyzus, successfully sacked Babylon. This son of Atossa finished construction of a building known as the Gate of All Nations and was murdered by Artabanus (ar-tuh-BAY-nus). This leader cut one of his military campaigns short and left control with his general, Mardonius, who was shortly thereafter defeated and killed at the Battle of Plataea (pluh-TEE-uh). That campaign began with this ruler building two pontoon bridges across the Hellespont, and it also saw his forces lose at the naval Battle of Salamis. Name this Persian ruler who succeeded his father, Darius I (the first), and failed in his 5th century BC invasion of Greece.

ANSWER: **Xerxes I** (ZURK-seez “the first”) of Persia [or **Xerxes the Great**; prompt on “Xerxes”]

**Fine Arts: Name these European artists.**

Team B: Several nude women gather around a body of water in *The Bathers*, a work by this French artist known for his several paintings of Mont Sainte-Victoire (mawn sant-veek-TWAR).

ANSWER: Paul **Cezanne** (say-zahn)

Team A: Adele Bloch-Bauer was the subject of two portraits by this Austrian painter best known for depicting two figures clad in gold while performing the title activity in *The Kiss*.

ANSWER: Gustav **Klimt**

Tossup: This artist depicted a levitating man who contorts his body to kiss a woman holding a bouquet in a painting entitled *Birthday*. In another work by this artist, a purple-dressed man carrying scrolls, a group of soldiers waving red flags, and a burning synagogue topped by a Lithuanian flag are among various scenes that surround the colorful title event. A man carrying a scythe and an upside down woman playing the violin both appear in his best known painting, which shows a green-faced man staring into the eyes of a goat. Name this Russian-born Jewish painter of *White Crucifixion* and *I and the Village*.

ANSWER: Marc (Zaharovich) **Chagall** (shuh-GAHL)

**Life Science: Answer the following about the eye.**

Team A: This liquid, found between the cornea and iris, is constantly produced. Irregular levels of its production or drainage can lead to glaucoma.

ANSWER: vitreous (VIT-ree-uss) humor

Team B: This portion of the retina contains the fovea and is its most sensitive portion. Vision impairment in older individuals can be caused by its degeneration.

ANSWER: macula

Tossup: These animals have eyes with light sensors that directly receive incoming light instead of reflecting it off the back first, and they move their lens instead of changing its shape. It's not fish, but *Vibrio fischeri* is found within one member of this class. Some members of this animal class have a tube running from the center of their body to the outside of their shell called a siphuncle. A still-living early example of this class of invertebrates is the nautilus. They have the most advanced eye out of all invertebrates. When escaping, these animals can release a cloud of ink. Name this class of mollusks which includes cuttlefish and squid.

ANSWER: cephalopods or cephalopoda

**English / World Literature: Name these European authors.**

Team B: What Czech author never finished his novel about K., who tries to enter the title structure, titled *The Castle*?

ANSWER: Franz Kafka [or Franz Anschel]

Team A: What Czech author wrote about Tomas and Teresa, who live during the Prague Spring, in *The Unbearable Lightness of Being*?

ANSWER: Milan Kundera

Tossup: This author adapted Arthur Schnitzler's (SHNITZ-lurz) play *The Distant Land* into his own play *The Undiscovered Country*. The events that lead to the Russian Revolution are the subject of his three plays *Voyage*, *Shipwreck*, and *Salvage*. In another play by this author, the title characters and the Tragedians (tra-juh-DEE-unz) hide in barrels while pirates attack their boat. In that play by this author, the two title characters perform *The Murder of Gonzago* after flipping a coin 92 times and seeing it land on heads every time. Name this author of *Rosencrantz and Guildenstern are Dead*.

ANSWER: Tom Stoppard [or Tomáš Straussler]

## **American Government / Economics: Name these Cabinet-level positions**

Team A: In 2014, former Kansas Governor Kathleen Sibelius resigned from this position, which led to the appointment of its current holder, Sylvia Burwell.

ANSWER: Secretary of **Health and Human Services** or **Health and Human Services** Secretary [prompt on “HHS”]

Team B: A 2014 scandal led to Eric Shinseki’s resignation of this office, which was the most recent to be added as a Cabinet level position until the 2001 creation of the Department of Homeland Security.

