

Round 1

2015 Potatoville Varsity

Alston Boyd • B. Alan Smithee • Alec Krueger • Kevin Jiang • Kristin A. Strey
Franz Varga • Tyler Vaughan • Shreyas Vissapragada • Andrew Wang • Michael H. Wong

Tossups

1. **It's not Mollusca, but *A. luminosa* uses one of this phylum's osmoregulatory systems for bioluminescence; that system is composed of Malpighian tubules [mal-FIH-jee-an tubules]. Chelicerates [cheh-lih-ser-ates] are members of this phylum, and a class in this phylum has stacked plate-like structures called (*) book lungs, which fill with hemolymph. Arachnids are members of this phylum, which is characterized by exoskeletons made of chitin [KYE-tin]. Trilobites are members of, for 10 points, what phylum that includes insects and crustaceans?**

Answer: Arthropoda (or Arthropods)

2. **In one of this author's works, two characters discuss the "Jesus Prayer" taught to them by Buddy and the "Fat Lady" invented by their deceased brother. In the same work by this author, a title character shows "The Way of the Pilgrim" to her boyfriend, Lane Coutell, after finding it in (*) Seymour Glass's room. This author of *Franny and Zooey* created the brother of Allie and Phoebe who is expelled from Pencey Prep. For 10 points, name this creator of the phony-hating Holden Caulfield, the author of *The Catcher in the Rye*.**

Answer: J(erome) D(avid) Salinger

3. **The Burghal Hidage is a series of fortifications planned by this man. This brother of Ethelred I [the first] won the battles of Ashdown and Edington, which led to the christening of King Guthrum. This ruler was defeated at the Battle of Reading [RED-ding], and his life was chronicled by Bishop (*) Asser. He created a code of laws known as The Doom Book and unified Anglo-Saxon lands. For 10 Points, name this King from Wessex, the only English king known as "the Great."**

Answer: Alfred the Great

4. **The Shockley diode equation for this quantity references its "reverse saturation" variety. In the phasor diagram for a capacitor, this quantity leads the voltage by 90 degrees. When constructing a Norton circuit, one must first compute the equivalent output of this quantity, and magnetic fields are generated by this quantity according to the (*) Biot-Savart Law. The sum of this quantity in every constituent of a junction is zero in Kirchhoff's Junction Rule, and voltage equals resistance times this quantity in Ohm's Law. For 10 points, name this quantity, the rate of the flow of electric charge measured in amperes and symbolized I.**

Answer: electric current

5. **This band sings, "He was the congregation's vagrant / with an unrequited love" in their song "Memories." In another song, they ask "Don't you see I'm the narrator, and this is just the prologue." "Stop there and let me correct it / I want to live a life from" this band's title "New Perspective." In a song from their album *A* (*) *Fever You Can't Sweat Out*, the singer says, "technically our marriage is saved" while "pacing the pews in the church corridor" and asks "haven't you ever heard of closing" the door? For 10 points, name this band of "I Write Sins Not Tragedies."**

Answer: Panic! at the Disco

6. Two characters in this novel bribe an officer with cigars so they can ride a train together; earlier, one of them, Kropp, swims with Leer and this novel's protagonist across a canal to meet up with three French women. The bed-wetting Tjaden [TYAH-deh] also appears in this novel's sequel, *The (*) Road Back*. Franz Kemmerich [KEH-mehr-ick] gives his boots to Müller after losing a leg in this novel, and the school-teacher Kantorek convinces the protagonist to enlist in the German army. A piece of shrapnel hits Kat's head while he is being carried by Paul Baumer in, for 10 points, what World War I novel by Erich Maria Remarque ["Eric Maria" ray-MARK]?

Answer: All Quiet on the Western Front

7. This architect designed a mile-high skyscraper that would have used atomic powered elevators. He designed an L-shaped building to create a garden within a confined space; that building, the Jacobs House, was this architect's first Usonian [yoo-SOH-nee-an] style home. After his cook committed arson and mass murder in this man's home, he designed an (*) Arizona building named Taliesin West [taa-lee-eh-sin west]. This man used cantilevered platforms in a home for Edgar Kaufmann that extends over Pennsylvania's Bear Run River. For 10 points, name this American architect who designed Fallingwater.

