

*Bergen Academies Spring Quizbowl Tournament II [BASQT II]*

Written by David Song, Simon Seal, Ryan Murphy, Caleb Shi, Mollie Bakal, John Ferrante, Marvin Yu, Michael Gleyzer, Derek Lin, and Nathan Tang, **Bergen County Academies**; Zachary Stier, **Princeton University**; Rebecca Rosenthal, **Swarthmore College**.  
Special thanks to Jon Pinyan.

**Round 1: Tossups**

**1. The capstan equation involves tension and the “belt” kind of this phenomenon, whose effect is described by the Darcy-Weisbach equation in relation to velocity. The angle of repose equals the arctangent of one value named after this force, which according to Amontón’s Second Law is independent of (\*) surface area of contact. It can be calculated as the product of its namesake coefficient and the normal force. Coming in static and kinetic varieties is – for ten points – what force that appears between two sliding surfaces?**

ANSWER: **friction**

**2. In one of this author’s works, Mary stays with Lady Stornaway, the sister of Janet Fraser. That work was criticized by Edward Said in *Culture and Imperialism* for glorifying one character’s West Indies investments. In another novel by this author, John Willoughby helps a girl who twisted her ankle running down the hills of Baron Park; that girl is (\*) Marianne Dashwood. Elizabeth Bennet discovers her perfect suitor is Mr. Darcy in this author’s most famous work. For ten points, name the author of works such as *Mansfield Park*, *Sense and Sensibility*, and *Pride and Prejudice*.**

ANSWER: Jane **Austen**

**3. This artist lived for a time near Abiquiú [**“AH-buh-cyu”**], creating depictions of “the White Place”. At that location, this painter also created *Sky Above the Clouds*, after a commission by the Dole Food Company to draw images of fruit like *Pineapple Bud*. *Blue and Green* is one of (\*) her earlier works, but she is better known for less colorful pieces like *Jimson Weed* and *Black Iris III*. Her work was exhibited at 291 by future husband Alfred Stieglitz, and after his death she moved to New Mexico, where she painted her most famous scenes. For ten points, what artist painted *Cow’s Skull: Red, White, and Blue*?**

ANSWER: Georgia **O’Keeffe**

**4. James Otis defended this man after the *Romney* captured his ship, the *Liberty*, and he lived for a time with his merchant uncle Thomas on Beacon Hill. He succeeded Peyton Randolph in his most famous post, and he fled (\*) Lexington, Massachusetts alongside Samuel Adams after learning that he was being pursued by Thomas Gage. His most famous action was depicted in a painting by John Trumbull. For ten points, name this American smuggler and patriot, the President of the Second Continental Congress who penned the largest and first signature on the Declaration of Independence.**

ANSWER: John **Hancock**

**5. Protests in Shahbag erupted in this country after Abdul Quader Molla was given a life sentence for war crimes. He was supported by Operation Searchlight, conducted in what is now this country after the 1970 election of Sheikh Mujibur Rahman and the (\*) Awami League. The following war saw independence declared from Chittagong and a provisional government exiled to the west at Calcutta, and more recently this country signed a water-sharing agreement of the Ganges with India. Formerly known as East Pakistan is – for ten points – what country with capital at Dhaka?**

ANSWER: People’s Republic of **Bangladesh**

6. The Tsodilo Hills are in this region and are believed by Basarwa people to be where Nyambe dropped the first animals down the Rhino Trail. Ancient riverbeds called *omiramba* are in this area, although its only permanent river forms the Okavango Delta, home to the Moremi Game Reserve. The nomadic Khoikhoi people and the San (\*) bushmen native to this region are linguistically distinct from the Bantu. Spanning Botswana and Namibia is – for ten points – what semi-arid savannah of southwestern Africa?

ANSWER: Kalahari Desert

7. Some of the ghats in Varanasi are used exclusively as sites for this practice. The practice of sati involves wives joining their husbands in this action. Although it makes some exceptions for minorities, the Chinese Communist Party has mandated this practice for Han Chinese. In contrast with established (\*) Catholic tradition, JFK chose to undergo this process. The products of this practice are frequently scattered in space or at sea, or placed in an urn. Japan's most popular alternative to burial is – for ten points – what practice of burning the body to ashes?