ANSWER: Secretary of **Veterans Affairs** or **Veterans Affairs** Secretary [prompt on “VA”]

Tossup: In 1989 the U.S. Senate denied the appointment of John Tower to this position. Charles Wilson was pressured to resign as CEO of General Motors after being nominated for this position, which was first held by a man who is presumed to have committed suicide by jumping out of a hospital window. Caspar Weinberger held this office under Ronald Reagan until his resignation amid the Iran-Contra Affair. This position was held two separate times, twenty-four years apart, by Donald Rumsfeld, and its longest holder was Robert McNamara. In 2015, Chuck Hagel was replaced by Ashton Carter in what Cabinet-level office that was created in 1947 to replace the position of Secretary of War?

ANSWER: Secretary of **Defense** [accept **Defense** Secretary; prompt on “SecDef”; do not accept or prompt on “Secretary of War”]

## **Physics: Questions in this category will deal with the physics of momentum transfer.**

Team B: What quantity, which is given as the time integral of force, is defined as the vector change in an object’s linear momentum?

ANSWER: **impulse**

Team A: For a two object system, this property of a system does not change in a collision since momentum is always conserved. For a rigid body, this property is the centroid.

ANSWER: **center of mass** [do not accept “center of gravity”]

Tossup: The maneuvers of these objects can be mathematically expressed by the Tsiolkovsky (SEAL-koff-skee) equation, which is derived by the conservation of momentum. Robert Forward proposed a specific type of this object known as a fission sail. These objects can have their momentum altered via staging, in which their excess weight is shed. A theory relating to these objects was outlined in *A Method of Reaching Extreme Altitudes* by Robert Goddard. Typically, they use liquid or solid fuel to provide thrust. Name these spacecraft which have engines that eject propellant and were studied by Wernher von Braun (VAIR-err vahn brahn).

ANSWER: **rockets**

**Geography: Name these Asian nations.**

Team A: This country's exclave of Musandam borders the south side of the Strait of Hormuz, which is at the west end of a gulf named after this nation.

ANSWER: Sultanate of **Oman** [or Saltanat **Uman**]

Team B: This nation, which contains Lake Balkhash, is the world's largest landlocked nation.

ANSWER: Republic of **Kazakhstan** (KAH-zak-STAN) [or **Qazaqstan** Respublikasy]

Tossup: The eastern part of this nation is dominated by the Khorat Plateau. Many tourists to this nation flock to the island of Phuket, and its capital, which houses royalty in the Grand Palace, is located on the Chao Phraya ("chow" PRY-uh) River. With its western neighbor, this nation shares the Isthmus of Kra, which borders the Andaman Sea and a gulf sharing its name with this country. This nation is at the south end of the opium-production area known as the Golden Triangle, which also includes the nations of Laos ("louse") and Burma. Siam was the former name of what Southeast Asian nation whose capital is Bangkok?

ANSWER: Kingdom of **Thailand** [or Prathet **Thai** or Ratcha Anachak **Thai**]

**American History: Name these events that took place during the colonial era.**

Team B: Accusations by Abigail Williams and Betty Parris helped lead to this 1692 event which resulted in the execution of Giles Corey, who continuously asked for "more weight" during the process of being pressed to death.

ANSWER: **Salem witch trials** (prompt on partial answer)

Team A: Colonial Governor William Berkeley's failure to protect against Native American attacks played a part in the start of this 1676 rebellion which resulted in Jamestown, Virginia being burned to the ground.

ANSWER: **Bacon's** Rebellion

Tossup: One trial in the aftermath of this event was impacted by the testimony of Dr. John Jeffries, who relayed the deathbed testimony of Patrick Carr. An investigatory committee headed by James Bowdoin (BOH-din) was established after this event, which stemmed from a disagreement over a wigmaker's bill. Hugh Montgomery and Matthew Kilroy were convicted of manslaughter and branded following this event. Eight soldiers are shrouded in smoke on the right side of a notable engraving of this event created by Paul Revere. John Adams defended the British soldiers accused of murdering Crispus Attucks and four others in what 1770 event that occurred in the capital of Massachusetts?