Answer: Frank Lloyd Wright (accept Frank Lincoln Wright)

8. One side in this battle held the Balcarres Redoubt, but later lost the nearby Breymann Redoubt. An unnamed monument of a boot is located at the site of this battle. Timothy Murphy was one of Daniel Morgan's riflemen at this battle, who mortally wounded Simon Fraser. It included a failed attempt to take (*) Freeman's Farm, and during this battle, the Americans fought at Bemis Heights. William Howe was not able to bring reinforcements to this battle, which saw Benedict Arnold get shot in the foot. For 10 points, name this battle won by Horatio Gates, considered the turning point in the American Revolution.

Answer: Battle of Saratoga

9. This element was observed for the first time in the Sun's D₃ [D-3] spectral lines. The "fountain effect" was observed in one form of this element. A Rollin film can form on the superfluid form of this element. When three of this element's nuclei [noo-clee-"eye"] collide in stars, carbon is formed, and nuclei of this element are (*) alpha particles. This element is used to cool superconducting magnets because it has the lowest boiling point on the periodic table, and this gaseous element is the second most abundant element in the universe. For 10 points, name this noble gas sometimes used to give balloons lift, with chemical formula He [H-E].

Answer: helium (accept He before it is read)

10. This artist created a *Monument to Victor Hugo* for Paris's Panthéon [pahn-tay-OHN]. One of this sculptor's works includes three identical nude men all looking at the ground. This sculptor of *The Three Shades* was accused of casting from a live model in *The (*) Age of Bronze*, and he depicted six martyrs of the Hundred Years' War in *The Burghers of Calais*. The *Divine Comedy* inspired this man's depiction of Paolo and Francesca da Rimini in *The Kiss*, which was part of his enormous *Gates of Hell*. For 10 points, name this French sculptor of *The Thinker*.

Answer: (François)-Auguste-(René) Rodin

11. This novel's narrator dreams that he is persecuted by Jabez Branderham, and Isabella gives birth to her son in London after the death of her sister-in-law. One character's diary relates her frustration with her brother's wife, Frances, and the servant Joseph sets his dogs on this work's narrator, who is saved by (*) Zillah. Lockwood rents Thrushcross Grange, which was once owned by Edgar Linton, in this novel, which sees Hindley abuse his adopted brother. Nelly Dean describes the death of Catherine Earnshaw in, for 10 points, what novel about the wild Heathcliff, written by Emily Brontë?

Answer: Wuthering Heights

12. **This deity committed suicide after he was tricked by his rival into sleeping with a celibate priestess. A form of this deity represented the cardinal directions; that was the wind god Ehecatl. At the beginning of the fifth cycle, this deity mixed his blood and bones of humans from (*) Mictlan [meek-tlon] to repopulate the Earth with humans. This brother of the “evening star,” Xolotl, [zah-lah-tul] often clashed with his nemesis, the “smoking mirror” Tezcatlipoca [tet-skah-tlee-poh-kah]. For 10 points, name this feathered serpent deity worshiped by the Aztecs.**

Answer: Quetzalcoatl [ket-sal-koh-ah-tul]

13. **Fosters of Lincoln was commissioned to make the first one of these, named Little Willie. Hobart’s Funnies, such as the Churchill Crocodile, were modified versions of this weapon meant for amphibious crossings. During the Winter War, Finnish soldiers invented the (*) Molotov Cocktail to counter these. The Soviet Union mass-produced the T-34 type of these vehicles to counter German Panzer divisions. For 10 points, name these armored military vehicles.**

Answer: tanks (accept Churchill Tanks; accept Main Battle Tank or Medium Tank; prompt on “Little Willie” before it is read)

14. **This thinker determined that animism and naturism are derived from totemism in a work that classifies the “sacred” as the unifying principle of all religions. In another work, this author contrasted organic and mechanical solidarity and coined a term for the breakdown of norms. This author of (*) *The Elementary Forms of the Religious Life* and *The Division of Labor in Society* found that soldiers are more likely than civilians, and Protestants are more likely than Catholics, to commit the title action, which was divided into egoistic, altruistic, fatalistic, and anomic types. For 10 points, name this Frenchman who revolutionized the study of sociology with his work *Suicide*.**

