

Round 12

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. The speaker of this poem notes “your quaint honour turn to dust/and ashes” and notes that “in thy marble vault, shall sound/my my echoing sound; then worms shall try.” This poem includes such scenery as “Deserts of vast eternity” and the title character by “the Indian Ganges’ side.” The speaker of this poem sets aside a hundred years to look at the title character’s forehead and eyes. In this poem, “Vaster than empires and more slow” the speaker’s (*) “vegetable love should grow.” If the title character refuses, the speaker will continue “Til the conversion of the Jews”, and the speaker hears “Time’s winged chariot hurrying near.” For 10 points, name this poem that begins “Had we but world enough and time”, a poem by Andrew Marvell.

Answer: To His Coy Mistress

2. One proposed plan to do this was led by Colonel Hans Oster. Another plan to do this was planned by the Schwarze Kapelle, which involved a pencil detonator. That pencil detonator did not set off the bomb, and thus Operation Spark failed to do this. Rudolf von (*) Gersdorff and Eberhard von Breitenbuch both attempted or planned to do this, but neither succeeded. Claus von Stauffenberg was one of the leaders of the July 20th plot to do this in 1944. For 10 points, name these attempts to end the life of the leader of the Third Reich.

Answer: Attempts to Assassinate Adolf Hitler (accept word forms of "assassinate" and obvious equivalents for "assassinate" like "kill", prompt on partial answers)

3. This religion’s holy book contains a joint statement from its “three witnesses,” whom the “Salt Sermon” of Samuel Rigdon attacked. In this religion, Kolob is the closest star to God’s throne, and the Book of Abraham is part of its Pearl of Great Price. Martin Harris helped its founder translate the plates of Nephi from (*) “reformed Egyptian.” The angel Moroni gave the golden plates to this religion’s founder, and Brigham Young led this religion after the death of its founder, Joseph Smith. For 10 points, name this religion centered in Salt Lake City, Utah, which no longer practices polygamy.

Answer: Mormonism (accept Church of Jesus Christ of Latter Day Saints)

4. Troops from this country massacred thousands of secessionist at the Wagalla Airstrip. That massacre was part of the larger Shifita War which was fought to maintain control of this country’s Northern Frontier District. During World War I the Carrier Corps was formed in this country in an attempt to defeat (*) Paul von Lettow. Dedan Kimathi and General China fought the British in this country’s Mau Mau Rebellion. Earlier the British had built a railroad in this country which links the city of Mombassa to the Ugandan interior. For 10 Points, name this country whose first president was Jomo Kenyatta.

Answer: Republic of Kenya

5. Richard Price was an early proponent of this theorem, which is explained using a strange pair of underwear and a question of a cheating spouse in "The Signal and the Noise." It allows new information to "update" the likelihood that an event occurred, specifically as a formula relating the probabilities of events and their (*) conditional probabilities. For 10 points, name this theorem, named for an English minister and mathematician, whose formula notes that the probability of A given B is proportional to the probability of A times the probability of B given A.

Answer: Bayes's Theorem

6. This work uses a chorale to introduce the concept of “Eternal Womanhood,” as represented by a soprano “penitent.” This work includes a lyric setting of the text *imple suprema gratia*, which precedes a soprano solo. This work by the composer of (*) “The Song of the Earth” is divided into two parts: a setting of the *Veni creator spiritus* and a setting of the final scene of Goethe’s *Faust*. This nearly 90-minute long symphony finishes with the reintroduction of the offstage brass choir, which joins a large orchestra and two choruses for this work. For 10 points, name this eighth symphony of Gustav Mahler, nicknamed for the massive number of performers it requires. Answer: **“Symphony of a Thousand”** (accept Mahler’s Symphony No. 8 in E-flat major until “eighth” and prompt on it thereafter; prompt on “Mahler” or “8” alone)

7. In one of this author’s novels, Felicite burns all of Clotilde’s husband’s work, after the title doctor suffers a heart attack. That novel, *Doctor Pascal*, is one of his novels about the Second Empire family, the Rougon-Macquart novels. The title courtesan humiliates Muffat in his novel (*) *Nana*. In another novel, he wrote about Etienne Lantier organizing a coal strike. This author wrote a work calling Lt. Colonel du Paty de Clam a “diabolical creator of a miscarriage of justice.” That work of his was published in the newspaper *L’aurore*, and asserts that the French government was anti-Semitic. For 10 points, name this French author of *Germinal*, who defended Alfred Dreyfus in his letter *J’Accuse!* Answer: Emile Zola

