

Bulldog High School Academic Tournament 2017 (XXVI): Revenge of the BH-SAT

Written by Yale Student Academic Competitions (Stephen Eltinge, Adam Fine, Isaac Kirk-Davidoff, Moses Kitakule, Laurence Li, Jacob Reed, Mark Torres, James Wedgwood, Cathy Xue, and Bo You), Jason Golfinos, and Clare Keenan

Edited by Jacob Reed

Packet 3 Tossups

1. **This element is alloyed with nickel in a hydrogenating catalyst named for Raney. This element's potassium sulfate is used as a fire retardant and as a flocculant in water purification. This element's trichloride is a strong Lewis acid, since this element is trivalent like its group-mate (*) boron.** When smelting this metal, its oxide is dissolved in molten cryolite, after the Bayer process extracts its metal's oxide from bauxite. This metal is found in the plus-three oxidation state in corundum. For 10 points, name this lightweight metal produced in the Hall-Héroult process, with symbol Al.

ANSWER: aluminum <AF>

2. **According to Robert de Boron, this man was conceived by an incubus to become the Antichrist, but Blaise baptized him quickly enough to foil that plan. This man enchanted one of his employers to look like Gorlois, and he revealed to Vortigern that two fighting dragons were undoing the construction of Vortigern's castle.** (*) Nimue used skills she learned from this man to seal him in a rock. He arranged the conception of his most famous employer by tricking Igraine into sleeping with Uther Pendragon. For 10 points, name this wizard best known for advising King Arthur.

ANSWER: Merlin [also accept Emrys or Merlin Ambrosius] <JG>

3. **During his exile in the 1850s, this man sailed merchant ships like the *Commonwealth* and the *Carmen* across the Pacific and Atlantic. This man's most famous action was prompted by a rebellion against Francis II in Messina and Palermo. This man allied with Brazil and the Colorados during the (*) Uruguayan Civil War, thus earning the nickname "Hero of Two Worlds."** This man's military actions were publicized by Giuseppe Mazzini and consolidated by Count Cavour. For 10 points, name this leader of the Redshirts, whose Expedition of the Thousand conquered Sicily en route to unifying Italy.

ANSWER: Giuseppe Garibaldi <JR>

4. *Warning: description acceptable.* **In an 1893 painting, one of these objects was depicted alongside "drapery" and a "pitcher" or a *rideau* and a *cruchon*. Picasso created a collage depicting a violin, a bottle, and one of these objects. A knocked-over one of these objects sits on white cloth below the five women in *Les Femmes d'Alger*. One of these objects sits between two bottles at the center of Matisse's (*) *Harmony in Red*. A maid holds another of these objects on that painting's right side, giving it the title *The Dessert*. These objects are the most frequent subject of Cézanne's still lifes.** For 10 points, name these objects that contain apples, pears, or oranges.

ANSWER: bowls of fruit [accept any reasonable kitchen container holding some fruit; accept compotier; prompt on fruit- or food-related answers that don't mention a container] <AF>

5. **At the end of a play by this author, a character advances to the front of the stage and asks the audience's forgiveness by saying, "I put myself on you that are my country." Several plays by this author start with an "Argument," or an acrostic poem giving the play's title. In a play by this author, the gullible gambler Dapper and tobacconist Drugger are conned. In another play by this man, an aging nobleman (*) fakes an illness in order to receive lavish gifts from characters like Corbaccio and Corvino; that play's title character, a Venetian nobleman, attempts to rape Celia, and is assisted by the servant Mosca.** For 10 points, name this 17th-century English author of *The Alchemist* and *Volpone*.

ANSWER: Ben Jonson [Benjamin Jonson] <LL>

6. The amino acid with this one-letter abbreviation is the *heavier* of the two amino acids containing a hydroxyl group. Ultraviolet light leads to the formation of dimers of a nitrogenous base denoted by *this* letter. A subgroup of cells denoted by this letter expresses the glycoprotein CD8, and another kind of cell denoted with this letter stores a specific (*) antigen to protect against future infections. This is the alphabetically-later letter that denotes a pyrimidine. A class of cells denoted by this letter has “memory” and “helper” subtypes. The DNA base denoted by this letter pairs with adenine. For 10 points, name this letter that denotes a class of white blood cells contrasted with B cells.