Answer: (David) Emile Durkheim

15. **In one of this composer’s works, Schlendrian threatens to withhold a “silver or gold ribbon” from his daughter Lieschen if she cannot give up a drink “smoother than muscatel wine.” This composer of the “Coffee Cantata” used a theme given to him by Frederick the Great as the basis for *The Musical Offering*. (*) Glenn Gould specialized in this composer’s works, which include a set dedicated to Christian Ludwig, the *Brandenburg Concertos*, and a book of fourteen pieces that feature several voices in counterpoint. For 10 points, name this Baroque composer of *The Well-Tempered Clavier* and *The Art of Fugue*.**

Answer: Johann Sebastian Bach (prompt on “Bach,” “J. Bach,” or “Johann Bach”)

16. **In a novel from this country, a group of teenagers are barricaded in a rural town during World War II. In another novel from this country, an expert on Western ballet goes to the title region for its hot springs. In an early novel set in this country, the chapter “Vanished into the Clouds” is left (*) blank to signify the death of the title character. *Nip the Buds, Shoot the Kids* and *Snow Country* are set in this island nation, which is home to Yasunari Kawabata. For 10 points, name this home nation of Lady Murasaki, the author of *The Tale of Genji*.**

Answer: Japan (accept Nippon-koku or Nihon-koku)

17. **This function's Maclaurin expansion begins “x minus x cubed over 3 factorial.” The cardinal form of this function divides it by x; that function has a limit of one as x approaches zero, which is often proved using the squeeze theorem. A law named for this function equates the (*) ratios of side lengths to this function of angle measures. This function, the reciprocal of cosecant, is equal to one minus cosine squared. For 10 points, name this trigonometric function that, in a right triangle, gives the ratio of the side opposite the angle to the hypotenuse.**

Answer: sine

18. **Though not Colorado, the southern part of this state contains Shawnee National Park, home to the Garden of the Gods and the Little Grand Canyon. This state is home to the Cahokia tribe, and it won a case that allowed it to regulate maximum rates for grain elevators and warehouses. One governor of this state protested against President Grover Cleveland’s use of federal troops in the (*) Pullman Strike. That governor, John Peter Altgeld, pardoned the anarchists involved in the killing of seven policemen in the Haymarket Square Riot. For 10 points, name this state bordered to the north by Wisconsin, whose capital is at Springfield.**

Answer: Illinois

19. During World War II, this country passed The National Resources Mobilization Act, which allowed conscription into its armed forces. War Plan Red was a plan to invade this country by the United States. During a joint operation with the CIA, (*) six American diplomats were freed in a mission known as “this country’s” caper. One Prime Minister of this country declared, “Just watch me” in response to the October Crisis. That Prime Minister, Pierre Trudeau, helped defeat the Quebec Referendum. For 10 points, name this country, America’s northern neighbor.

Answer: Canada

20. In Baha’i, this figure is compared to the Báb as part of an early “twin manifestation” of God. This man’s father was made mute until he wrote this prophet’s name. He spoke against the wife of Philip and Herod, who persuaded her daughter, (*) Salome [saa-loh-may], to request this man’s head on a platter. This son of Elizabeth and Zechariah is compared to Elijah, and predicted the coming of the Lamb of God. For 10 points, name this New Testament prophet, known for dunking Jesus Christ in the Jordan River.

Answer: Saint John the Baptist (accept Yokhanan ha-Matbil; prompt on “John” or “Yokhanan”)

Bonuses

1. This man's most famous movie is based on Ed Gein. For 10 points each,

[10] Name this man who directed the film *Psycho*, and hosted his own television show entitled "this man" presents.

Answer: Sir (Joseph) Alfred **Hitchcock**

[10] Alfred Hitchcock cast this actress for the leading female roles in *Dial M for Murder* and *Rear Window*. She quit acting after marrying the Prince of Monaco.

Answer: Grace Patricia **Kelly**

[10] This actor starred opposite Grace Kelly in *Rear Window*, and starred in *Mr. Smith Goes to Washington*. He received an Oscar nomination for his role as George Bailey in *It's a Wonderful Life*.