ANSWER: cremation (prompt on “burning” or equivalents)

8. The imitative ricercar [“ree-CHAIR-car”] evolved into this technique. Benjamin Britten's *The Young Person's Guide to the Orchestra* ends with every section of the orchestra playing in this musical form. Beethoven's Opus 133 is named after this musical form, and a set of them titled “The Art of” this compositional style was written by (\*) J.S. Bach. Bach also wrote a piece entitled “Tocatta” and this musical form in D minor. For ten points, name this musical form, which employs counterpoint to develop a theme, known as the subject.

ANSWER: fugue

9. In one work written in this language, Barbara Lynch has a four-month affair with the main character. In that novel, Florentino tries to profess his love to a widow, to which she immediately banishes him from the house. In a play written in this language, La Poncia and Adela have a heated argument over Adela's affair with (\*) Pepe. An unnamed journalist posited to be Ambrose Bierce seeks death in a novel written in this language set during the Mexican Revolution. *The Old Gringo* is written in - for ten points - what Romance language used by Carlos Fuentes?

ANSWER: Spanish or español

10. The ATREX mission dispersed a trimethylated compound with this element to trace high-altitude jet streams. The only naturally occurring radioactive isotope of this element is formed from cosmic ray protons colliding with argon. Along with silicon and oxygen, this element is found in all (\*) feldspars, making it the most abundant metal in the Earth's crust. An oxide of this element is extracted through the Bayer process from bauxite. For ten points, what metal with atomic number 13 is commonly used in soda cans and foil?

ANSWER: aluminum (accept aluminium; prompt on “Al”)

11. As an infant, this man was dipped in ambrosia and put on a funeral pyre to burn his mortal parts away. This man had a child with Deidamia while in the court of Lycomedes. He mourns Penthesilea after killing her in battle, and is saved by Hephaestus from the River (\*) Scamander. This father of Neoptolemus and son of Peleus became partially invincible after being dunked in the River Styx by his mother Thetis. However, Paris killed him with a poisoned arrow. For ten points, what Greek hero was vulnerable only at the back of his heel?

ANSWER: Achilles

12. This person refused to send reinforcements to save Byblos, in a collection of letters that also expressed concern for the Hittites. This ruler's body may have been found in KV55, also called the (\*) Amarna cache after the city that he established as his capital. Horemheb and the rulers of the 19th dynasty destroyed much of the culture from this man's reign, although one surviving artwork is Thutmose's bust of his wife. The husband of Nefertiti was – for ten points – what pharaoh who may have been the father of Tutankhamun and introduced the worship of the disk of the Sun, Aten?

ANSWER: Akhenaten (accept Amenhotep IV)

**13. The Shannon-Hartley theorem says that the upper bound on information transmission is proportional to this function of a combination of signal and noise. The Prime Number Theorem asserts that the number of primes grows proportionally to  $n$  divided by this function of  $n$ . It was introduced by John (\*) Napier, and first used to increase ease in multiplying. The “change of base” rule governs – for ten points – what function, whose “natural” version gives the number of powers of  $e$  dividing the input, and is the inverse of exponentiation?**

ANSWER: **logarithm** (accept natural **logarithm** or common **logarithm** or in any other base)

**14. With Mark Carwardine, this man traveled to Madagascar to find the aye-aye, a journey documented in his *Last Chance to See*. This collaborator on *The Meaning of Liff* designed a game for which a companion book was written by Terry Jones, named *Starship Titanic*. After his death, his work on an unfinished Dirk Gently novel was published in the book (\*) *The Salmon of Doubt*. This author took a rejected *Doctor Who* script and turned it into his novel *Life, the Universe, and Everything*. For ten points, name this creator of *The Hitchhiker’s Guide to the Galaxy*.**