ANSWER: T [accept T cells, or any kind thereof] <AF>

7. In a 1982 book, one of these people criticized historians of Europe for ignoring members of the lower classes that he called “the people without history.” Eric Wolf was one of these people who advocated Marxist methods. It’s not linguistics, but one of these people popularized the use of “structuralist” methods. One of these people retold fleeing a police raid on a (*) cockfight using “thick description.” Another of these people was a “functionalist” who invented “participant observation.” This profession originated from colonial administrators’ studies of their “primitive” subjects. For 10 points, name these social scientists who write ethnographies and study culture in society.

ANSWER: anthropologists [accept ethnographers until “ethnographies”] <IKD>

8. This state is the setting of a book whose last chapter begins by describing a “deep green pool” where the “periscope head” of a water snake twists from side to side. In this state, a man has a vision of his Aunt Clara, and his friend is comforted by Slim. A man who always wears a glove full of vaseline runs a farm in this state where (*) Carlson shoots Candy’s dog. Two men entertain dreams of tending rabbits and “livin’ off the fatta the land” while working in this state. After Curley’s wife is killed in this state, George is forced to shoot the mentally handicapped man Lennie. For 10 points, name this state that’s the setting of *Of Mice and Men* and other books by John Steinbeck.

ANSWER: California <JR>

9. Johnson–Nyquist noise is typically expressed in terms of the uncertainty in this quantity. One type of this quantity is proportional to current times magnetic field, and arises when a charge carrier is subject to an electromagnetic force. This quantity equals inductance times the time-derivative of current, by (*) Faraday’s Law. Kirchoff’s second law states that the sum of of this quantity around a loop equals zero. For a point charge, this quantity scales with one-over distance, and, in general, the gradient of this quantity gives the electric field. This quantity equals current times resistance. For 10 points, name this quantity also known as EMF or electric potential.

ANSWER: voltage [or EMF (electromotive force) until it’s mentioned; or electric potential until it’s mentioned; prompt on “potential”; accept Hall voltage] <AF>

10. This film repeatedly uses Ray Noble’s recording of the song “Midnight, the Stars and You,” including during the end credits. This film’s set includes Room 237 and a ballroom that’s too big for its surroundings. Many critics have wrongly stated that a shot in this film is based on a photograph by Diane Arbus. This film used the newly-invented Steadicam for a repeated tracking shot of a Big Wheel (*) tricycle going down a hexagonally-patterned hallways before encountering a pair of twins. In this film, a mirror shows that the word “REDRUM” is MURDER backwards. Jack Nicholson’s character goes insane in an empty hotel in—for 10 points—what horror film by Stanley Kubrick?

ANSWER: *The Shining* <IKD>

11. To combat the fame of songwriting teams like Holland–Dozier–Holland, this group’s early songs were written by “The Corporation.” This group’s first hit was sampled by Kanye West throughout Jay-Z’s song “Izzo.” This group popularized the Robot with a 1973 hit about an “automatic, systematic” female dancer. Another of their songs includes the line (*) “Oh darlin’, I was blind to let you go,” which was sung by an 11-year-old. Another of their songs pairs the title series with “do re mi” and “1 2 3.” For 10 points, name this Motown group behind “Dancing Machine,” “ABC,” and “I Want You Back,” whose member Michael later recorded “Billie Jean” and “Thriller.”

ANSWER: The **Jackson 5** [or The **Jacksons**; or **J5**] <MK/JR>

12. This colony was the biggest importer of slaves in the thirteen colonies, and it experienced their first major slave revolt in 1712. While Edmund Andros was deposed in Boston, this colony deposed Francis Nicholson in the aftermath of the Glorious Revolution. In this colony, attacks printed against governor William Cosby were defended by lawyer Andrew Hamilton. (*) Leisler’s Rebellion and the Stamp Act Congress happened in this colony, as did the libel trial of John Peter Zenger. After a dispute with New Hampshire, the Vermont Republic separated from this colony. For 10 points, name this Middle Colony home to a city formerly known as New Amsterdam.