Answer: James Maitland "Jimmy" **Stewart**

2. This hymn, written by Cecil Spring Rice, promises to give "the love that asks no question, the love that stands the test" to the title entity. For 10 points each,

[10] Name this English patriotic song, which was set to music from the fourth part of a seven-movement orchestral suite.

Answer: **I Vow to Thee, My Country**

[10] "I Vow to Thee, My Country" is set to music from "Jupiter, the Bringer of Jollity" from this 1916 suite. It opens with "Mars, the Bringer of War" and ends with "Neptune, the Mystic."

Answer: The **Planets**

[10] This English composer and teacher at St. Paul's School for Girls wrote *The Planets*.

Answer: Gustav Theodore **Holst**

3. This country merged with its eastern neighbor in 1990. For 10 points each,

[10] Name this former European country. In the 1950s, this country underwent the Wirtschaftswunder, or economic miracle.

Answer: **West Germany** (accept **Bonn Republic**; accept **Federal Republic of Germany**; do not accept "Western Germany")

[10] This former Mayor of West Berlin became Chancellor of West Germany in 1969. He resigned as chancellor after discovering that one of his aids was a Soviet spy.

Answer: Willy **Brandt** (accept Herbert Ernst Karl **Frahm**)

[10] Willy Brandt implemented this policy, the warming of relations with East Germany. This policy signaled the reverse of two decades of hostile relations, and was pushed for by the Christian Democrats.

Answer: Neue **Ostpolitik** [noy-uh OHST-politic] (accept **New Eastern Policy**)

4. This autobiography takes its title from a Paul Laurence Dunbar poem. For 10 points each,

[10] Identify this autobiography that takes place in Stamps, Arkansas. It is the autobiography of the poet who read her poem "On the Pulse of Mourning" at Bill Clinton's inauguration.

Answer: **I Know Why The Caged Bird Sings**

[10] This twentieth-century author, who passed away in 2014, wrote "I Know Why the Caged Bird Sings."

Answer: Maya **Angelou** (accept Marguerite Annie **Johnson**)

[10] "I Know Why the Caged Bird Sings" takes its title from this poem by Paul Laurence Dunbar. It describes the frustration within the African American community of having to conceal their true feelings. The title object of this poem "grins and lies / It hides our cheeks and shades our eyes."

Answer: **We Wear the Mask**

5. The function f of x equals one over x has two of these graphical features at x equals zero and y equals zero. For 10 points each,

[10] Give this term for a line that a curve becomes infinitely close to, but does not intersect, as they approach infinity.

Answer: **asymptote** (accept elaborations, such as "vertical asymptote")

[10] This function has infinitely many vertical asymptotes, found at x equals π over 2, plus or minus every integer multiple of this function's period, π .

Answer: **tangent**

[10] This family of sigmoid curves models the spread of disease from rapid spreading until it levels out at saturation. In population modeling, this graph's upper bound is a horizontal asymptote representing the carrying capacity.

Answer: **logistic** curve

6. This man was married to Gorgo. For 10 points each,

[10] Name this king who died in the Second Persian War when Phoenician forces failed to guard a route away from a battle.

Answer: King **Leonidas** I of Sparta

[10] Leonidas died in this battle, where he was one of the "Three Hundred" Spartans who fought at a namesake pass concurrent to the Battle of Artemisium.

Answer: Battle of **Thermopylae**

[10] The Three Hundred were supported at Thermopylae by the Thespians and these Spartan slaves. In the ritual Krypteia, young Spartans were required to kill these people without being caught.

Answer: **Helots**

7. This city is the capital of Khyber Pakhtunkhwa [pok-toon-kwah]. For 10 points each,

[10] Identify this city, where 141 people in a school were killed by the Taliban in December 2014. All seven militants involved were killed during that shooting here.

Answer: **Peshawar**

[10] Peshawar is a city in this country, whose capital is Islamabad.

Answer: **Pakistan**

[10] This Prime Minister of Pakistan vowed to increase military campaigns against the Taliban as a result of the school attack.

Answer: (Mian Muhammad) Nawaz **Sharif**

8. This incremental game was released by Orteil [or-"tie"] on August 10, 2013. For 10 points each,

[10] Name this game which rewards the players for tapping on the title sweet.

