

2016 OAC States – Round 1

Questions written by Ike Jose and Steven Wellstead

Category Round

American Literature: Name the following authors who wrote about bears.

Team A: This author wrote about Br'er Bear, as well as Br'er Rabbit, in his tales narrated by Uncle Remus.

ANSWER: Joel Chandler **Harris**

Team B: A big bear named Old Ben is hunted by Ike in this Southern author's short story "The Bear."

ANSWER: William Cuthbert **Faulkner**

Tossup: This author wrote "his coat resembles the deep snow" in a poem entitled "The Polar Bear." He compared a certain plant to a "buttercup upon its branching stem" in a poem that ends "for I too am concerned [for] every man who wants to die at peace in his bed." This author of the poetry collection *Pictures from Brueghel* also wrote the poem "Asphodel, that Greeny Flower." An object that is "glazed with rainwater / beside the white chickens" is the subject of one poem by this author which begins by noting how "so much depends upon" the title object. Name this Imagist author who wrote "The Red Wheelbarrow."

ANSWER: William Carlos **Williams**

Mathematics: Pencil and paper ready. Questions in this round will deal with the cross product. You will have 30 seconds for the team questions.

Team B: Give the cross product of the vectors $[1,0,0]$ ("one, zero, zero") and $[9,3,0]$ ("nine, three, zero").

ANSWER: **[0,0,3]** or **[zero, zero, three]**

Team A: Give the cross product of the vectors $[0,1,0]$ ("zero, one, zero") and $[0,5,2]$ ("zero, five, two").

ANSWER: **[2,0,0]** or **[two, zero, zero]**

Tossup: The Gelfond-Schneider theorem resolved Hilbert's problem of this number, which asks if a^b ("a to the b") is transcendental or algebraic. Aside from three dimensions, this is the only other numbered dimension on which the cross product is defined. A theorem named after this many circles states that opposite lines drawn across those circles will intersect at one point. In 2000, the Clay Mathematics Institute offered one million dollars for the solution to any one of these number of problems known as the Millennium Prize Problems. The regular polygon with this number of sides has internal angles of about 128.6 degrees that sum to 900 degrees. Give this number of sides on a heptagon.

ANSWER: **seven**

World History: Name these Asian rulers.

Team A: Between 1899, when it achieved independence from Spain, and 1901, when its occupation by the U.S. began, the Philippines was led by this president, who arrested and executed fellow revolutionary leader Andres Bonifacio (boh-nih-FAHSS-yoh).

ANSWER: Emilio Aguinaldo y Famy

Team B: The jizya tax was reinstituted within the Mughal Empire by this emperor, who rose to power in 1658 after placing his father and predecessor, Shah Jahan, under house arrest.

ANSWER: Aurangzeb (aw-“wrong”-ZEB) Alangir [or Abul Muzaffar Muhi-ud-Din Muhammad Aurangzeb; prompt on “Alangir”]

Tossup: This leader’s army won a civil war known as the Central Plains War. His government carried out a massacre known as the 228 Incident, which began a 38 year period of oppression called White Terror. This man brought down the Beiyang (“bay”-YONG) government by leading the Northern Expedition campaign. Being kidnapped in the Xi’an (SHEE-ahn) Incident led to him calling a temporary truce with a Communist group he earlier pursued in the Long March. This man became the leader of the Kuomintang (KWOH-min-tahng) after the 1925 death of Sun Yat-sen. Name this Chinese leader who fled to Taiwan after losing a civil war against Mao Zedong.

ANSWER: Chiang Kai-shek (shang kye-SHEK) [or Jiang Jieshi or Jiang Zhongzheng]

Fine Arts: Give these composers who named some of their compositions after the times of day.

Team B: The *Morning*, *Noon*, and *Evening* are names of three early symphonies by this composer, who is known as the “father of the string quartet.”

ANSWER: Franz Joseph Haydn (“HIGH”-din)

Team A: *The Noon Witch*, a tone poem depicting a child being smothered, was written by this composer also known for his *Slavonic Dances*, which was originally written for piano four hands.