ANSWER: Province of **New York** <JR>

13. In a Kafka short story, the protagonist is given some rusty scissors to kill these people by a group of jackals. An *Investigation* into a murderer of these people was written by Kamel Daoud. One of these people pawns two bracelets to buy lottery tickets, despite being “kept” with 1000 francs a month. A protagonist writes a “real stinker” of a letter to one of these people as part of a plan to get her into bed and spit in her face. While on the (*) beach, one of these people holds a knife whose glint causes the protagonist to shoot him with Raymond Sintès’s revolver. For 10 points, what kind of person does Meursault kill in Camus’s *The Stranger*?

ANSWER: **Arabs** [accept **moors**; prompt on **natives** or **Algerians**] (Kamel Daoud wrote *The Meursault Investigation*.) <JR>

14. A property of these objects holds in a disc of radius “one-over the “lim sup” of the n th-root of the absolute value of c -sub- n .” Analytic functions can be given by one of these objects. One of these objects was shown by Euler to equal “pi-squared over six,” as the solution to the Basel Problem. For a k -times-differentiable function f , truncating one of these objects gives the best degree- k (*) polynomial approximation of f , according to Taylor’s theorem. The terms “one-over- n ” for natural numbers n comprise the “harmonic” one, which diverges. An infinity-superscripted capital sigma often denotes—for 10 points—what mathematical object, the sum of an infinite sequence?

ANSWER: infinite **series** [accept more specific answers like **power series**, **Taylor series**, or **harmonic series**; accept **infinite summations**; prompt on just **summations**; do **not** accept or prompt on “sequences”] <JR>

15. These events are analyzed in the first chapter of *Extraordinary Popular Delusions* by Charles Mackay. Robert Walpole came to power in the aftermath of one of these events. One of these events in France was masterminded by the Scotsman John Law. Another of these events began after the British national debt was traded for the (*) *asiento*. The economies of France and Britain were devastated by events of this kind named for the Mississippi and South Sea Companies. The first one of these events hit the Netherlands in 1637 and was dubbed the “tulip mania.” For 10 points, name these events in which speculators drive the price of a good up well past its real value.

ANSWER: speculative **bubbles** [accept any kind of **bubble**; prompt on **mania**] <JR>

16. **This modern country is home to Fort Jesus, built in 1596 by the Portuguese. An early president of this country advocated unity through working together, or *harambee*. The well-preserved skeleton of a hominid boy from a million and a half years ago was named for this country's Lake Turkana. Its capital is home to a 2.5 million-person slum called Kibera, and its namesake (*) mountain is the second-highest in Africa. This country is home to the Luo and Kikuyu peoples. This country's southern neighbor, Tanzania, is also home to its Maasai people. For 10 points, name this East African country whose cities include Mombasa and Nairobi.**

ANSWER: Republic of Kenya <JR>

17. **A set of hymns from this nation use sacred formulas like the *Ashem Vohu* and the *Ahuna Vairya*. A religion in this country once worshipped the primordial, "timeless" god Zurvan. A religion founded in the 19th century in this nation holds that all religions proceed from the same God, and is governed from the (*) Universal House of Justice. The Bab was from this nation, as was a dualist, monotheistic religion that worships truth, or *asha*, in the form of fire. That religion from this nation contrasts the evil Angra Mainyu with the wise Ahura Mazda, who are described in the Avesta. For 10 points, name this home of Baha'i and Zoroastrianism.**

ANSWER: Iran [or Persia] <JR>

18. **One of this author's characters switches clothes with his slave three times; earlier that man took a boat across a river while making that slave walk around it. Another play by this author features a stolen prophecy proclaiming that a sausage-seller will become ruler. A play by this man features a female personification of Peace, and, in that play, a group of (*) women hole themselves up in a treasury building. Another of his plays features the poetry of two competing playwrights being "weighed" on scales. One of his title characters aims to end the Peloponnesian war through a sex boycott. For 10 points, name this Greek comedian who wrote *The Knights*, *The Frogs*, and *Lysistrata*.**

ANSWER: Aristophanes <LL>

19. **A player of this instrument who died at age 25 was memorialized by Benny Golson's song "I Remember Clifford." Another player of this instrument often sang the title of one of his songs to the octave jumping figure in its "A" section. This was the highest instrument in "The Quintet," which also featured Charles Mingus, Bud Powell, and Max Roach. A player of this instrument wrote (*) "Salt Peanuts," "Groovin' High," and "A Night in Tunisia," helping to create bebop. Charlie Parker often collaborated with a man who puffed out his cheeks while playing one of these instruments with a bent horn. For 10 points, name this instrument played by Dizzy Gillespie and Louis Armstrong.**