Answer: **Cookie Clicker**

[10] These non-playable characters are the second-cheapest cookie producer in the game. Buying the "one mind" upgrade triggers this type of character's namesake apocalypse.

Answer: a **Grandma**

[10] The base cost for this cookie gainer is 1,666,666. It "opens a door to the cookieverse."

Answer: **Portal**

9. In a novel named after this life event, a retired Mexican tycoon tells stories about the Mexican Revolution. For 10 points each,

[10] Identify this life event, which happens to Artemio Cruz in one work, and to the "Old Gringo" at the hands of General Arroyo. In a Tolstoy novel, Anna Karenina experiences this event by throwing herself under a train.

Answer: **death** (accept The **Death of Artemio Cruz**; prompt on "murder" or "suicide")

[10] This Mexican author wrote about the deaths of Artemio Cruz and Ambrose Bierce, the title *Old Gringo* who moves to Mexico to die.

Answer: Carlos **Fuentes** Macías

[10] This other work set in Mexico follows the final days of a Whiskey Priest, who is executed at the end of this Graham Greene novel.

Answer: The **Power and the Glory**

10. This mythical hero slew the Chimera. For 10 points each,

[10] Name this Greek hero who became crippled after being attacked by a gadfly. At the time, he was trying to reach the top of Mount Olympus.

Answer: **Bellerophon**

[10] Bellerophon rode this animal while attempting to scale Mount Olympus. This winged horse was born after Perseus decapitated Medusa.

Answer: **Pegasus**

[10] After Bellerophon's fall, Pegasus was made to carry these items. They were made as a gift by the Cyclops to the person who freed them.

Answer: Zeus' **thunderbolts** (accept reasonable equivalents, such as **lightning bolts**)

11. This figure was born as Siddhartha Gautama, and is also known as Shakyamuni. For 10 points each,

[10] Identify this founder of an eponymous religion.

Answer: Gautama **Buddha**

[10] While meditating under the Bodhi Tree, Buddha understood these statements. They include Dukkha, or "Life is suffering."

Answer: **Four Noble Truths**

[10] This demon attempted to seduce the Buddha with visions of an attractive woman while Buddha was meditating under the Bodhi Tree.

Answer: **Mara**

12. This phenomenon can be modeled by the differential equation $m\ddot{x}$ ["m x double dot"] = $-kx$. For 10 points each:

[10] Name this phenomenon, exemplified by a mass on a spring. Chemical bonds can be thought of as systems undergoing this type of motion.

ANSWER: simple **harmonic oscillation** (accept simple **harmonic motion**)

[10] A frictional force for a mass on a spring can induce this behavior during simple harmonic oscillation, in which oscillations eventually die off. In its critical form, the system stops moving without actually undergoing oscillation.

ANSWER: **damping**

[10] For a mass on a spring, the square root of the spring constant divided by the mass gives this quantity. The acceleration of the mass is then given by negative displacement times this quantity squared.

ANSWER: **angular frequency** (do not accept "frequency" alone)

13. In this play, Edmund is diagnosed with tuberculosis. For 10 points each,

[10] Identify this play about the Tyrone family. It features the morphine addict Mary, along with James and Jamie Tyrone.

Answer: **Long Day's Journey Into Night**

[10] Long Day's Journey Into Night was written by this author. He also wrote about Theodore Hickman in *The Iceman Cometh*.

Answer: Eugene **O'Neill**

[10] In this other Eugene O'Neill play, Yank is sent to prison after Mildred refers to him as a "filthy beast." Yank is crushed to death by a gorilla during this play's conclusion.

Answer: The **Hairy Ape**

14. This politician exercised total control during The Emergency. For 10 points each,

[10] Name this only female Prime Minister of India. While Prime Minister, she went to war with Pakistan in order to secure Bangladeshi independence.

Answer: Indira **Gandhi** (accept **Indira Nehru**, prompt on "Gandhi" alone)

[10] Indira Gandhi authorized this secret nuclear test, the first in India's history.

