

2015 OAC States – Round 3

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

Category Round

American Literature: Answer the following about animals in literature.

Team A: What Jack London novel is named for a three-quarters wolf, one quarter dog character that is tamed by Judge Scott?

ANSWER: White Fang

Team B: Jody Tiffin is given the title animal of this John Steinbeck novella, which is set on a California ranch.

ANSWER: *The* Red Pony

Tossup: This author wrote an essay about sensory neurons that are triggered in a lobster as it is being cooked alive in “Consider the Lobster.” Lenore Beardsman, a telephone switchboard operator, is the subject of this author’s first novel, *The Broom of the System*. In another of his novels, the North American countries have joined to become an entity known as O.N.A.N (OH-nahn). That novel, which is partly set at the Enfield Tennis Academy, features such characters as Hal and Avril Incandenza. Name this now-deceased contemporary American novelist of *Infinite Jest*.

ANSWER: David Foster Wallace

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

Team B: What is the dot product of the two vectors that begin at the origin and end at the following points: (3,-3) (“three comma negative three”) and (9,2) (“nine comma two”)?

ANSWER: 21 or twenty-one

Team A: What is the dot product of the two vectors that begin at the origin and end at the following points: (2,7) (“two comma seven”) and (-6,5) (“negative six comma five”)?

ANSWER: 23 or twenty-three

Tossup: **Pencil and paper will not be necessary.** This property is possessed by vectors if the projection from one onto the other yields the zero vector; thus, an analogous form of this property for polynomials exists if the inner product is equal to zero. The outer product returns an object that has this property with respect to the input, and this property is possessed by two vectors if their dot product equals zero. Two lines have this property if the product of their slopes is negative one. Name this property that exists for two lines if their dihedral angle is equal to ninety degrees.

ANSWER: orthogonality or perpendicular [accept either underlined answer]

World History: Name these former Asian leaders.

Team A: What man utilized a system of “guided democracy” during his tenure as the first President of an independent Indonesia, which lasted from 1945 to 1967?

ANSWER: Sukarno [or Soekarno; accept Bung Karno or Pak Karno]

Team B: The All-India Muslim League was led, in part, by what advocate of Pakistani independence who went on to serve briefly as Pakistan’s first Governor-General, from 1947 until his 1948 death?

ANSWER: Muhammad Ali Jinnah [or Mahomedali Jinnahbhai]

Tossup: This leader’s nation was attacked during a conflict that was subsequently investigated by the Agranat Commission; that conflict saw fighting at the Battle of the Chinese Farm. This leader sanctioned an operation that resulted in the assassination of a Moroccan waiter, who was mistaken for Ali Hassan Salameh, in what was dubbed the Lillehammer affair. This leader authorized Operation Wrath of God in response to Black September’s killing of eleven athletes at the 1972 Olympics in Munich. Name this leader who endured the 1973 Yom Kippur War while serving as Israel’s first and only female prime minister?

ANSWER: Golda Meir (mey-EER) [or Golda Meverson or Golda Mabovich]

Fine Arts: Name these composers who were inspired or used themes by Ludwig van Beethoven.

Team B: This composer quoted the G-G-G-E flat motif in Beethoven’s fifth symphony throughout each movement of his *Concord Sonata*. He also composed *Three Places in New England*.

ANSWER: Charles Edward Ives

Team A: Hans von Bulow called this composer’s first symphony “Beethoven’s Tenth”, in part because the theme of its final movement resembles that of the *Choral Symphony*.

ANSWER: Johannes Brahms

Tossup: The theme from the funeral march of Beethoven’s *Eroica Symphony* is quoted near the end of a piece this composer wrote for 23 strings. A wind machine, thunder machine, and twenty horns are part of the score for a tone poem by this composer that has twenty-two sections. In another tone poem by this man, a horn motif depicts the title trickster. Another piece by this composer of *Metamorphosen* and *An Alpine Symphony* features a violin solo in its section “The Dance Song.” This composer’s most famous tone poem ends with the orchestra playing a B and C simultaneously, and that work opens with the trumpet playing a rising C-G-C motif. Name this German composer of *Till Eulenspiegel’s Merry Pranks* and *Also Sprach Zarathustra*.