ANSWER: trumpets [prompt on horns] <JR>

20. **This city's involvement in the silk trade made it the namesake of a kind of woven fabric where the pattern can be seen from both sides. Somehow, an ancient material named for this city includes carbon nanotubes that make it super-strong. In this city, eight Roman columns were used in the Dome of the Treasury, in a Great Mosque decorated with Byzantine mosaics. This city became a capital under (*) Muawiyah. Many swords with wavy surfaces were made from this city's namesake steel. After 750, the capital was moved from this city to Kufa and then to Baghdad under the Abbasids. For 10 points, name this capital of both the Umayyad caliphate and modern Syria.**

ANSWER: Damascus [or Dimashq; or ash-Sham] <JR>

Tiebreaker

21. This poet usually alternated between iambic tetrameter and iambic trimeter [“**TRI**H-muh-tur”], writing quatrains in so-called “common” meter. This poet, whose works were heavily edited by Thomas Wentworth Higginson, described an “unmoved” figure who closes “the valves of her attention.” This poet wrote that “Centuries...[feel] shorter than” a day when “The Dews drew quivering and chill.” This poet lived almost (*) her whole life in Amherst, Massachusetts, and she used ungrammatical dashes to write “The Soul selects her own Society” and a poem about a Carriage that held “but just Ourselves – And Immortality.” For 10 points, name this poet of “Because I could not stop for death.”

ANSWER: Emily (Elizabeth) **Dickinson** <JR>

Bonuses

1. This sentence is followed by a description of a “damp, drizzly November” of the soul. For 10 points each:

[10] Name this sentence that begins the chapter “Loomings.” After it, the narrator introduces his story, which took place “Some time ago”—but “never mind how long [ago] precisely”—when he had “little or no money.”

ANSWER: “Call me Ishmael.”

[10] “Call me Ishmael” is the first sentence of this novel by Herman Melville, in which Captain Ahab hunts the title white whale.

ANSWER: *Moby-Dick*; or, *the Whale*

[10] In *Moby-Dick*, two whales are killed by Stubb and Flask, who have *this* job. Starbuck also has this job title.

ANSWER: mates [prompt on officers] (They’re second, third, and chief mate, respectively.) <JR>

2. This composer’s early works include five orchestral songs with texts from postcards by Peter Altenberg. For 10 points each:

[10] Name this early 20th-century composer of a *Chamber Concerto* and the *Lyric Suite* for string quartet. He’s probably most famous for two operas that use technology like a player piano and a silent film.

ANSWER: Alban (Maria Johannes) Berg

[10] Berg, along with Anton Webern and their teacher Arnold Schoenberg, was part of a “school” of music named for this European city. Composers from this city were the first to use the twelve-tone technique.

ANSWER: Vienna [or Wien]

[10] Berg also wrote a concerto for this instrument dedicated “to the memory of an angel.” This is the highest-pitched string instrument.

ANSWER: violins <JR>

3. Before a 2016 exposé, a fan theory held that this woman was actually translator Ann Goldstein. For 10 points each:

[10] Name this mysterious Italian novelist, whose four-part series of *Neapolitan Novels* was finished in 2014.

ANSWER: Elena Ferrante [accept Anita Raja]

[10] Ann Goldstein also translated this author’s 2016 book, *In Other Words*, from its original Italian. That might be surprising, since this American author wrote *The Namesake* and *Interpreter of Maladies* in her native English.

ANSWER: Jhumpa Lahiri [Nilanjana Sudeshna Lahiri]

[10] Jhumpa Lahiri’s work focuses on Americans like Mr. and Mrs. Das who have roots in this South Asian country. Rabindranath Tagore was from what is now this modern country.

ANSWER: Republic of India [or Bharat Ganarajya] <JR>

4. For 10 points each—answer the following about a Buddhism in Japan:

[10] This school of Buddhism, though popular in Japan, was actually founded in Tang dynasty China. It emphasizes mindfulness of one’s self through meditation.

ANSWER: Zen [or Chan]

[10] Zen Buddhists meditate on koans, a famous one of which is about one of *these* body parts. The *hamsa* amulet depicts a symmetrical one of these body parts, often with an eye in the middle.