8. High rates of growth in cancerous cells are attributed to this pathway in the Warburg effect, and the Entner-Doudoroff pathway is a replacement of it for some bacteria. The rate-limiting step in this pathway uses phosphofructokinase as an enzyme. The first step in this pathway utilizes the enzyme hexokinase, and one intermediate in this process is (*) G3P. Two net ATP and NADH are produced by this reaction in the cytosol, and the products of this reaction are then used in the Krebs cycle. For 10 points, name this metabolic pathway that splits glucose and converts it into two molecules of pyruvate. Answer: glycolysis (or Emden–Meyerhof–Parnas pathway)

9. This deity is not Poseidon, but he once petrified Battos and turned Hierax into a hawk. To save Io this deity had to slay the hundred eyed giant Argus Panoptes. This Greek deity gathered the three goddesses together for the Judgment of Paris. He prevented his great grandson from being turned into an animal by giving (*) Odysseus a magic herb. This deity once stole Apollo’s cattle, one of which he used to make the first lyre. Hephaestus made him winged sandals, which he uses to perform his job of messenger. For 10 points, name this deity whose Roman counterpart is Mercury. Answer: Hermes

10. Ring strain and angle strain prevent these structures from forming at the bridgehead of a ring system according to Bredt’s rule. The “3” in Omega-3 fatty acids denotes the location of these structures. The orientation of atoms around these structures is described by the letters E and Z in (*) cis and trans isomers, and two of them are found in diolefins. Sulfoxides have one between the sulfur and the oxygen and carbonyls have one between the carbon and the oxygen. They also contain a sigma and pi bond and link two carbons in alkenes. For 10 points, identify this type of bond that forms in diatomic oxygen and alternates with single bonds in benzene. Answer: double bonds

11. Before this event, a wig-maker’s apprentice, Edward Garrick, told John Goldfinch that Goldfinch owed Garrick’s master money. Hugh White was on guard during this event. In the subsequent trial after this event, Robert Treat Paine was the lead prosecutor, and (*) Josiah Quincy and John Adams were on the defense team. Garrick’s accusations led a crowd to throw snowballs in this event, whose first causality was Crispus Attucks. Captain Thomas Preston was in command of the British troops in this event. For 10 points, name this 1770 incident where British troops fired into a mob in a city in Massachusetts Answer: Boston Massacre

12. The protagonist of this novel attempts to give a razor blade to an actor who is kicking and insulting the protagonist. In this novel, Rex reads a book in the car while the protagonist's former rival Billyboy and Dim get revenge on the protagonist. Georgie leads a rebellion against the protagonist's rule, and joins Pete and Dim in the (*) Korova Milkbar. The protagonist of this novel can no longer enjoy Beethoven's music after Doctor Brodsky performed the Ludovico Technique on the protagonist. For 10 points, name this novel narrated in nadsat by Alex, a dystopian novel written by Anthony Burgess.

Answer: A Clockwork Orange

13. On this work's left side, many birds are flying out of a cave, and an owl sits inside the base of a pink fountain. In the center of this work, a pool contains both birds and women. That pool is surrounded by a parade of naked people riding animals. The right (*) panel shows damnation, the first meeting between Adam and Eve is depicted on the left panel of this work, while the central panel shows the title place of pleasure. For 10 points, name this triptych by Hieronymus Bosch.

Answer: The Garden of Earthly Delights

14. A film from this country, *A Dog's World*, originated a genre of sensationalist documentaries called Mondo films. Another genre of film created by this country focused on historical and biblical scenes, known as "sword-and-sandal." One film from this country follows a man as tries to recover his stolen (*) bicycle, without which he can't support his family. Clint Eastwood starred in a trilogy from this country which were part of its "Spaghetti Westerns." For 10 points, name this country whose director Sergio Leone created *The "Dollars" Trilogy*.