ANSWER: Richard Georg Strauss (REEK-hart shtrouse) [prompt on “Strauss”]

Life Science: Answer the following about inflammation.

Team A: Inflammation caused by the immune response can cause this effect, in which blood vessels widen.

ANSWER: vasodilation or vasodilatation [accept word forms]

Team B: The swelling that accompanies inflammation is known by this term.

ANSWER: edema

Tossup: Bright's disease is an older name for inflammation of this organ. Failure of the lungs and this organ can occur when it is attacked by antibodies in Goodpasture syndrome. The Bosniak classification scheme is used for cysts within this organ. The functionality of this organ can be measured through a creatinine test. A protein synthesized by JG cells in this organ acts with angiotensin to regulate blood pressure. This organ produces renin, and inflammation of this organ often occurs in the glomerulus. In cases of this organ's failure, a patient can be hooked up to a dialysis machine. Name this organ, whose functional units are called nephrons.

ANSWER: kidneys

English / World Literature: Give the following related to the mentioning of seasons in literature.

Team B: What author imagined "Diana [that] haunts the forest shade" in his poem "Summer"? He also satirized the doggerel of Lewis Theobald in *The Dunciad* (DUN-see-ad).

ANSWER: Alexander Pope

Team A: What 1819 poem, which was written by the author of the unfinished poem *The Triumph of Life*, ends with the seasonally-inspired line "If Winter comes, can Spring be far behind"?

ANSWER: "Ode to the West Wind"

Tossup: A poem by this author named for a season describes a figure "sitting careless on a granary floor" and is addressed to a "Season of mists and mellow fruitfulness." This author addresses "Happy, Happy boughs" in another poem which asks "who are these coming to the sacrifice?". That *ekphrasis* (eck-FRAH-sis) by this author describes a certain artwork that is "brede ("breed") of marble men and maidens overwrought with forest branches." That poem by this man ends with the line "Beauty is truth, truth beauty." Name this English poet who authored "To Autumn" and "Ode on a Grecian Urn."

ANSWER: John Keats

American Government / Economics: Give the following related to New Deal programs.

Team B: The Supreme Court case *Schechter Poultry Corporation v. U.S.* partially struck down the legislation that formed this New Deal agency, whose motto was “we do our part.”

ANSWER: National Recovery Administration or NRA

Team A: This 1935 legislation, which was sponsored by a New York Senator, sought to increase the rights of employees by legally allowing the organization of labor unions and collective bargaining, among other things.

ANSWER: National Labor Relations Act [or NLRA or Wagner Act]

Tossup: This man’s presidential aspirations were damaged by the revelation of the so-called “Guru letters” between him and Nicholas Roerich. Economist John Kenneth Galbraith claimed that this man was “second only to Roosevelt as the most important figure of the New Deal.” In one election, Idaho Senator Glen Taylor was his vice presidential running mate. Nine years after his father died while serving in the position, this man became Secretary of Agriculture, which he would hold for the first seven years of FDR’s presidency. This Progressive Party presidential candidate in the Election of 1948 rose to his highest government position as the successor to John Nance Garner. Name this Iowa politician who served from 1941 to 1945 as FDR’s second vice president.

ANSWER: Henry Agard Wallace

Physical Science: Give the following related to phases of matter.

Team B: The cholesteric (kuh-LES-ter-ik) phase and nematic (nee-MAT-ik) phase are two phases of what phenomena, which exhibit long range order despite being fluid and are often used in TV displays?

ANSWER: liquid crystals [or LCs; accept liquid crystal displays or LCDs; do not prompt on partial answers]

Team A: What phase of matter, partly named for an Indian physicist, was first created by cooling rubidium and is modeled by the Gross-Pitaevskii (“gross” pih-TAYF-skee) equation?

ANSWER: Bose-Einstein condensates [accept BECs; prompt on “condensate”]

Tossup: The entropy of a system in this phase is partly given by the Sackur-Tetrode equation. In statistical mechanics, Maxwell modified the Boltzmann distribution to explain the behavior of particles in this state of matter. Fugacity can be described as the tendency of a molecule in this phase to escape. The root-mean-square-speed of these substances can be derived if one makes the assumption that the kinetic theory of these substances is true. Name this state of matter in which particles move freely, one example of which is atmospheric oxygen.