ANSWER: **Boston Massacre** [accept **Incident on King Street**]

### Alphabet Round – Letter S

1. Civil War colonel who commanded the 54th Massachusetts Infantry, an all African-American military unit, until his death at the Second Battle of Fort Wagner.
2. This term refers to philosophical activities, such as Zeno's tortoise and hare race, which consist of an infinite number of little sub-actions. Their solubility is up for philosophical debate.
3. In William Blake's "The Tyger", the author asks "What immortal hand or eye could frame thy fearful [this]?"
4. Desert in northern Africa that is the world's largest hot desert.
5. Group of bacteria that have long, coiled cell shapes and include the causative agents of syphilis and Lyme disease.
6. **(TWO WORD ANSWER)** – Nation whose 26-year civil war was ended in 2009 with the defeat of the rebel group known as the Tamil Tigers.
7. This photographer and museum curator took the photograph *The Pond-Moonlight* and organized *The Family of Man* exhibit at the Museum of Modern Art.
8. This poet wrote the influential collection *Harmonium*, which contains his poem "Thirteen Ways of Looking at a Black Bird."
9. **(TWO WORD ANSWER)** – In probability, this is the set of all possible outcomes of a random variable. For a die, this set consists of the numbers {1,2,3,4,5,6}.
10. Egyptian God of the Nile who has the head of a crocodile.
11. Artistic technique, the name of which comes from the Italian word for "to fade out," in which colors are blended so as to prevent sharp outlines, thereby resulting in a painting that looks hazy.
12. American woman whose engagement to British king Edward VIII resulted in the latter's abdication of the throne in 1936.
13. The final words of T.S. Eliot's "The Wasteland" are in what language, which was also used to write *The Recognition of Sakuntala*?
14. Discoverer of many actinide elements while at the University of California at Berkeley.
15. Place that inspired Felix Mendelssohn's 3rd symphony and a fantasy by Max Bruch.
16. Surname of the family that succeeded the Visconti family as rulers of Milan during the 15th and 16th century.
17. This quantum number, the fourth one, can take on values of 1/2 or -1/2 for fermions. It is sometimes called "intrinsic angular momentum."
18. This author of *Lie Down in Darkness* and *Darkness Visible* wrote a book narrated by Thomas Gray that was the Pulitzer-Prize winning *The Confessions of Nat Turner*.
19. Term used to describe the Biblical Gospels of Matthew, Mark and Luke due to their similarity to one another.
20. *Beyond Freedom and Dignity* is a book by this behaviorist psychologist, who created a namesake box for conditioning test subjects.

### Alphabet Round – Letter S Answers

1. Robert Gould **Shaw**
2. **supertasks**
3. **symmetry**
4. **Sahara** Desert
5. **spirochetes**
6. Democratic Socialist Republic of **Sri Lanka** (shree LAHN-kuh) [or **Shri Lamka** Prajatantrika Samajaya di Janarajaya]  
(TWO WORD ANSWER)
7. Edward Jean **Steichen**
8. Wallace **Stevens**
9. **sample space** [do not accept “sample set”] (TWO WORD ANSWER)
10. **Sobek** [or **Sebek** or **Sochet** or **Sobk** or **Sobki** or **Suchos**]
11. **sfumato**
12. Bessie Wallis Warfield **Simpson** or Bessie Wallis Warfield **Spencer**
13. **Sanskrit**
14. Glenn Theodore **Seaborg**
15. **Scotland**
16. **Sforza** family [accept **Sforzas**]
17. **spin** quantum number
18. William Clark **Styron** Jr.
19. **Synoptic** Gospels
20. Burrhus Frederic **Skinner**

### Lightning Round

1. Early in his reign, one king with this name and number quashed a rebellion known as the Epiphany Rising. A Holy Roman Emperor with this name and number travelled to Canossa to put an end to the Investiture Controversy with Pope Gregory VII (the seventh). The English king with this name and number became the first ruler of the House of Lancaster after deposing Richard II (the second). Give this name and number of France's first Bourbon king, who issued the Edict of Nantes and noted that "Paris is well worth a mass."

ANSWER: **Henry IV** (the fourth) [prompt on "Henry"]

2. According to one legend, this figure possessed the Ring of Aandaleeb (AND-uh-lib), which was used to control genies. While coming into power he was opposed by his half-brother Adonijah (ad-oh-NY-juh), and shortly after dying, his kingdom was split during the rule of his son, Rehoboam. This ruler once proposed cutting a baby in half in order to determine its real mother. The Biblical books Song of Songs and Proverbs were supposedly authored by what wise king of Israel who succeeded his father, David?

ANSWER: **Solomon** [or **Shlomo** or **Sulayman**]

3. One type of this reaction is the hydrogenation of unsaturated compounds. Molecules that can readily react in this manner include hydrides. In electrochemistry, the potentials of half reactions are always written out for this type of reaction. An example of this type of reaction is when iron III (three) is converted to iron II (two). Name this type of reaction in which a species gains electrons, as opposed to oxidation.