ANSWER: Douglas **Adams**

**15. Mitch McDeere is a character with this profession who learns that he is being followed and monitored by his employers in a novel by John Grisham. Stryver is aided by a man with this profession, but is not (\*) acquitted until Sydney Carton pleads for his case. Kay and his uncle visit Herr Huld, a man with this profession, in Franz Kafka’s *The Trial*, and this is the occupation of Atticus Finch. For ten points, what profession can involve defending an individual in court?**

ANSWER: **lawyers** (accept **attorneys**)

**16. Members of this order have 9 or fewer vertebrae, with the sacral vertebrae fused to form the urostyle. Because they lack developed ribs, these animals use buccal pumping to inflate their lungs, and their radius and ulna are fused into one bone, as have the tibia, fibula, and tarsals to absorb (\*) shock from jumps. While they do not have external ears, they have generally exposed eardrums and many species have vocal sacs for use in mate selection through loud calls. Often found on lily pads are – for ten points – what amphibians hatched as tadpoles?**

ANSWER: **frogs** (accept **Anurans**)

**17. Thomas Baker forced John Brampton to leave empty-handed at the beginning of this event. Participants were inspired by the teachings of John Ball at Blackheath, resulting in his imprisonment by Simon Sudbury. Kentish fighters destroyed (\*) Savoy Palace before killing Sudbury and Robert Hales, who were found hiding in the Tower of London. The life of the future Henry IV was spared, and serfs were temporarily freed before the death of leader Wat Tyler. For ten points, in what 1381 revolt did a feudal class rebel against the government of Richard II?**

ANSWER: **Peasant’s Revolt** (accept **Great Rising** or **Wat Tyler’s Rebellion** before mention)

**18. The score of the second movement of one of these pieces includes only two chords, which are believed to have been intended to follow an improvised cadenza. Despite their name, most of its constituent pieces lack a single solo instrument. One of its pieces is notably scored without a (\*) violin part, while another in D major features an extensive harpsichord cadenza in its first movement. This collection remained unknown until it was rediscovered in 1849, about a century after its composer’s death. For ten points, name this collection of concerto grossos by J.S. Bach, dedicated to the Margrave of its namesake principality.**

ANSWER: **Brandenburg concertos** (prompt on partial answer)

**19. This work claims that poets could not have true knowledge, and earlier argues that people will inevitably be assigned to the wrong jobs, sparking class warfare. This work advocates for a eudaimonist approach to life, and in this text's first section, its main figure travels with (\*) Glaucon to discuss with Cephalus the nature of justice. In its description of how to manage the perfect city of Kallipolis, this work outlines the curriculum for educating a philosopher-king. Its author describes in it people whose only reality is shadows dancing on a wall in the Allegory of the Cave. For ten points, name this philosophical text by Plato.**

ANSWER: *The Republic* or *De Republica* (accept *Politeia*)

**20. In this novel, one character believes his father to be the "Scholarly Attorney", and Cass Mastern has an affair with the aristocrat Annabelle Trice, who sells the slave Phebe out of shame. Mastern is the former PhD research subject of this novel's narrator, whose childhood friends include Adam Stanton and (\*) Judge Irwin. Tiny Duffy is the political ally to this novel's main character as he climbs the rungs of Louisiana state politics, and this novel is narrated by journalist Jack Burden. For ten points, Huey Long inspired the character Willie Stark in what Robert Penn Warren novel?**

ANSWER: *All the King's Men*

TIEBREAKER:

**This element was discovered by Bernard Courtois and named by Joseph-Louis Gay-Lussac for the color of its vapor. Many medical procedures use this element as an indicator because of its color and its radioactivity. In different isotopes, it is a component of both radioactive fallout and (\*) anti-radiation pills. This element is needed for the production of the T3 and T4 hormones, which takes place in the thyroid. Deficiency in this element can cause cretinism, which is why this halogen is frequently added to table salt. Name, for ten points, this chemical element with atomic number 53, below bromine on the periodic table.**

ANSWER: iodine (prompt on "I" before mention)

### Round 1: Bonuses

1. For ten points each, answer these questions about female Egyptian deities.

[10] This sky goddess is most frequently depicted as a nude arching over the Earth.