ANSWER: gas

Geography: Name these non-American states.

Team A: Henry the Fowler was the 10th century duke of a medieval duchy sharing its name with this modern-day German state, which borders the northwest part of the Czech Republic and contains the cities of Leipzig and Dresden.

ANSWER: Free State of Saxony [or Freistaat Sachsen; do not accept “Saxony Anhalt” or “Lower Saxony”]

Team B: Kota Kinabalu is the capital of this Malaysian state which is located on the northeast part of the island of Borneo.

ANSWER: Sabah

Tossup: The Wellesley Islands are off the coast of this state, and part of its southern border is formed by the Dumaresq and Macintyre Rivers. Moreton Bay borders the capital of this state, which attracts many tourists to its city of Cairns. This state is located along the south side of the Torres Strait. Its Cape York Peninsula borders the eastern shores of the Gulf of Carpentaria. The north part of the Great Dividing Range is in this state, whose eastern coastline borders the Great Barrier Reef. Brisbane is the capital of what second largest Australian state that was named in honor of British monarch Victoria?

ANSWER: Queensland

American History: Name these Native Americans.

Team B: Guyasuta fought alongside this Ottawa chief in a 1763 to 1766 rebellion against British rule that saw this man unsuccessfully besiege Fort Detroit.

ANSWER: Pontiac [or Obwandiyag; accept Pontiac’s rebellion]

Team A: As chief of the Wampanoag tribe, this son of Massasoit led a war against English colonists that was ended by the 1678 Treaty of Casco Bay.

ANSWER: Metacomet [or King Philip of Pokanoket; accept King Philip’s War or Metacom’s War or Metacomet’s War]

Tossup: William Hull was court-martialed in the aftermath of a military victory for this man and Isaac Brock that was accomplished by marching his troops in circles. This leader initiated two confrontations at Grouseland in the city of Vincennes (vin-SENZ) to show his opposition to the Treaty of Fort Wayne. This victor at the Siege of Detroit was supposedly killed by future vice president Richard Johnson. This leader’s brother, Tenskwatawa, who was known as “The Prophet”, was defeated by William Henry Harrison at the Battle of Tippecanoe two years before this man’s death. Name this Shawnee leader who was killed in the Battle of the Thames (temz) during the War of 1812.

ANSWER: Tecumseh [or Tecumtha or Tekamthi]

Alphabet Round – Letter U

1. **(MULTI-WORD ANSWER)** – Giuseppe Garibaldi led a volunteer military unit in this 19th century conflict which pitted members of the Colorado Party against those of the National Party.
2. **(MULTI-WORD ANSWER)** – This aria, perhaps the most notable from *Madame Butterfly*, begins with Madame Butterfly singing that it is going to be a beautiful day, as a ship will appear in the harbor.
3. At Bell Labs, Ken Thompson and Dennis Ritchie developed this piece of technology that was extended by Linus Torvalds. It is typically accessed using a command-line interface.
4. In *The Love Song of J. Alfred Prufrock*, Prufrock asks “Do I dare disturb” this entity, before noting “In a minute there is time, for decisions and revisions, which a minute will reverse.”
5. James Freeman was an early American minister of this Christian denomination which teaches that God is one individual and distinct from Jesus, who was not divine.
6. **(TWO WORD ANSWER)** – International organization which was formulated at the Dumbarton Oaks Conference.
7. In finance and law, this is the process of evaluating the risks of issuing an insurance plan and using that information to set premium pricing for insurance policies.
8. **(TWO WORD ANSWER)** – Type of motion in which the velocity is constant, but since the direction is always changing there is a non-zero acceleration; in fact the acceleration for this kind of motion is equal to “ v^2 / r ”.
9. In this Edgar Allan Poe poem, the narrator’s soul strolls through a “ghoul-haunted woodland” on Halloween and finds the title character’s grave.
10. Northern Ireland consists of six of the nine present-day counties that made up this northernmost, historical province of Ireland.
11. The muse of astronomy in Greek mythology.
12. Musical term for when multiple parts play the same notes and rhythms.
13. This crescent shaped island, with a capital at Amaurot, is described in a “golden book” that appeared in 1516.
14. Nation which was the site of the 2004 Orange Revolution.
15. **(HYPHENATED ANSWER)** – The Hokusai series *Thirty-six Views of Mt. Fuji* is an example of this artistic style of woodblock printing whose name is Japanese for “pictures of the floating world.”
16. **(TWO WORD ANSWER)** – Smallest repeating portion of a crystal lattice.
17. **(MULTI-WORD ANSWER)** – A young woman named “Jackie” was interviewed for a 2014 *Rolling Stone* article written by Sabrina Erdely about the problem of unprosecuted college rapes at this institution.
18. “It must be set within 24 hours”, “It must focus on a single plot”, and “it must take place in the same setting” are the three components of what aesthetic principle introduced by Aristotle in his *Poetics*?
19. **(TWO WORD ANSWER)** – Harriet Tubman is best remembered for her role in this 19th century network which was used to help escaped slaves flee to northern free states or Canada.
20. **(TWO WORD ANSWER)** – Phenomenon that causes thymine dimers and is used to measure DNA concentration.