ANSWER: Antonin Leopold Dvorak (ahn-toh-NEEN d’VOR-zhahk)

Tossup: One work by this composer depicts Spain in its movements “The Fragrance of the Night” and “The Morning of a Festival Day.” It is not Isaac Albeniz, but this composer’s *Iberia* piece is the middle section of his *Images for Orchestra*. A poem by Paul Verlaine inspired the third movement of this composer’s *Suite Bergamasque* (BAIR-guh-mahsk). This composer depicted the “Play of the Waves” in a symphonic piece of programme music which also includes a “Dialogue Between Wind and Waves.” Name this French composer of “Claire de Lune” and *La Mer*, which is translated as “The Sea.”

ANSWER: Achille-Claude Debussy (klohd deb-yoo-see)

Life Science: Name these bio·chemists.

Team A: Molecular chirality was discovered when tartaric acid was analyzed by this biochemist who, along with Ferdinand Cohn and Robert Koch, is one of the three fathers of microbiology.

ANSWER: Louis **Pasteur**

Team B: This biochemist discovered the primary structure of insulin by studying cows and also pioneered a namesake method of DNA sequencing.

ANSWER: Frederick **Sanger** (SANG-ur)

Tossup: Howard Florey conducted the clinical trials for a substance that this scientist discovered, leading him to notably exclaim “that’s funny!” By mixing nasal mucus with a culture of bacteria, this man discovered an enzyme that destroys bacterial cell walls by disrupting a glyco·sylitic linkage. This discoverer of lysozyme also accidentally found that a substance secreted by a certain fungus could be used as an antibiotic against pneumonia. Name this Scottish biochemist who in 1928 isolated penicillin.

ANSWER: Sir Alexander **Fleming**

World Literature: Name these title figures of British poems.

Team B: A poem addressed to this figure ends by asking “If winter comes, can Spring be far behind?”

ANSWER: **west wind** [accept “Ode to the **West Wind**”; prompt on “wind”]

Team A: This author’s translation of *The Iliad* and *The Odyssey* inspired John Keats to feel like “stout Cortez when...He star’d (“stared”) at the Pacific.”

ANSWER: George **Chapman**

Tossup: This character describes the “uncertain hour that agony returns” since “the heart within me burns” until his “ghastly tale is told.” Upon taking someone’s oars, this man is told “full plain I see, the Devil knows how to row.” This character, who is twice called “bright-eyed,” described “slimy things [that] did crawl with legs upon the slimy sea.” A game of dice leads to Life-in-Death winning this character’s soul. While talking with the “Wedding Guest,” this character describes how he was cursed for shooting an albatross. Name this title character of a Samuel Taylor Coleridge “rime.”

ANSWER: **ancient mariner** or **ancient marinere** [accept *The Rime of the **Ancient Mariner*** or *The Rime of the **Ancient Marinere***; prompt on partial answer]

U.S. Government/Economics: Name these Supreme Court cases.

Team A: The Supreme Court case *Poe v. Ullman* centered on the same law that was the subject of this 1965 case, which struck down that aforementioned law criminalizing the use of contraceptives.

ANSWER: *Estelle Naomi Trebert Griswold v. Connecticut*

Team B: William Wirt and Daniel Webster argued on behalf of the plaintiff in this 1824 case which struck down a New York law limiting navigation rights within the state's waterways.

ANSWER: *Thomas Gibbons v. Aaron Ogden* [accept either]

Tossup: This case overturned the ruling in the Minnesota Supreme Court case *Baker v. Nelson*. One of the dissenters described the ruling in this case as a "judicial putsch" ("pooch") and noted that the Supreme Court "has descended from the disciplined legal reasoning of John Marshall...to the mystical aphorisms of the fortune cookie." The ruling in this case came on the two year anniversary of the *U.S. v. Windsor* ruling, which, along with this case, struck down the 1996 law known as DOMA (DOH-muh). The White House was illuminated in the colors of the rainbow following Anthony Kennedy's majority opinion in what 2015 case that legalized same-sex marriage?

ANSWER: *James Obergefell (OH-bur-guh-fel) v. Richard A. Hodges* [accept either]

Physical Science: Name these physical constants.

Team B: On the left-hand side of the time dependent Schrodinger equation, i is multiplied by this constant times the partial derivative with respect to time of the wave function.