Answer: **Smiling Buddha** (accept **Pokhran-I**)

[10] Indira Gandhi also authorized Operation Blue Star, an attack on this holy building. As revenge for the attack, she was assassinated by her Sikh bodyguards a few months later.

Answer: The **Golden Temple** at Amritsar (accept **Harmandir** Sahib; accept **Darbar** Sahib)

15. Filtration methods do not work on this type of mixture. For 10 points each,

[10] Give this term for a homogeneous mixture with particle size smaller than that of a suspension or colloid. In many cases, they are comprised of a solute dissolved in a solvent.

Answer: **solution**

[10] A solution that can no longer hold solute due its equilibrium being shifted is known as this. If more of the solid solute is added, it will just precipitate to the bottom of the container in this condition.

Answer: **saturated** solution

[10] An otherwise pure solution can be rid of solid contaminants if it undergoes vacuum filtration, which involves this piece of laboratory glassware and filter paper. The solution drips to the bottom of the container.

Answer: **Buchner** funnel

16. A red barn is over the left shoulder of one of the figures in this painting. For 10 points each,

[10] Identify this painting of a balding farmer holding a pitchfork, and his daughter.

Answer: **American Gothic**

[10] This American regionalist painted *American Gothic*. He also painted three guys in drag in front of Emanuel Leutze's *Washington Crossing the Delaware* in his painting *Daughters of Revolution*.

Answer: Grant **Wood**

[10] This other American regionalist depicted a woman laying in a field in his painting *Christina's World*.

Answer: Andrew **Wyeth**

17. This characteristic of bacteria can be found in the Gram-positive genera *Clostridium* and *Bacillus*. For 10 points each,

[10] Name this tough, outer covering that allows microbes to persist and reproduce through harsh conditions such as heat and UV radiation.

Answer: **spores**

[10] This spore-forming bacterium is endemic to healthcare facilities and causes inflammatory bowel disease and foul-smelling diarrhea. Yellow pseudomembranes in the colon are characteristic of diseases of this bacterium

Answer: **Clostridium difficile**

[10] In addition to rehydration, treating *C. diff* is difficult due to increasing resistance against these medications which are generally derived from soil bacteria. Classes of these medications include penicillin and tetracyclines.

Answer: **antibiotics**

18. The defendant in this case was a member of the Socialist Party who was arrested for sending leaflets urging people to dodge the draft. For 10 points each,

[10] Name this 1919 Supreme Court case, which placed limits on the First Amendment by establishing the "clear and present danger" test.

Answer: **Schenck** v. United States

[10] This Supreme Court justice wrote the unanimous opinion for *Schenck v. U.S.*. Earlier, he wrote that "the Fourteenth Amendment does not enact Mr. Herbert Spencer's Social Statics" in his dissent to the Court's decision in *Lochner v. New York*.

Answer: Oliver Wendell **Holmes**, Jr.

[10] In his decision in the *Schenck* case, Holmes wrote that free speech would not protect a man who caused panic by performing this action.

Answer: falsely **shouting "Fire!"** in a crowded theater (accept any logical equivalent description)

19. In this novel, the dog Karenin dies of cancer. For 10 points each,

[10] Name this novel in which Tomas and Tereza die in a car accident. Tomas has an affair with the painter Sabina in this novel.

Answer: The **Unbearable Lightness of Being**

[10] *The Unbearable Lightness of Being*, and *The Book of Laughter and Forgetting* are novels by this author. He created Ludvig Jahn, who claims "Optimism is the opium of the people" in his novel *The Joke*.

Answer: Milan **Kundera**

[10] Milan Kundera is an author from this nation. Kundera set *The Unbearable Lightness of Being* in this nation during the Prague Spring.

Answer: **Czech** Republic (accept **Czechoslovakia**, as Czech Republic and Slovakia were still united when Kundera was born)

20. This man led the Colonial troops in the American Revolution. For 10 points each,

[10] Name this man who was a general during the French and Indian War and the Revolutionary War. He later became the first President of the United States.

Answer: George **Washington**

[10] George Washington rose to prominence during this man's namesake expedition, during which this man was shot and killed.

Answer: Edward **Braddock**

[10] After the failure of the Braddock expedition, Washington built this fort, named for its urgency, while retreating.

Answer: Fort **Necessity**