ANSWER: **Nut**

[10] This goddess, whose name can be translated as “house of Horus”, is sometimes considered the daughter of Ra and was associated with cows and childbirth.

ANSWER: **Hathor**

[10] This cat goddess was also a goddess of warfare and sometimes the Eye of Ra.

ANSWER: **Bastet**

2. The moons of Uranus were named after Shakespearean characters, with the exception of three which derive their names from this work. For ten points each:

[10] In this poem, Belinda has some of her hair cut off by the Baron, prompting a feud between their families.

ANSWER: “**The Rape of the Lock**”

[10] “The Rape of the Lock” and “An Essay on Criticism” were written by this translator of Homeric verse.

ANSWER: Alexander **Pope**

[10] This first English poet laureate also translated some of the Iliad, in addition to sections of the Canterbury Tales.

ANSWER: John **Dryden**

3. In this type of chemical reaction, hydrocarbons are broken down utilizing oxygen. For ten points each.

[10] Burning is this type of chemical reaction in which an oxidant and a fuel react exothermically.

ANSWER: **combustion**

[10] The combustion of methane and oxygen is spontaneous, implying the change in this quantity is negative.

ANSWER: Gibbs **free energy**

[10] Although combustion is often accompanied by a visible fire, the flameless variant is known by this name. This process occurs directly on the surface of the solid.

ANSWER: **smoldering**

4. For ten points each, answer questions about classical Greece:

[10] This city-state’s militaristic society held a class of slaves called helots. It was a frequent adversary of Athens.

ANSWER: **Sparta**

[10] This war pitted an alliance of states lead by Sparta against the Delian League, led by Athens.

ANSWER: **Peloponnesian War**

[10] This commander of Sparta in the Peloponnesian War dissolved the Delian League following his decisive victory over the Athenian fleet at Aegospotami [**“ay-goes-POT-am-eye”**].

ANSWER: **Lysander**

5. At the start of this work, the main group is greeted by Thomas and Ethel Rogers. For ten points each:

[10] Give the current standard American name for this 1939 novel in which people are killed one by one on an island off the coast of Devon.

ANSWER: **And Then There Were None**

[10] “And Then There Were None” was written by this author of “The Mousetrap”.

ANSWER: Agatha **Christie**

[10] This is the name of the first character to die on the island. He is revealed to have had his drink laced with cyanide.

ANSWER: **Anthony Marston** (accept either part)

6. For ten points each, answer some questions about sneezing.:

[10] This is a hypersensitivity to something in the environment, the results of which can include sneezing, hives, or anaphylaxis.

ANSWER: **allergy**

[10] These inflammatory compounds produced by basophils or mast cells are responsible for the reactions caused by most allergens.

ANSWER: **histamines**

[10] Atopy makes one more likely to get allergies and this condition, which can be treated with corticosteroids.

ANSWER: **asthma**

7. This dynasty opposed Hong Xiuquan's Heavenly Kingdom Movement in the Taiping Rebellion. For ten points each:

[10] Name this Chinese dynasty, founded in Manchuria and succeeding the Ming dynasty.

ANSWER: **Qing** Dynasty (prompt on **Manchu**)

[10] In the 1860's, the Ever-Victorious Army intervened in the Taiping Rebellion, during which it was led by Frederick Townsend Ward and this British general. He had earlier gained promotion in the trenches at Sevastopol in the Crimean War.

ANSWER: (Charles George) "Chinese" **Gordon**

[10] Gordon died in the siege on this Sudanese city, which was under attack by the Mahdists.

ANSWER: **Khartoum**

8. For ten points each, name some facts about eggs in art.

[10] This Spanish artist painted an old woman frying eggs as a young boy looks on. He is perhaps more famous for his later work as court painter to Philip IV.

ANSWER: Diego **Velazquez**

[10] At the top of the center panel of this triptych, a crowd of naked people enter into a giant egg. Another group of people carry a giant egg and fish lower in that panel, while its hellish right panel shows someone balancing one on his back.