Answer: Italy (accept Italia, Repubblica Italiana, or Italian Republic)

15. The narrator of this novel learns about the title character from the former stage coach driver Harmon Gow. The farm-hand Jotham Powell assists the title character in manual labor, and the title character's love interest refuses a ride from Denis Eady. In this novel, Aunt Philura Maple's (*) pickle dish was broken by the cat. Ruth Varnum and Ned Hale marry in this novel set in Starkfield, Massachusetts. The title character and Mattie Silver's suicide attempt fails when they crashed into an elm tree while sledding. For 10 points, name this novel by Edith Wharton.

Answer: Ethan Frome

16. The losing rivals of this town drown their sorrows in turnip juice after a dispute over a prized lemon tree. A monorail used to serve this town, but it turned out to be a scam by Lyle Langley. The *Android's Dungeon & Baseball Card Shop* in this town has a \$100 copy of (*) *Radioactive Man #1*. This town is home to the state's largest self-sustaining tire fire and its mayor is the corrupt Joe Quimby. One shop in this town's mall is the Leftorium, while King Toots music shop is next to Moe's tavern in this city. For 10 points, name this town where Apu is robbed multiple times daily at the Kwik-E-Mart, the fictional home of the Simpsons.

Answer: Springfield

17. The United States military first performed this action using the *Chicago*. Operation Sandblast performed this action using the USS Triton. Another operation to perform this action was carried out by a task force including the USS Enterprise and took 65 days. That operation was performed in reference to The (*) Great White Fleet, which performed the same action. While doing this, Fred Noonan disappeared with Amelia Earhart. Charles I funded an expedition that performed this action that was carried out by Ferdinand Magellan. For 10 Points, name this act of travelling around Earth.

Answer: circumnavigating the world (both underlined words required; accept clear equivalents for "world")

18. **The Powder Tower in this city was once a gunpowder depot that lay on the royal coronation route leading to St. Vitus Cathedral. Legend states that Maharal created a golem to protect the Jews of this city from the pogroms. A bridge in this city crosses over the (*) Vltava River and is named after its commissioner, King Charles IV. A building found here, designed by Frank Gehry, looks like a man and woman dancing together, prompting the name "Fred and Ginger," also called the Dancing House. For 10 points, name this capital of the Czech Republic known for its Spring movement and defenestrations.**

Answer: Prague

19. **In one work, this author wrote about the tribes in Papua New Guinea where females are dominant, such as the Arapesh society. That was "Sex and Temperament in Three Primitive Societies." In a work subtitled, "The Making and Unmaking of an Anthropological Myth", Derek (*) Freeman heavily criticized another of this anthropologist's works. Frank Boas wrote the forward to that work where this author wrote that women on the island of T'au. For 10 points, name this female American anthropologist, the author of "Coming of Age in Samoa."**

Answer: Margaret Mead

20. **The order one-half type of this physicist's namesake integral is a redefined polylogarithm function that one obtains by integrating his namesake function and the density of states across an energy band. With Thomas, he names a precursor to density functional theory and an approximation that allows an easy calculation of the (*) degeneracy of states. This physicist's namesake gas has internal energy proportional to the number of particles to the five-thirds power. Unlike Maxwell-Boltzmann and Bose-Einstein statistics, the set of statistics he co-names with Dirac work for particles with half-integer spin. For 10 points, name this Italian physicist, also the namesake of a particle physics lab in Batavia, Illinois.**

Answer: Enrico Fermi

Bonuses

1. This painting depicts the Shooting Company of Franz Banning Cocq. For 10 points each,

[10] Identify this painting that features a girl in a golden dress with a chicken on her belt. .

Answer: The **Night Watch** (or De **Nachtwacht**)

[10] This Dutch artist painted *The Night watch* and *Aristotle Contemplating a Bust of Homer*.

Answer: **Rembrandt** Harmenszoon van **Rijn** (accept either underlined portion)

[10] A one-eyed Batavian guy wears a blue and gold crown in this Rembrandt work. That Batavian also crosses swords with two other men in this painting.

Answer: The **Conspiracy of Claudius Civilis**

2. Bertha Mason burns down Thornfield in this novel. For 10 points each,

[10] Mr. Rochester marries the title character of this novel. The title character also was friends with Helen Burns at Lowood School.

Answer: **Jane Eyre**

[10] *Jane Eyre* was written by this English author.