ANSWER: Dirac's constant or \hbar or reduced Planck's constant [do not accept or prompt on "h" or "Planck's constant"]

Team A: This constant is multiplied by temperature raised to the fourth power and is set equal to the radiative emission in a namesake law describing the output of a blackbody.

ANSWER: Stefan-Boltzmann constant [or Stefan's constant]

Tossup: James Bradley worked out one of the first estimates for this constant by using the Earth's rotation rate and a change in a star's parallax. Ole Romer was the first to suggest that this constant was not infinite when he measured the movement of the moon Io. After the usage of krypton-86 to set a definition for the meter, this constant and the second were used to give a new definition for the meter. Deviations from this constant can be calculating using Snell's law, since a vacuum's refractive index is assumed to be 1. This constant is squared and multiplied by mass in an equation by Albert Einstein that sets it equal to energy. Name this constant equal to almost 300 million meters per second.

ANSWER: speed of light in a vacuum or speed of light in free space [prompt on "c"]

World Geography: Name these American bodies of water.

Team A: This waterway, which is part of the so-called ACF (“A-C-F”) River Basin, flows through Atlanta before ultimately forming the southern part of the border between Alabama and Georgia.

ANSWER: Chattahoochee River

Team B: Utah’s Rainbow Bridge National Monument is located near the shores of this artificial lake created by the construction of Arizona’s Glen Canyon Dam.

ANSWER: Lake Powell

Tossup: This body of water is just north of a city nicknamed “America’s Sweetest Town.” This body of water near the city of Clewiston is partially drained by the St. Lucie Canal. This lake is surrounded by the Herbert Hoover dike, which was built after 2,500 people died during flooding from a 1928 hurricane. The Kissimmee River is the chief source of this lake, which is drained by the Caloosahatchee (kuh-loo-suh-HAH-chee) River through the city of Fort Myers into the Gulf Mexico. Name this lake to the north of the Everglades that is the largest in Florida.

ANSWER: Lake Okeechobee (oh-kee-CHOH-bee)

U.S. History: Name these states.

Team B: Frank Steunenberg was assassinated in 1905 while serving as the governor of this western state, where law enforcement officials had a notable 1992 standoff with the Weaver family in the Ruby Ridge incident.

ANSWER: Idaho

Team A: Thomas Hart Benton served as one of the first two U.S. Senators from this Midwestern state, where the Patee House is located near the spot where Jesse James was killed by Robert Ford.

ANSWER: Missouri

Tossup: One county in this state voted to secede and form the Free and Independent State of Scott. An organization sharing its name with this state was involved in the Supreme Court’s *Ashwander* case. Its first governor was John Sevier (seh-VEER), who also led the short-lived State of Franklin that became part of this state. This state’s city of Oak Ridge served as a production site for the Manhattan Project, and its Butler Act was challenged in a 1925 trial in which Clarence Darrow defended the teaching of evolution by John Scopes. Give this southeastern state whose namesake “Valley Authority” is headquartered in Knoxville.

ANSWER: Tennessee

Alphabet Round – Letter L

1. Mythical Spartan queen who was seduced by Zeus while disguised as a swan.
2. **(TWO WORD ANSWER)** – All of the Pevensies but Susan die in this apocalyptic novel that is the final installment in *The Chronicles of Narnia*.
3. Instantaneous induced forces are a type of this van der Waals force, which are temporarily formed when electrons configure into a positive/negative configuration.
4. **(HYPHENATED ANSWER)** – Blur resulting from “aliasing” is often reduced by one of these filters, which blocks all radiation with wavelengths higher than a certain threshold.
5. Leader of the Corps of Discovery who explored the lands of the Louisiana Purchase along with William Clark.
6. Judeo-Spanish is an alternate name for this language, which is derived from Old Spanish and Hebrew.
7. 20th century American writer of the Western fiction genre who featured the Sackett family in many of his novels. He also wrote four Hopalong Cassidy novels under the pen name Tex Burns.
8. A sigmoid curve characterizes this kind of population curve, in which the concept of carrying capacity prevents species from indefinitely multiplying.
9. French city that became a Catholic pilgrimage site after St. Bernadette saw an apparition of Mary in a grotto in 1858.
10. Israeli political party founded in 1973 by Menachem Begin.
11. **(TWO WORD ANSWER)** – 1594 Jacopo Tintoretto painting in which a cat looks into a basket while angels look over the title event.
12. A literary technique in which an affirmative is expressed by stating the negative. For example, a person saying “This is not bad” is an example of this device, since that person means “this is good.”
13. Nation that has been led since 2006 by President Ellen Johnson Sirleaf.
14. The “points” named for this French scientist are a group of five points for any two orbiting bodies where an object can stay in a stable orbit.
15. Marginal sea of the Arctic Ocean that is east of the Severnaya Zemlya archipelago.
16. October 1813 defeat for Napoleon also known as the “Battle of the Nations.”
17. Many characters in operas by Richard Wagner have these “musical phrases” play when they appear. More generally, these are musical themes associated with characters.
18. In a play by Wole Soyinka, Baroka is imagined to be one of these title living things who pursues the “Jewel” Sidi.
19. Water “hovers” over an incredibly hot frying pan and does not immediately boil due to vapor being a “repulsive force” in the effect discovered by this scientist.
20. 1967 Supreme Court case which ruled that laws prohibiting interracial marriage are unconstitutional.