ANSWER: *The **Garden of Earthly Delights***

[10] This Russian jeweler, possibly inspired by the Ukrainian tradition of Easter egg decorating, created ornately decorated eggs for Tsars Alexander III and Nicholas II.

ANSWER: Peter **Fabergé** ["fab-uhr-jay"].

9. Vikings called this region home. For ten points each:

[10] Sweden and Norway are on this peninsula. In a broader sense, this term includes Finland, Denmark, and Iceland, and refers to a political and cultural region.

ANSWER: **Scandinavia**

[10] From 1397 to 1523, the three Scandinavian nations were all ruled by one monarch, under this name.

ANSWER: **Kalmar Union**

[10] This is the largest denomination of Christianity in Scandinavia. Although Frederick I of Denmark was Catholic, he extended protection to this Protestant branch.

ANSWER: **Lutheranism**

**10.** Some programming languages make using loops difficult. For ten points each:

[10] Many loops can be replaced by implementing this type of function, which refers to other cases of the same function to reach its solution.

ANSWER: **recursive**

[10] This is the end condition for a recursive function. Without this, the function would continue referring to new versions of itself until it runs out of computational resources. It is also used in proofs by induction.

ANSWER: **base case** (prompt on just “base”, prompt on answers with “initial”)

[10] This operation is often modeled as a recursive function with base case 1. For a positive integer value of  $x$ , it is equal to  $x$  multiplied by this function of  $x-1$ .

ANSWER: **factorial**

**11.** Early pioneers in this dance form include Martha Graham. For ten points each:

[10] This form of dance was formalized in France, so its terminology uses French words for such positions as the arabesque and the croisé [“kwah-zay”].

ANSWER: **ballet**

[10] This “Father of American Ballet” founded the New York City Ballet and re-choreographed “The Nutcracker” before dying of mad cow disease.

ANSWER: George **Balanchine** or Giorgi Melitonovitch **Balanchivadze**

[10] This composer worked with George Balanchine on his ballets “Apollo and the Muses” and “Orpheus,” and also wrote “Petrouchka”.

ANSWER: Igor Fyodorovich **Stravinsky**

**12.** For ten points each, name these cities in the Northeast that serve as settings for works of literature.

[10] Holden Caulfield travels to this city in *The Catcher in the Rye*. He visits locations like the American Museum of Natural History and Central Park.

ANSWER: **New York** City (accept **Manhattan**)

[10] Playwright August Wilson set ten plays in a cycle named for this city. *Fences* and *The Piano Lesson* are two of them.

ANSWER: **Pittsburgh**

[10] Philip Roth grew up in this New Jersey city’s largely Jewish Weequahic neighborhood, and consequently set many of his works there.

ANSWER: **Newark**

**13.** In this work, Frou-Frou is ridden to death as Count Vronsky fails to handle his emotions. For ten points each:

[10] Levin and Vronsky both love the title character in this book by Leo Tolstoy.

ANSWER: **Anna Karenina**

[10] Anna commits suicide by this method, which happens accidentally to a worker earlier in the book.

ANSWER: getting **hit** by a **train** (accept clear knowledge equivalents)

[10] Tolstoy struggled to publish the final section of *Anna Karenina* because of its criticism of Russian volunteers fighting in this modern-day country against its Ottoman rulers.

ANSWER: **Serbia**

**14.** Grant attributed his presidential victory to “the sword of Sheridan and the pencil” of this man. For ten points each:

[10] Name this editorial cartoonist whose drawings and caricatures led to the downfall of Tammany Hall.

ANSWER: Thomas **Nast**

[10] Tammany Hall was led by this “Boss” and “Grand Sachem”, the commissioner of public works for New York City.

ANSWER: William “Boss” **Tweed**

[10] Tammany Hall tried to make sure that candidates of this political party were elected, supporting members such as Robert Wagner and Al Smith.

ANSWER: **Democratic** Party

**15.** The chairman of this franchise’s owner is James Dolan. For ten points each:

[10] Name this professional basketball team that is coached by Jeff Hornacek and plays in Madison Square Garden.