ANSWER: **reduction** reaction [accept word forms; prompt on "redox reaction"]

4. This peninsula was once named after explorer Nathaniel Palmer. One portion of this peninsula is known as Graham Land, and it is located just south of the South Shetland Islands. It borders the Erebus and Terror Gulf, which is named after two ships commanded by James Ross during an exploration of this peninsula. It is situated between the Bellingshausen (BEH-lings-how-sehn) and Weddell Seas, and the Drake Passage separates it from South America. Name this most prominent peninsula on the landmass that contains the South Pole.

ANSWER: **Antarctic** Peninsula

5. This author wrote "Thou two-faced year, Mother of Change and Fate" in the poem "1492." Another sonnet by this author of the collection *Songs of a Semite* features a woman who states "Keep ancient lands, your storied pomp" as well as "Give me your tired, your poor, your huddled masses, yearning to breathe free." Name this female author who wrote the poem found on the Statue of Liberty, "The New Colossus."

ANSWER: Emma **Lazarus**

6. One action taken by this group led to the Supreme Court case *U.S. v. Cecil Price et. al.* Indiana schoolteacher Madge Oberholtzer was raped and murdered by one of its leaders, D.C. Stephenson. The Force Act of 1871 attempted to curb the power of this group, members of which carried out a 1963 bombing of the 16th Street Baptist Church in Birmingham. *The Birth of a Nation* glorified what racist organization first led by Nathan Bedford Forrest and known for donning white robes and masks?

ANSWER: **KKK** or **Ku Klux Klan**

7. Guillaume (GEE-yahm) Dufay's motet *Nuper Rosarum Flores* (NEW-purr ROH-sar-um "FLOOR"-ays) was composed for the completion of this building, whose original design was made by Arnolfo di Cambio. This building is part of a complex that also includes Andrea Pisano's campanile. Located in the Piazza del Duomo, it is sometimes named for St. Mary of the Flower. Across from this building is a baptistery whose doors were designed by Lorenzo Ghiberti (gih-"BEAR"-tee). Filippo Brunelleschi (FILL-ipp-oh BREW-nuh-less-key) designed the dome of what religious building in a north Italian city?

ANSWER: **Florence Cathedral** [or **Cattedrale di Santa Maria del Fiore**; prompt on "cathedral"]

8. This figure was conceived after his father was tricked into becoming drunk by the Troezen (TRAY-zen) King Pittheus. He killed the Cromyonian Sow and the tree-bending bandit Sinis after recovering a sword and sandals that had been buried under a rock. This figure was tricked by his wife, Phaedra (FAY-druh), into fatally cursing his son, Hippolytus (hih-PAH-lih-tuss). This son of Aegeus (uh-JEE-us) used a ball of string to help him kill the inhabitant of the Labyrinth. Name this mythical Greek hero who slayed the Minotaur.

ANSWER: **Theseus** (THEE-see-us)



9. In the early 20th century, bismuth was removed from this element through the use of the Betterton process. Historically, the alloy solder (SAH-dur) was made from tin and this other metal. With sulfur, this metal can be found in the ore galena, and it is often made in bricks for use in radiation shielding. This element was called *plumbum* by the Romans, since it was used in pipes. Name this heavy metallic element whose symbol is Pb (“P” “B”).

ANSWER: lead (led)

10. This philosopher considered whether the Fregean (FRAY-gee-an) theory of names is correct by considering the sentence “The King of France is bald” in his essay “On Denoting.” His namesake paradox asks if the set of all sets which does not contain itself can contain itself; that work on set theory led to a collaboration with Alfred North Whitehead. Name this philosopher who wrote “Why I am not a Christian” and who was one of the co-authors of the *Principia Mathematica* (PREEN-kipp-ee-uh MATH-uh-matt-ick-uh).

ANSWER: Bertrand Arthur William Russell, 3rd Earl Russell

11. This poem’s narrator “met a lady in the meads” whose “hair was long...foot was light, and...eyes were wild.” Later, “pale kings and princes” note that the title figure “hath thee in thrall!” Its second stanza asks “O what can ail thee, knight-at-arms, so haggard and so woe-begone?” This poem is set where the “sedge is wither’d from the lake, and no birds sing.” Name this poem by John Keats about a beautiful lady without mercy.

ANSWER: “La Belle Dame Sans Merci”

12. This ruler expanded the Marmaris Castle to utilize it as a military base, and he led several campaigns against Tahmasp I (TAH-mosp “the first”), a shah of the Safavid Dynasty. This ruler expelled the Knights Hospitaller (hoss-PIT-tuh-lur) from the island of Rhodes, and troops under his leadership killed Louis II (the second) of Hungary during the Battle of Mohacs (moh-HAHCH). This successor of Selim I (suh-LEEM “the first”) unsuccessfully besieged Vienna in 1529. Name this longest-reigning Ottoman sultan known by the epithet “magnificent.”