Answer: **Charlotte Bronte** (prompt on just “Bronte”)

[10] Jane originally blamed this character for the actions of Bertha Mason. This character actually takes care of Bertha Mason.

Answer: **Grace Poole** (accept either or both names)

3. This section often follows the development section and precedes the coda. For 10 points each,

[10] Identify this section of a certain genre of musical works. It repeats the themes presented in the exposition section, usually returning the music to the tonic key.

Answer: **Recapitulation**

[10] This structure for musical composition, a popular form for the first movement of many Classical period works, progresses from introduction and exposition, through development and recapitulation, often to an ending coda. This term, from the Latin for “to sound,” can also refer generally to a piece of played music without singing.

Answer: **Sonata**-allegro form

[10] This composer’s third piano sonata, written at the age of 20, uses the “Fate” motif from Beethoven’s Fifth Symphony in three of its five movements. His referencing of Beethoven continued in his first symphony, often nicknamed “Beethoven’s Tenth.”

Answer: Johannes **Brahms**

4. These biological structures are used to identify organisms with similar classifications. For 10 points each,

[10] Name these branched hierarchies where intersections are used to represent common evolutionary ancestors and branches represent the existence of new species.

Answer: **phylogenetic trees** (or **phylogenies**, generously accept **cladogram**)

[10] To classify organisms with common characteristics, this scientist developed binomial nomenclature in Latin. His namesake taxonomy refers to the rank-based organization beginning with kingdom and ending with species.

Answer: Carl **Linnaeus** (or Carolus **Linneaus**, or Carl von **Linné**, or Carolus a **Linné**)

[10] This term refers to similar structures or genes in organisms that share an ancestor on a phylogenetic tree. A common example of them is bat wings and human arms.

Answer: **homology** (or **homologous structures**)

5. This city is currently home to the Horses of Saint Mark. For 10 points each,

[10] Name this Italian city, a former “most serene republic” famous for its canals. During the Battle of Lepanto, its navy was key in achieving victory.

Answer: **Venice**

[10] Venice was led by rulers with this title. Rulers with this title performed a symbolic marriage to the sea by dropping a ring into the Adriatic sea.

Answer: **Doge**

[10] During the Italian Wars, Venice was opposed by this Anti-Venetian alliance. This alliance was named after a northern French town and fell apart after Pope Julius II switched sides.

Answer: **League of Cambrai**

6. This poem is set “on the eighteenth of April, on Seventy-five.” For 10 points each,
[10] Identify this poem about the title character warning the residents of Lexington and Concord of the oncoming British forces. “Of the North Church tower as a signal light/One if by land, and two if by sea” are lines in this poem.

Answer: **Paul Revere’s Ride**

[10] This American author wrote *Paul Revere’s Ride*. He also wrote a poem that begins “On the shores of Gitche Gumee” about the title Native American hero, “The Song of Hiawatha.”

Answer: Henry Wadsworth **Longfellow**

[10] The title character of this Longfellow poem has that is “crisp, and black, and long” and has “large and sinewy hands.” This poem begins “Under a spreading chestnut tree.”

Answer: The **Village Blacksmith**

7. This film opens with a jazz rendition of Also Sprach Zarathustra. For 10 points each,

[10] Name this science fiction epic that opens with a black monolith. Near the end of this film, HAL 9000 sings the song “Daisy Boy” after being unplugged.

Answer: **2001: A Space Odyssey**

[10] *2001: A Space Odyssey* was directed by this man. This reclusive director of *Full Metal Jacket* and *A Clockwork Orange* was known for his attention to detail.

Answer: Stanley **Kubrick**

[10] Peter Hyams, not Stanley Kubrick, directed this sequel to *2001: A Space Odyssey*. At the end of this film, Jupiter is transformed into a star, and Europa becomes a huge jungle.

Answer: **2010: The Year We Made Contact**

8. During a hostage crisis in this city, Uber quadrupled its rates. For 10 points each,

[10] Identify this city, in which a hostage crisis occurred in a Lindt chocolate cafe in December, 2014.

Answer: **Sydney**, Australia

[10] The gunman in the Sydney hostage crisis requested a flag from this rebel group, which has declared itself an “Islamic State” and caliphate.