Alphabet Round – Letter L Answers

1. Leda
2. *The Last Battle* (TWO WORD ANSWER)
3. London dispersion forces
4. low-pass filter (HYPHENATED ANSWER)
5. Meriwether Lewis
6. Ladino [do not accept “Latino”]
7. Louis Dearborn L’amour (luh-“MORE”)
8. logistic curve
9. Lourdes (lord), France
10. Likud (lih-KOOD) [or Likud-National Liberal Movement]
11. *The Last Supper* (TWO WORD ANSWER)
12. litotes
13. Republic of Liberia
14. Joseph-Louis Lagrange or Giuseppe Lodovico Lagrangia [accept Lagrange point or Lagrangian point]
15. Laptev Sea [or More Laptevykh]
16. Battle of Leipzig
17. leitmotifs (“LIGHT”-moh-teef) or leitmotivs
18. lion [or *Panthera Leo*; accept *The Lion and the Jewel*]
19. Johann Gottlob Leidenfrost [accept Leidenfrost effect]
20. *Richard Perry and Mildred Jeter Loving v. Virginia*

Lightning Round

1. According to its choreographer, Marius Petipa, this portion of a larger work musically depicts “drops of water shooting like a fountain.” This *pas de deux* (pah dih duh) appears in the third act of a work in which Christine and the title character are entertained by this dance and a similar work about coffee and other suites. Name this dance composed by Peter Tchaikovsky (chye-KOFF-skee) that is a musical number from the ballet *The (*) Nutcracker*.

ANSWER: Dance of the Sugar Plum Fairy [prompt on “*The Nutcracker*” before (*)]

2. These minerals are crushed, then treated with oil and a detergent, then placed in a water bath through which air is bubbled to separate them into their constituents in the process of “froth flotation.” Examples of these minerals include the sulfide cinnabar and magnetite, which contains iron oxide. Tennantite and chalcopyrite are examples of these minerals from which copper is obtained. Name these minerals from which metals are extracted.

ANSWER: ores

3. This politician was the subject of a memoir by his secretary Joseph Tumulty entitled [*this man*] *As I Knew Him*. This president signed the Jones-Shafroth Act, which granted U.S. citizenship to Puerto Ricans. The Underwood Tariff was passed during the tenure of this president, who was elected while serving as Governor of New Jersey. He called for the establishment of Poland and freedom of the seas in his “Fourteen Points.” Name this U.S. president who was elected in 1912 and served during World War 1.

ANSWER: Thomas Woodrow Wilson

4. In one fable by this author, a man decides to go through the “door of favors” so that he can ask a king for permission to search out the title legendary land. This author of *The Tale of the Unknown Island* wrote a novel which opens with a man sitting at a traffic light being unable to drive. In that book by him, the doctor’s wife is the only character who is not stricken with a disease in which the only thing a person can see is “white.” Name this Portuguese author of *Blindness*.

ANSWER: Jose de Sousa Saramago

5. One legend from this country states that the world was created by two boys who became memorialized as the boulders on Mount Conner. The ethnographer Alfred Radcliffe-Brown noted that many legends in this country featured a period of time known as the “Dreaming” in which the known world was created by the Rainbow Serpent. Name this island country whose myths explain the origin of the boomerang and Ayers (“airs”) Rock, the latter of which is in its Northern Territory.