Alphabet Round – Letter U Answers

1. Uruguayan Civil War (MULTI-WORD ANSWER)
2. Un Bel Di (MULTI-WORD ANSWER)
3. Unix
4. universe
5. Unitarianism or Unitarian Church
6. United Nations (TWO WORD ANSWER)
7. underwriting [accept word forms]
8. uniform circular motion (TWO WORD ANSWER)
9. “Ulalume”
10. Ulster [or Ulaidh]
11. Urania
12. unison
13. Utopia
14. Ukraine [or Ukravina]
15. ukiyo-e (HYPHENATED ANSWER)
16. unit cell (TWO WORD ANSWER)
17. University of Virginia (MULTI-WORD ANSWER)
18. classical unities or three unities or Aristotelian unities
19. Underground Railroad (TWO WORD ANSWER)
20. ultraviolet light or UV light or ultraviolet radiation or UV radiation (TWO WORD ANSWER)

Lightning Round

1. This author wrote about a statue that gives away its various valuables in one of his fairy tales. This author of “The Happy Prince” imagined the artist as a Christ figure in a long letter addressed to Alfred Douglass. One of his poems notes that a “bitter look”, a “flattering word”, a “coward[’s] kiss”, and a “brave man[’s] sword” are the ways in which “each man kills the thing he loves.” Name this Irish author of “De Profundis” who, while imprisoned, wrote “The Ballad of Reading Gaol (RED-ing “jail”)”.

ANSWER: Oscar Fingal O’Flahertie Wills **Wilde**

2. In Celtic myth, Bran the Blessed is symbolized by this animal, to which his name translates. In a Native American myth, one figure with the name of this animal finds humanity by opening up seashells. In one myth, an old man is convinced to open the box that contains all of the world’s light by a god with the name of this animal; that god, like the Coyote, is a trickster. Two of these (*) birds fly around the world and gather information for Odin. Huginn and Muninn are mythical examples of what black bird?

ANSWER: **raven** [prompt on “bird” before (*); do not accept “crow”]

3. Many who were killed in connection with this event were commemorated by an Albert Weinert sculpture unveiled at Waldheim Cemetery. A Samuel Fielden speech immediately preceded this event, which began with the death of Mathias Degan. August Spies was one of four men executed following this event, while three others who were convicted were pardoned by John Peter Altgeld in 1893. Name this 1886 event in which a bomb was thrown at police during a labor rally at a Chicago square.

ANSWER: **Haymarket** Square **riot** [or **Haymarket affair** or **Haymarket massacre** or **Haymarket protest**; prompt on “Haymarket” or “Haymarket Square”]

4. The pressure difference between two fluids is related to this quantity in the Young-Laplace equation. This quantity, measured in dynes per centimeter, can be lowered by detergents. Along with adhesion, it is the driving force behind capillary action and the formation of a meniscus. Name this phenomenon observed in liquids where molecules have strong cohesive forces.