Answer: **ISIL** or **ISIS** (accept: **Islamic State of Iraq and the Levant** or **Islamic State of Iraq and Syria**)

[10] Peter Cosgrove, Australia’s current holder of this position, commended the police officers involved in the hostage crisis. Peter Cosgrove succeeded Quentin Bryce as Australia’s holder of this position in 2014.

Answer: **Governor-General** (don’t prompt on partial answers)

9. After losing the Battle of Waterloo, this man was exiled to Saint Helena. For 10 points each,

[10] Name this French Emperor who came to power after the French Revolution. In 1812 this man attempted an invasion of Russia but despite reaching Moscow failed to secure victory.

Answer: **Napoleon Bonaparte**

[10] Another man who attempted to invade Russia was this Swedish king who did so in the Great Northern War. As a consequence, this king lost his Carolean army and saw his empire rapidly decline.

Answer: **Charles XII** [the 12th] (prompt on just “Charles”)

[10] One of the few successful invasions into the Russian area was the Mongol invasion of Kevian Rus’, leading to the establishment of this state. Its name comes from the color of Mongol tents, and would later be absorbed by the Crimean Khanate.

Answer: **Golden Horde**

10. In one of this author’s novels, Fonny is falsely accused of raping the Puerto Rican woman Victoria Rogers. For 10 points each,

[10] Identify this author of *If Beale Street Could Talk*, who wrote about Hall and Arthur Montana in *Just Above My Head*.

Answer: James **Baldwin**

[10] James Baldwin also wrote this novel about the fourteen year old John Grimes. Gabriel turns out to not be John’s father in this probably most famous novel of James Baldwin.

Answer: **Go Tell It On the Mountain**

[10] James Baldwin set *If Beale Street Could Talk* in this New York neighborhood. It also names a Langston Hughes poem that asks “What happens to a dream deferred?” and a namesake “Renaissance.”

Answer: **Harlem** Renaissance

11. The Klein-Gordon and Dirac equations are relativistic generalizations of this equation. For 10 points each,
[10] Name this fundamental equation of quantum mechanics that states that the Hamiltonian operator of a wavefunction is equal to energy times that wavefunction. Its namesake had a thought experiment involving an alive-and-dead cat.

Answer: time-independent **Schrodinger equation** [do not accept “time-dependent Schrodinger equation”]

[10] The Schrodinger equation allows one to describe how the wavefunction evolves with this variable. There are forms of the equation dependent and independent of this variable.

Answer: **time**

[10] The solution to the time-independent Schrodinger equation is a stationary state, which turns out to be one of these. They’re observed with sound waves in air columns and can be created with two waves travelling in opposite directions.

Answer: **standing wave**

12. In the first part of this book, Raphael Hythloday travels to the title island. For 10 points each,

[10] Identify this philosophical work that describes the title idealized society.

Answer: **Utopia**

[10] This thinker was beheaded after he opposed Henry the eighth’s marriage to Anne Boleyn and wrote the book *Utopia*.

Answer: Thomas **More**

[10] In *Utopia*, along with Thomas More, this town clerk of Antwerp was credited with designing the Utopian language. This character, Thomas More, and Jerome de Busleyden are conversing at the beginning of *Utopia*.

Answer: Pieter **Gillis** (accept Peter **Giles**)

13. This character’s mount is described as “el rucio.” For 10 points each,

[10] Identify this character who was married to Teresa Cascajo. This character and his master were defeated by the Knight of the White Moon, and had earlier met Cardenio in the novel in which he appears.

Answer: **Sancho Panza** (accept either or both names)

[10] Sancho Panza is the squire of this insane knight, who charges at windmills that are actually giants. This character rides the horse Rocinante and is in love with Dulcinea.

Answer: **Don Quixote** (or accept either of **Alonso Quixano**)

[10] *Don Quixote* was created by this Spanish author.

Answer: Miguel de **Cervantes**

14. After this war ended, a demilitarized zone was established. Douglas Macarthur was removed from command of American troops in this war due to his feud with President Truman. For 10 points each,

[10] Name this war in which UN forces failed to unite a namesake peninsula, which still remains divided today.

Answer: **Korean War** (accept **Korean Conflict**)

[10] The demilitarized zone roughly falls on this line of latitude, or parallel.