ANSWER: Suleiman (SOO-luh-mahn) the Magnificent [or Suleiman I or Suleiman the Lawgiver or Suleiman Kanuni; accept Suleiman by end of question; prompt on “Suleiman” before end of question]

13. This man’s namesake equation states that an object’s final velocity squared equals the initial velocity squared plus two times acceleration times the change in position. The speed of a fluid leaving an opening is given by this scientist’s namesake law. One of his inventions makes use of an inverted column of air in a pool of liquid mercury. Name this Italian physicist who invented the barometer and who gives his name to the unit of pressure called the torr.

ANSWER: Evangelista Torricelli (taw-rih-CHEL-ee)

14. This composer wrote the first symphony to begin in a major key and end in a minor key; that symphony ends with a “Saltarello” movement. The first two books of six songs by this composer each end with a “Venetian Boat Song.” His incidental music to a William Shakespeare play contains a famous “Wedding March” in C major. Name this German composer of the *Italian Symphony*, *Songs without Words*, and *A Midsummer Night’s Dream*.

ANSWER: Jakob Ludwig Felix Mendelssohn-Bartholdy (MEN-dul-sun)

15. A mischievous man tours this country while flying wild geese in the novel *The Wonderful Adventures of Nils*. An author from this country wrote a play named for a woman who insists that her dog Diana was unfaithful. That play from this country, whose characters include the valet Jean, ends with its title character being given a razor to commit suicide. Name this country of origin of the author of *Miss Julie*, August Strindberg.

ANSWER: Kingdom of Sweden [or Konungariket Sverige]

16. Movement of these objects is divided into types called autochory and allochory. One part of their structure is covered by a coleoptile (koh-lee-OP-“tile”). These objects contain a micropyle, which allows water to enter them. These objects are mostly comprised of endosperm, and the first portion to emerge out of it is the radicle, which will grow into a root. Name this result of plant fertilization, which can grow into a new plant upon germination.

ANSWER: seeds

17. One of these events interrupted a 1903 showing of the play *Mr. Bluebeard* at Chicago's Iroquois Theater; another one occurred at Stone Bridge following the Johnstown Flood. Max Blanck and Isaac Harris faced criminal charges after one that occurred at the Asch Building. Another of these events began at Thomas Farriner's bakery on Pudding Lane and destroyed St. Paul's Cathedral in 1666 London. Name this type of disaster that destroyed much of Chicago in 1871 and was supposedly started by Mrs. O'Leary's cow.

ANSWER: **fire** [or **conflagration**; accept Iroquois Theater **fire** or Triangle Shirtwaist Factory **fire** or Great **Fire** of London or Great Chicago **Fire**]

18. One work by this thinker makes the claim that social facts are inherently constraining. In another of his works, he distinguished between organic and mechanical solidarity. This sociologist wrote an essay that seeks to examine why Catholics have higher social cohesion than Protestants. In that book, he listed altruistic, anomic, fatalistic, and egoistic as the four types of the title action. Name this French thinker, sometimes called the "father of sociology", who authored *The Division of Labor in Society* and *Suicide*.

ANSWER: David Emile **Durkheim** (DUR-kem)

19. This work's protagonist is given some armor after leaving the House of the Palace Beautiful, which he uses against the monster Apollyon. Nathaniel Hawthorne updated this work in his short story "The Celestial Railroad." Its protagonist meets Hopeful, who came from the City of Destruction, but that character is burned at the stake when they come to Vanity Fair. Name this allegory about the everyman Christian, a work of John Bunyan.

ANSWER: *The **Pilgrim's Progress** from This World to That Which Is to Come; Delivered under the Similitude of a Dream*

20. One work by this artist of *View of Fort Samson* depicts three nude women, one of whom is seated while taking off green stockings. That work, *The Models*, depicts a part of his best known painting, in which a black dog sniffs the grass directly behind a lounging man who smokes a pipe. Several people relax in or near the Seine (sen) River in his *Bathers at Asnieres* (ahn-YAIR), and his best known work features a woman holding the leash of a monkey. Name this French, pointillist painter of *A Sunday Afternoon on the Island of La Grande Jatte* (lah grahnd zhaht).

ANSWER: Georges-Pierre **Seurat** (zhorz-pee-AIR suh-RAH)