ANSWER: hands [accept palms]

[10] Shingon Buddhism was spread in Japan by *this* monk, who is credited with inventing the *kana* writing that evolved into Japan’s modern syllabaries.

ANSWER: Kukai [or Kobo-Daishi] <MK/JR>

5. This politician was instrumental in the banning of the drug khat. For 10 points each:

[10] Name this politician who was Home Secretary from 2010 to 2016, creating the National Crime Agency in the process.

ANSWER: Theresa (Mary) **May** [accept Theresa Mary **Brasier**]

[10] Theresa May succeeded David Cameron as Prime Minister of the U.K. after the referendum on *this* action. Michael Gove and Nigel Farage advocate this action, which is usually known by a mashup nickname.

ANSWER: **Brexit** [accept any answer involving the **U.K.** leaving the **European Union**]

[10] Charming enough, it's thought that Theresa May was introduced to her husband by *this* then-future prime minister of Pakistan, who was assassinated in 2007. This woman's father Zulfikar was executed in 1979.

ANSWER: Benazir **Bhutto** <JR>

6. This man published a misleading "Report to the King" in 1781, which disguised France's shaky financial situation. For 10 points each:

[10] Name this French finance minister from 1777 and 1781, whose dismissal in 1789 led to the storming of the Bastille.

ANSWER: Jacques **Necker**

[10] A month before the Bastille was stormed, the Estates-General was cancelled, prompting this document. This text calls its signers the "National Assembly," and includes a promise to stay put until the writing of a Constitution.

ANSWER: **Tennis Court** Oath [or Serment du **Jeu de Paume**]

[10] This king dismissed the Estates-General. He was later guillotined in 1793, along with his wife, Marie Antoinette.

ANSWER: **Louis XVI** [prompt on just **Louis**] <LL>

7. For 10 points each—answer the following about folds in geology:

[10] Folds are classified as "anticline" or "syncline" depending on the final positions of *these* features of the rock. These features arise because rock is created in a uniform fashion on top of older rock; a description is fine.

ANSWER: rock **layers** [or **strata**; or **stratum**]

[10] Folds are often formed along with *this* kind of rock, which is created when magma pushes up older rock and then solidifies while still below the surface.

ANSWER: **intrusive** (igneous) rock [or **intrusions**; prompt on **igneous** rock]

[10] Intrusions often consist of dikes (which form from cracks *in* layers of rock) or *these* structures (which form in cracks *between* rock layers). These structures are named for being more or less flat and horizontal.

ANSWER: **sills** <JR>

8. The plot of this story is set in motion by an invitation from the Minister of Public Instruction. For 10 points each:

[10] Name this short story by Guy de Maupassant, in which Mathilde Loisel and her husband pawn all of their belongings to replace the title object.

ANSWER: "The **Necklace**" [or "La **parure**"; accept "The **Diamond Necklace**"]

[10] Like many other stories by Maupassant, "The Necklace" includes a twist at *this* point in the plot. This part of the story follows the dénouement; a description is fine.

ANSWER: **ending** [accept reasonable equivalents like "**close**"]

[10] Maupassant also wrote novels, including this book about the two sons of Gêrôme Roland. This novel's first title character finds out that his brother is illegitimate after finding Léon Maréchal's love letters to his mother.

ANSWER: **Pierre et Jean** [or **Pierre and Jean**] <JR>

9. After an investigation into this scandal, Robert Fiske discovered that David Hale made a loan that would benefit the Madison Guaranty Association, for 10 points each:

[10] Name this political scandal that involved an investigation into the business dealings of Jim and Susan McDougal.

ANSWER: **Whitewater** controversy/scandal

[10] The Whitewater scandal was one of several brought against Bill Clinton during *this* proceeding. Only Clinton and Andrew Johnson have undergone this procedure, since Richard Nixon resigned to avoid it.

ANSWER: **impeachment** [accept word forms like **impeaching**]

[10] Clinton appointee Janet Reno was the first woman to serve under *this* position. Other holders of this federal position have included Elliot Richardson, John Ashcroft, and Robert F. Kennedy.

ANSWER: **Attorney General** [or **AG**] <LL>

10. This film won an Oscar for Best Editing, mostly due to producer Richard D. Zanuck. For 10 points each:

[10] Name this 1975 film, which more or less invented the “summer blockbuster.” It was only its director’s second theatrical feature, following *The Sugarland Express*.