ANSWER: **surface tension**

5. Gustav Mahler’s symphony of this number begins with a funeral march that opens with a trumpet solo and includes a famous fourth movement “adagietto.” Dmitri Shostakovich’s symphony of this number was subtitled “A Soviet Artist’s Response to Just Criticism.” A half cadence always ends on a chord of this number. A piece written for this many performers contains variations on the lieder “Die Forelle” (dee for-ELL-uh). Name the number of people in a quintet.

ANSWER: **five**

6. This poem describes a place where “the bull advances to do his masculine work” and the “geese nip their food with short jerks.” Its 51st stanza describes a “past and present [that] wilt” and features a speaker who states “I am large, I contain multitudes.” This poem begins by noting “every atom belonging to me as good belongs to you”, and it features a man who uses his “barbaric yawp over the roofs of this world.” Name this long poem by Walt Whitman that is about himself.

ANSWER: “**Song of Myself**”

7. This man’s mania for Greek culture led him to name his son and daughter Agamemnon and Andromache (an-DRAH-muh-kee), and he baptized them by placing a copy of *The Iliad* on their foreheads. He made his most notable discovery at the site of Hissarlik, where he excavated the remains of an ancient city and discovered the Treasure of Priam. Name this 19th century German businessman and amateur archaeologist who discovered Troy.

ANSWER: Heinrich **Schliemann** (SHLEE-mihn)

8. This nation entered World War I during the presidency of Venceslau Bras (VEN-sih-slau boss). The Piratini Republic declared its independence from this nation during the Ragamuffin War shortly after its king abdicated in 1831. Getulio Vargas ruled during its Estado Novo period, and its monarchy was ended in 1889 with the deposition of Pedro II (the second). Pedro I (the first) declared the 1822 independence of what former Portuguese colony currently led by President Dilma Rousseff, who succeeded Luiz Lula da Silva?

ANSWER: Federative Republic of **Brazil** [or Republica Federativa do **Brasil**]

9. A drug used to treat this disease is trastuzumab, which is an antibody that blocks the HER2 (“her” “two”) receptor. Hereditary mutations in BRCA1 and BRCA2 genes give an increased risk for this type of (*) cancer. Depending on where it originates, this cancer comes in ductal or lobular types. In some cases, it can only be treated with a mastectomy. Name this type of cancer that can be detected in a mammogram.

ANSWER: **breast cancer** [accept **breast** by itself after (*); prompt on “cancer” before (*)]

10. In the background of one painting by this artist, a woman with a dress slung over her shoulder stands next to a girl who kneels while rummaging through a chest. Another painting by this artist shows one of three cupids riding a large fish at the feet of the title woman, who lies atop a swimming bull. In his best known painting, a dog is curled at the feet of a woman who holds flowers while reclining nude across a bed. Name this 16th century Venetian school painter of *The Rape of Europa* and *Venus of Urbino*.

ANSWER: **Titian** (TEE-shun) [or Tiziano **Vecelli** or Tiziano **Vecellio**]

11. One of the main islands in this archipelago can only be legally accessed by volunteering with a government group which clears that island of unexploded ordnance. The nene (nay-nay) is an endemic bird to this archipelago that contains the island of Kahoolawe (kah-HOH-oh-LAH-way). This archipelago, formerly known as the Sandwich Islands, saw Father Damien aid a leper colony on its island of Molokai. Mauna Kea is the highest point on what Pacific archipelago that contains the islands of Oahu (oh-AH-hoo) and Maui (MOW-ee)?

ANSWER: **Hawaiian Islands** or **Hawai’i**

12. One character created by this author reads about the League of the Divine Wind and tries to bring a “Showa Restoration” back to his country. This author, who created Isao Iinuma (EE-say-oh ih-EE-new-muh) in *Runaway Horses*, wrote a novel about the mentally challenged neophyte Mizoguchi, who ends up burning down the title structure. Name this Japanese author who wrote *The Temple of the Golden Pavilion* and the *Sea of Fertility* tetralogy.

ANSWER: Yukio **Mishima** [or Kimitake **Hiraoka**; accept names in either order; prompt on “Yukio” or “Kimitake”]

13. This scientist discovered the method of least squares, which he used to track Ceres after it was lost by astronomer Giuseppe Pazzi. The inverse of the square root of two pi is multiplied by e in the formula for his namesake distribution. As a youth, he apocryphally quickly summed an arithmetic sequence using a formula he derived. Name this German mathematician who gives his name to the normal distribution.