Answer: **38th** parallel

[10] This phrase refers to airspace over the Yalu River, where UN fighter jets frequently skirmished with the namesake Soviet aircraft.

Answer: **MiG Alley**

15. This creature is the brother of Hel and Fenrir. For 10 points each,

[10] Name this snake that was thrown into a ocean where it became massive. During Ragnarok this serpent will poison his rival but be killed as a consequence.

Answer: **Jormungandr**:(accept **Jormungand** or **Midgard Serpent**, or **World Serpent**)

[10] The Midgard Serpent’s rival was this Norse God of thunder and owner of Mjolnir.

Answer: **Thor**

[10] Before Ragnarok, Thor met The Midgard Serpent while it was disguised as this animal, two of which pull Freya’s chariot.

Answer; **Cats**

16. Answer the following about trigonometric identities for 10 points each.

[10] The basic Pythagorean identity says that sine squared of theta plus cosine squared of theta equals this value, which is also the maximum value that either the sine or cosine functions can output.

Answer: 1

[10] A modification of the Pythagorean identity says that secant squared of theta is equal to this expression involving the tangent function.

Answer: 1 plus tangent squared of theta (or tangent squared of theta plus 1)

[10] Another identity notes that tangent squared of this angle equals the quantity one minus cosine theta, close quantity, divided by the quantity one plus cosine theta.

Answer: theta over 2 or one-half of theta or 0.5 theta

17. A poetry collection called these “of evil” opens with the section “Spleen and Ideal.” For 10 points each,

[10] Identify these items that name a Daniel Keyes short story, these items “for Algernon.” In that short story, Charlie Gordon has a lobotomy and temporarily triples his IQ.

Answer: Flowers (accept Fleurs or Les Fleurs du mal or Flowers for Algernon)

[10] This French Symbolist author wrote the poetry collection *Les Fleurs du Mal*. He wrote the poems “The Albatross” and “The Vampyr” as part of *Les Fleurs du Mal*.

Answer: Charles Baudelaire

[10] This other French Symbolist was once shot by his lover Paul Verlaine. He wrote *A Season in Hell* and “The Drunken Boat.”

Answer: Arthur Rimbaud

18. This electrochemical equation describes reduction potentials at non-standard conditions. For 10 points each,

[10] Name this equation which is used to find the cell potential of a galvanic cell. The Goldman equation modifies it for ion transport across cell membranes, and one term in it can be approximated as 0.0592 Volts at STP.

Answer: Nernst equation

[10] It’s not activity, but the logarithmic term in the Nernst equation is a ratio of these values for the species being oxidized and reduced. It is sometimes measured in molar.

Answer: concentration [accept more specific answers like molarity]

[10] Deriving the Nernst equation requires a knowledge of this quantity, which is change in Gibbs free energy with the addition of a particle to the system. Symbolized μ , most chemical systems tend to go from high to low values of it.

Answer: electrochemical potential

19. This team lost to Louisville 31-28 after Kyle Brindza could not hit a 32 yard field goal. For 10 points each,

[10] Identify this Independent school that lost to Northwestern team 43-40 a week after losing to Arizona State. Everett Golson was this school’s starting quarterback in 2014.

Answer: Notre Dame

[10] This University defeated Northwestern 23-15 in 2014. This school’s former quarterback Jordan Lynch finished third in the Heisman voting in 2014, and Jimmy Ward was selected by the 49ers out of this school.

Answer: Northern Illinois University (accept: NIU)

[10] This former New England Patriots offensive coordinator was the head coach of Notre Dame from 2005 to 2009. He was more recently fired from his job as head coach of the Kansas Jayhawks.

Answer: Charlie Weis

20. This king is had many wives. For 10 points each,

[10] Name this English king who established the Church of England. With his wife Anne Boleyn he conceived Elizabeth I.

Answer: Henry VIII [the eighth] (prompt on just "Henry")

[10] When establishing the Church of England, Henry VIII passed this legislation. This legislation established Henry VIII and all his successors as head of the Church of England.

Answer: Act of Supremacy

[10] Before his break with the Catholic Church, Henry VIII wrote this thesis for which he was declared “Defender of the Faith” by Leo X. It was inspired by Martin Luther’s 95 theses.

Answer: Defense of the Seven Sacraments