ANSWER: **Jaws**

[10] After sighting the title shark of *Jaws* while chucking bait into the ocean, Brody walks backwards into the cabin and says *this* phrase.

ANSWER: **“You’re gonna need a bigger boat.”**

[10] The iconic score of *Jaws* was written by this man, who also scored *Star Wars*, *Harry Potter*, *Jurassic Park*, *E.T.*, and a zillion other movies.

ANSWER: John (Towner) **Williams** <JR>

11. This craft was revolutionized in the 18th century by men like George Hepplewhite. For 10 points each:

[10] Name this craft of Thomas Sheraton and Thomas Chippendale. Hepplewhite and Chippendale were known for their decorative splats in this craft, while Sheraton characteristically used swags.

ANSWER: **furniture** design [accept **cabinetmaking**; prompt on **carpentry**]

[10] I won’t explain what a swag is, but a splat is the central part of *this* component of a chair. This vertical part of a chair rises above its seat.

ANSWER: **backs**

[10] Chippendale was also known for his use of the “cabriole” variety of *these* chair parts, which are often *attached* to a part with a “ball and claw” design.

ANSWER: **legs** (The ball and claw is a typical foot design.) <JR>

12. Only one of the conductors of this experiment won the 1943 Nobel Prize in Physics for it, probably because the other one was a big-time Nazi. For 10 points each:

[10] Name this 1922 experiment, which used an inhomogeneous magnetic field to split a beam of silver atoms, producing two bright dots on a screen.

ANSWER: **Stern–Gerlach** experiment

[10] The Stern–Gerlach experiment confirmed the existence of *this* quantum form of intrinsic angular momentum. Electrons have two possible values for this property, usually called “up” and “down.”

ANSWER: **spin**

[10] The discovery of spin helped finally to explain this effect, discovered by its Dutch namesake way back in 1896. In this effect, an applied magnetic field splits the spectral lines of an atom based on spin state.

ANSWER: **Zeeman** effect <SE>

13. This author drew on her anthropological training under Franz Boas in books like *Mules and Men*. For 10 points each.

[10] Name this author of the short stories “Sweat” and “Turpentine Love.” She’s more famous for writing about Janie Crawford in the novel *Their Eyes Were Watching God*.

ANSWER: Zora Neale **Hurston**

[10] Zora Neale Hurston grew up in this town and featured it in many of her stories. In *Their Eyes Were Watching God*, Janie Crawford’s second husband, Jody Starks, becomes the mayor of this Florida town.

ANSWER: **Eatonville**

[10] Vergible Woods is the real name of *this* third and final husband of Janie Crawford. Janie shoots this man after he’s bitten by a rabid dog.

ANSWER: **Tea Cake** <MK>

14. This philosopher’s teachings were later expanded by Xunzi [“SHEWN tzu”]. For 10 points each:

[10] Name this Chinese philosopher who advocated virtues like *ren* and *li*. His sayings are compiled as the *Analects*.

ANSWER: **Confucius** [or **Kongzi**; or **Kong** Fuzi; accept **Zhongni**]

[10] *Li* sort-of includes *this* specific virtue, which consists of deference to one’s elders. It’s generally thought that this virtue is a kind of “training” for being obedient to an autocratic state.

ANSWER: **filial** piety [or **xiao** [“shyow”]]

[10] *Ren* and *Li* are two of this many “constants” that later Confucians codified as the basis of ethical behavior.

Confucius supposedly compiled this many “Classics,” which include the *I Ching* and the *Spring and Autumn Annals*.

ANSWER: **five** <JR>

15. For 10 points each—answer the following about the brainstem:

[10] The brainstem is the brain’s interface with this other component of the central nervous system. Most nerves originate in this long, nerve-like structure.

ANSWER: **spinal cord** [prompt on **spine**]

[10] All but two of the cranial nerves originate in the brainstem. One of the ones that doesn’t is *this* nerve, which crosses over at a namesake chiasm, and which receives information from areas like the fovea centralis.

ANSWER: **optic** nerve [or cranial nerve **II**]

[10] The brainstem is divided into three parts. This lowest of the three parts regulates automatic functions like breathing and heartbeat.