ANSWER: Australia [or Commonwealth of Australia]

6. On this island, a massive iron mining operation was recently opened along the Mary River to the northeast of the Fury and Hecla Strait. A 4,000 foot vertical drop exists at Mount Thor on this island, which was called Helluland by Leif Erikson. Frobisher Bay borders this island’s most populous city, Iqaluit (ee-KAHL-oo-it). The north side of the Hudson Strait borders this island, which is separated from Greenland by a namesake bay. An English explorer is the namesake of what Canadian island that is the world’s fifth largest?

ANSWER: Baffin Island [or Qikiqtaaluk]

7. This scientist used the Latin words *albus*, *rubescens*, *fuscus*, and *niger* (NYE-jeer) to propose a fourfold classification of race. Index cards were invented by this scientist, who proposed a system of timekeeping that would make use of the circadian rhythm of plants. In his short treatise *Systema Naturae* (sih-STEM-uh NATCH-ur-“eye”), this scientist argued that both a genus and a species should be used to identify animals. Name this Swedish botanist who proposed the binomial nomenclature of organisms.

ANSWER: Carl Linnaeus [or Carolus Linnaeus or Carl von Linne]

8. The protagonist of this novel is chastised by her future husband for insulting the spinster Miss Bates. A character in this novel hides his engagement to Jane Fairfax. In this novel, Isabella is married to John and spends much time carrying for her five children; John’s brother George Knightly eventually becomes engaged to the title character, who is a member of the Woodhouse family. Name this novel by Jane Austen that is the only fully-length work of hers to be named for its heroine.

ANSWER: Emma

9. A 1930 coup in this country gave rise to the “Infamous Decade.” This country expanded its borders through the Conquest of the Desert, and in a later conflict they sank the HMS *Sheffield*. Its first female leader, named Isabel, issued “annihilation decrees” during the Dirty War. Cristina Kirchner is a more recently leader of this nation, whose 1982 invasion of a British archipelago sparked the Falklands War. Name this South American nation once led by Evita and Juan Peron (“pair”-OHN).

ANSWER: Argentina [or Argentine Republic or Republica Argentina]

10. This man’s book *The Questions Concerning Liberty, Necessity, and Chance* was a response to the Arminianism of John Bramhall. This man described people who misinterpret the Bible as a “confederacy of deceivers” within the “Kingdom of Darkness.” He called the state of nature “solitary, poor, nasty, brutish, and short” in a work which argues a social contract should be formed so that people are ruled by an absolute monarch. Name this philosopher who wrote *Leviathan* (leh-VIE-uh-thun).

ANSWER: Thomas Hobbes (hobz)

11. Two poems by Johann Goethe (GUR-tuh) inspired a concert overture by this composer which uses trumpets to depict a ship arriving at port; that work is entitled *Calm Sea and Prosperous Voyage*. This composer wrote eight volumes of six songs in his *Songs without Words*. His “Hebrides Overture” was inspired by a visit that led him to also compose the *Scottish Symphony*. Name this Romantic German composer who also composed the ubiquitously heard “Wedding March.”

ANSWER: Felix Mendelssohn [or Jakob Ludwig Felix Mendelssohn-Bartholdy]

12. The “hyper” form of this word denotes a distribution in which objects are selected without replacement. The distribution denoted by this adjective is memoryless and is the discrete analogue of the exponential distribution. In this type of “series,” the ratio of successive terms is a constant, and they are summed if the limit approaches zero. Give this adjective that is used to denote the branch of mathematics that studies shapes.

ANSWER: geometric [accept hypergeometric or geometric series or geometric distribution; accept geometry]

13. One king with this name was nicknamed “Ironhead” during his exile under the care of Ottoman Sultan Ahmed III. Upon his death, Austro-Hungarian Emperor Franz Joseph was succeeded by a man with this name. French king Francis I was (*) captured at the 1525 Battle of Pavia and imprisoned by a monarch with this name, which was used by the king overthrown in the July Revolution of 1830 as the last Bourbon monarch of France. Give this name of the English king executed in the English Civil War.