ANSWER: **New York Knicks** (accept either underlined portion)

[10] In the 2015 NBA Draft, the Knicks selected this Latvian player, who had spent the previous year playing in Seville. Commentator Stephen A. Smith withdrew criticism of this player after watching him play.

ANSWER: Kristaps **Porzingis**

[10] In the 1990’s, the team was led by guard John Starks and this center, who played at and currently coaches Georgetown University. Bill Simmons defined his “effect” as when his absence does his team good.

ANSWER: Patrick **Ewing**

**16.** For ten points each, answer some questions about deep lakes:

[10] This largest freshwater lake by volume can be found in Russia. It is also the world’s deepest, at over a mile deep.

ANSWER: Lake **Baikal**

[10] This largest Antarctic lake is named for a nearby Russian science station.

ANSWER: Lake **Vostok**

[10] Lake Vostok is covered by ice, making it this type of lake first hypothesized about by Russian anarchist philosopher Peter Kropotkin.

ANSWER: **subglacial**

**17.** He was a primary historian of the Second Punic War. For ten points each:

[10] Name this Roman author of *Ab Urbe Condita*.

ANSWER: **Livy** or Titus **Livius**

[10] Livy’s *Ab Urbe Condita* inspired this Renaissance writer’s *Discourses on Livy*, in which he discusses constitutional societies, *vivere sicuro* and *vivere libero*.

ANSWER: Niccolò **Machiavelli**

[10] Machiavelli’s most famous work is this piece, in which he states that “it is better to be feared than loved.”

ANSWER: *The **Prince** or Il **Principe** or De **Principatibus***

**18.** A ballet adapted from this work includes “The Dance of the Knights”. For ten points each:

[10] Name this Shakespeare play containing a feud between two families from Verona and “star-crossed lovers”.

ANSWER: **Romeo and Juliet**

[10] That adaptation was composed by this composer of *The Love for Three Oranges*.

ANSWER: Sergei **Prokofiev**

[10] This Russian composer also created an overture based on *Romeo and Juliet*. It opens with Friar Laurence’s theme in F-sharp minor.

ANSWER: Pyotr Ilyich **Tchaikovsky**

**19.** For ten points each, answer these questions about religious pacifism:

[10] This Christian sect, notable for its role in founding Pennsylvania, teaches non-violence. Colleges founded by members of this sect have a tradition of conscientious objectors.

ANSWER: **Quakers** or Religious **Society of Friends**

[10] Name this practice of nonviolence in multiple South Asian religions.

ANSWER: **ahimsa**

[10] Mohandas Gandhi practiced ahimsa, and inspired this Southern Baptist civil rights activist who gave his “I Have A Dream Speech” during a 1963 march on Washington.

ANSWER: Dr. Reverend Martin Luther **King, Jr (MLK)**

**20.** Answer questions about the letter “K” in physics for ten points each:

[10] This constant, equal to the gas constant divided by Avogadro’s number, is symbolized by a lowercase *k* and is named after an Austrian physicist.

ANSWER: **Boltzmann**’s constant

[10] The value for Boltzmann’s constant in SI units around 1.38 times 10 to the negative twenty-third joules divided by this unit, also K.

ANSWER: **kelvin** (do not accept “degrees kelvin”)

[10] Kelvin describes temperature, which is directly proportional to the average value of this type of energy at the molecular level.

ANSWER: **kinetic** energy

EXTRA:

This program’s official name was the Space Transportation System. For ten points each:

[10] Name this category of low-Earth orbital devices notable for being largely reusable. The prototype used in atmospheric testing, which was not capable of spaceflight, was named the Enterprise, and a total of six were built.

ANSWER: **space shuttle** (prompt on “orbiter”)

[10] This orbiter, which carried the first space shuttle mission in 1981, broke up upon re-entry on its 28th mission in a 2003 accident.

ANSWER: **Columbia**

[10] Columbia was scheduled to retrieve this object from orbit in STS-144, but that was cancelled. It may stay in orbit until 2040, even though its replacement, named for James Webb, is scheduled to be launched in 2018.

ANSWER: Edwin **Hubble** Space Telescope