ANSWER: Johann Carl Friedrich **Gauss** (gowss) [accept **Gaussian** distribution]

14. One text of this religion, the *Kitab-i-Aqdas* (KIH-tahb ee AK-dahss), or *The Book of Laws*, answers questions given by Zaynul-Ábidín to Shoghi Effendi. Its main text is called the *Book of Certitude* and was authored by a follower of the Bab. Prophets in this religion include Moses, Jesus, and the Buddha, and its main institution, the Universal House of Justice, can be found in Haifa, Israel. Name this syncretic religion that was founded by Baha’u’llah (bah-hah-UL-luh).

ANSWER: **Baha’i** (buh-“HI”) [or **Baha’ism**]

15. This man’s “testament” was first posthumously published by Max Eastman in a book entitled *Since [this man] Died*. He called for the seizure and redistribution of private property with his Decree on Land, which was issued shortly before he created the secret police organization Cheka. This leader authored his April Theses while traveling out of Switzerland on a sealed train; shortly thereafter, he came to power amid the October Revolution as the leader of the Bolsheviks. Name this first Soviet leader who was succeeded in 1924 by Joseph Stalin.

ANSWER: Vladimir Ilyich **Lenin** [or Vladimir Ilyich **Ulyanov**]

16. This philosopher compared the mind to a bird cage in a work that eventually supposes knowledge is justified true belief. One of his works describes a soldier who comes back to life and relates the “myth of Er.” This author of *Theaetetus* (THEE-uh-TEE-tuhs) wrote about the nature of piety in a work named for the slave Euthyphro (“YOU”-thee-froh). The fable of the Ring of Gyges (“GUY”-jeez) is presented in another of his books that presents the allegory of the cave. Name this ancient philosopher who wrote many dialogues in which (*) Socrates was an interlocutor, one of which was *Republic*.

ANSWER: **Plato** [or **Platon**; accept **Socrates** before (*)]

17. This man disdained Lord Elgin for removing statues from the Parthenon in his long poem *The Curse of Minerva*. Revenge and misery characterize this man's type of hero, which is exemplified by the protagonists of his poems "The Giaour" (JOW-er) and "Manfred." In one poem he compared the title action to "the night of cloudless climes and starry skies", and he wrote an epic satire in seventeen cantos about a libertine in Seville who is sold into slavery in Constantinople. Name this author of the poems *Don Juan* and "She Walks in Beauty."

ANSWER: George **Gordon Noel**, Lord **Byron** [accept any underlined name]

18. One fantasy on this work was made by Pablo de Sarasate (SAIR-uh-saht-ay), a noted violinist of the Romantic era. Its third act, which is set in the mountains, features Frasquita and Mercedes reading fortunes about each other. This opera was based on a novella by Prosper Merimee (MAIR-uh-may), and it is named for a woman who was killed by Don Jose, a corporal of dragoons. In act two, the bullfighter Escamillo sings this opera's Toreador Song. Name this opera by Georges Bizet (bee-ZAY).

ANSWER: **Carmen**

19. If the principal quantum number of an electron is four, then this is the highest possible azimuthal quantum number. Henri Poincare showed that finding a general solution to the problem of this many number of bodies was intractable. The square of the orbital period of a planet is proportional to the cube of the semi-major axis according to Kepler's law of planetary motion of this number. Give this amount which identifies the total number of p orbitals as well as the total number of Kepler's laws.

ANSWER: **three** [accept Kepler's **third** law of planetary motion]

20. Early in this conflict, one side created a flag depicting a cannon and the words "Come and Take It." One battle in this war began with Deaf Smith burning Vince's Bridge. James Fannin and his troops were executed during a massacre in this war, which was ended by the Treaties of Velasco. "Remember Goliad" was a rallying cry during its final battle, the Battle of San Jacinto. During this war, Jim Bowie and Davy Crockett were killed while defending the Alamo. Name this 1835 to 1836 conflict in which a future U.S. state broke away from Mexico.

ANSWER: **Texas Revolution** or **Texas War of Independence** [or **Texan Revolution** or **Texan War of Independence**]