ANSWER: Charles [accept Charles XII (“the 12th”) of Sweden or Charles I of Austria or Charles IV (“the 4th”) of Hungary or Charles V (“the 5th”) of the Holy Roman Empire or Charles I of Spain or Charles X (“the 10th”) of France or Charles-Philippe or Charles I of England; prompt on “Carl” or “Karl”; prompt on “Carlos” after (*)]

14. One novel by this author takes the form of the journal of Ben Turnbull, who is an insecure real estate broker with serious bladder problems. This author of *Toward the End of Time* wrote a novel set in Brewer, Pennsylvania in which the Vietnam War veteran Skeeter debates with a printing plant operator and former basketball star who ultimately reconciles with his wife, Janice. Name this author who wrote about the “redux” of Harry Angstrom in the sequel to his novel *Rabbit, Run*.

ANSWER: John Hoyer Updike

15. This thinker listed five virtues, including decorum and sincerity, that stem from the “impersonal ego.” According to this thinker, the “Doctrine of the Mean” is the right way between two extremes. He also noted how the “reification of names” dictates that one should use appellations in accordance with the nature of reality. This thinker is said to have authored the *Book of Songs* and the *Spring and Autumn Annals*. The *Analects* contain the teachings of what 5th and 6th century BC religious leader from China?

ANSWER: Confucius

16. This quantity is proportional to a Gaussian for a harmonic oscillator. In the Copenhagen interpretation, observing a system causes it to “collapse.” The Schrodinger equation gives the time dependence of this quantity, which is a probability amplitude describing where a particle might be at a given time. Name these functions which are symbolized (*) *psi* (“sigh”) and represent the state of quantum systems.

ANSWER: wave functions [prompt on “psi” before (*)]; prompt on “function(s)”; do not accept or prompt on “wave(s)”]

17. This city utilized a police force known as the crypteai (crip-“TIE”-uh). One leader of this city who was a member of its Agiad (AA-jee-ud) dynasty initiated the First Messenian War. Its Gerousia (jeh-ROO-“see”-uh) council consisted of 28 men over the age of 60 in addition to its two kings, one of whom was betrayed by Ephialtes (eff-ee-“ALL”-teez) while fighting at the “Hot Gates.” The helots (HEH-luts) were enslaved by members of this city, which sent 300 men to fight Xerxes (ZURK-seez) at the Battle of Thermopylae (thur-MAH-puh-lee or thur-MAH-puh-“lie”). Name this ancient Greek city-state led by Leonidas.

ANSWER: **Sparta** [or **Lacedaemon**]

18. This woman’s daughter Catherine appears in *Steps to an Ecology of Mind*, which is a book by her husband, Gregory Bateson, that discusses the “double bind” theory of schizophrenia. Robin Fox noted that Derek Freeman thought there was a “special place in hell” reserved for this author, who allegedly was “hoaxed” into believing that her subjects were lying about their comfort with menstruation. Name this author who interviewed adolescent girls on the Pacific island of Ta’u (tah-EW) for her book *Coming of Age in Samoa*.

ANSWER: Margaret **Mead**

19. This figure is called “Creation’s mighty principle” in a “hymn” to him by Giosue Carducci (joh-SWEH car-DOO-chee). He is “tired of his dark dominion” and “uprose” on a “starred night” in a poem named for him “in Starlight” by George Meredith. In a 1936 short story, this figure loses a trial against farmer Jabez Stone. In an epic poem, he appears half-immersed in ice, chewing on Brutus, Cassius, and Judas in the ninth circle. Name this figure in the lowest level of Dante’s *Inferno*.

ANSWER: **Satan** [accept **Lucifer**]

20. This painting was likely commissioned to celebrate the wedding of Semiramide Appiano (seh-me-RAH-mih-day AH-pee-on-oh). On the right side of this work, a vine comes out of the mouth of a woman being grabbed around the torso by a figure tinted blue. At the top of this painting, a blindfolded Cupid aims an arrow in the direction of the Three Graces, who stand next to Mercury in a field of wild flowers among an orange grove. Venus is the focal point of what Sandro Botticelli painting set during the title season?

ANSWER: *La Primavera* [or *The Allegory of Spring*]