ANSWER: **medulla** oblongata <JR>

16. A riot broke out at the Abbey Theater after the fourth performance of this play, which formed part of its author’s “Dublin Trilogy.” For 10 points each:

[10] Name this play in which Jack and Nora Clitheroe experience the Easter Rising. Characters like Peter Flynn loot in the third act of this play, and Bessie is mistaken for an enemy sniper and shot at its end.

ANSWER: *The **Plough and the Stars***

[10] *The Plough and the Stars* is part of Sean O’Casey’s “Dublin Trilogy” of plays about *this* country.

ANSWER: **Ireland** [or **Eire**]

[10] Another Irish playwright is this author of *Endgame*. His most famous play features a bizarre monologue by Lucky and opens with the declaration “nothing to be done” from a man whose name means “tarragon.”

ANSWER: Samuel (Barclay) **Beckett** (That play is *Waiting for Godot*.) <LL>

17. This woman was the likely model for the sculptures *Back* and the painting *Blue Nude*. For 10 points each:

[10] Name this woman, who was depicted amidst bright green and pink splotches in *Woman with a Hat*.

ANSWER: **Amélie Matisse** [or Henri **Matisse's Wife**; prompt on partial answer; full name: Amélie Noellie Matisse-Parayre]

[10] Matisse's *Woman with a Hat* was one of the first paintings of this art movement, since it sparked the remark "Donatello among the wild beasts." This movement was characterized by wild brushstrokes and shocking colors.

ANSWER: **Fauvism** [or Les **Fauves**]

[10] Before *Woman with a Hat*, Matisse was painting in the "Divisionist" version of *this* artistic style, exemplified by George Seurat's *La Grande Jatte*. In this style, images are formed out of lots of little dots of paint.

ANSWER: **Pointillism** <JR>

18. Cities in this province include a number of well-preserved sites like Leptis Magna. For 10 points each:

[10] Name this province once governed by a proconsul from Zama Regia. It lay between Mauretania and Cyrenaica.

ANSWER: Roman **Africa** [or **Africa proconsularis**]

[10] Cyrenaica lay between Roman Africa and *this* other province, which had been conquered from its last queen, Cleopatra VII.

ANSWER: Roman **Egypt** [or **Aegyptus**]

[10] Roman Africa and Egypt were hugely important as the major producers of *this* good for the Empire. This good was provided free to citizens of the city of Rome, prompting a satirical line by Juvenal.

ANSWER: **grain** [accept **bread**; accept **wheat**; accept **corn**; prompt on **bread and circuses**] <JR>

19. Ragnarok is forecast to be a pretty violent time. Answer some questions about all the deaths that are fated to happen then, for 10 points each.

[10] Heimdall and this Norse trickster god, who is mostly responsible for the predicted carnage, are fated to kill each other.

ANSWER: **Loki** [or **Lopttr** or **Hveðrungr**]

[10] This creature, a son of Loki, is fated to kill Odin at Ragnarok. In the meantime, this animal is bound with a chain made of six paradoxical substances like a woman's beard and a fish's breath.

ANSWER: **Fenrir** [or **Fenrisulfr**, **Hroðvitnir**, or **Vanagandr**; accept translations like the **Fenris Wolf**, the **fen-dweller**, the **Fame-Wolf** or the **Monster** of the River **Van**]

[10] Odin is also fated to be avenged by this silent son of his, who will kill Fenrir by stomping on his jaw with a special boot he obsessively thickens for that purpose. He will also manage to survive Ragnarok.

ANSWER: **Viðarr** (Note: "ð" is an "eth," so accept answers that pronounce it as a "th" sound or as a "d" sound.) <BY>

20. One application of this technique involves pouring a mixture of detergent, salt, and water onto some smashed strawberries. For 10 points each:

[10] Name this technique, whose "liquid-liquid" form exploits differing relative solubilities. A separatory funnel is commonly used to accomplish this task.

ANSWER: **extraction** [accept liquid-liquid **extraction**; accept DNA **extraction**]

[10] A mixture of phenol and *this* compound is used in a specific type of liquid-liquid extraction used to purify nucleic acids. The deuterated form of this compound is a common solvent in NMR spectroscopy.

ANSWER: **chloroform** [or **C-H-C-L-3**]

[10] Another type of liquid-liquid extraction uses *these* devices. These devices can also be used to separate isotopes of elements by rapidly whirling them around.

ANSWER: **centrifuges** <AF>