

Bulldog High School Academic Tournament 2020 (XXIX): scary vibes

Written by Yale Student Academic Competitions (Zach Alvarez, Joe Class, Stephen Eltinge, Ben Colon-Emeric, Michał Gerasimiuk, Mauricio Gonzalez-Sanchez, Hasna Karim, Michael Kearney, Sophie Lai, Alisia Pan, Matt Pecoraro, David Rubin, Varun Sikand, Daniel Sheinberg, Jeremy Sontchi, Sebastian Torres, James Wedgwood, and Bo You) with Olivia Murton and Annabelle Yang

Edited by Hasna Karim, Michael Kearney, James Wedgwood, and Annabelle Yang, with Jacob Reed and Stephen Eltinge

Packet 6 Tossups

1. **This poet wrote how a woman takes him for an “untutor’d youth” in one poem; in another poem, he characterized a favorite subject as “the star to every wandering bark.” This poet wrote about “Time’s ... bending sickle” in a poem that claims “love is not love / which alters when it alteration finds.” That poem by this author begins “let me not to the (*) marriage of true minds / admit impediments.” In another poem, he said that “coral is far more red” than his mistress’ lips. This poet wrote that “rough winds do shake the darling buds of May” in a poem that begins “shall I compare thee to a summer’s day?” For 10 points, name this poet of 154 sonnets, who also wrote *Othello*.**

ANSWER: William Shakespeare <JW>

2. **In an 1866 experiment, the effect of this phenomenon was visualized using the pattern of powder that settled in Kundt’s tube. A non-diffusive mode of heat transfer in superfluids is called the “second” type of this phenomenon. Peaks in the spectra of certain types of this phenomenon are called formants. The square root of the bulk modulus over the (*) density gives a characteristic parameter of this phenomenon that is greater in solids than in gases. The compression waves of this phenomenon propagate at 343 meters per second in dry air. For 10 points, name these waves that must have a frequency between 20 and 20,000 hertz to be detected by human ears.**

ANSWER: sound [accept sound waves or acoustic waves; accept speech; prompt on waves] <SE>

3. **This character’s beauty causes another character to shout her name three times, only to be warned that “Here, the graveyards are full.” This woman asserts “no one will ever possess me” after recalling her ancestor’s murder in the aria “In questa reggia.” This character, represented by the melody of (*) “Mo Li Hua,” tortures the slave Liù for a prince’s name after he answers her three riddles correctly. This character commands that in the entire city, “no one sleeps” before Calaf declares his coming victory in the aria “Nessun dorma.” For 10 points, identify this Chinese princess who titles an opera by Giacomo Puccini.**

ANSWER: Turandot <SL>

4. **Emery’s rule explains that the “social” version of this phenomenon exists only between closely related species. W.D. Hamilton used the Red Queen hypothesis to explain sexual reproduction in light of this kind of interaction. Species which engage in the (*) brood type of this phenomenon include the cuckoo, which lays its eggs in other birds’ nests. The “ecto-” kinds of these species, including fleas, live on other species, while the “endo-” kind of these species, like *Plasmodium*, live within the host’s body. The interaction between humans and tapeworms is—for 10 points—what type of interspecies interaction where one organism benefits to the other’s detriment?**

ANSWER: parasitism [accept word forms like parasite] <HK>

5. Christopher Clark challenged the notion that “steadily building causal pressure” caused this war in his history *The Sleepwalkers*. A line from the poem “For the Fallen” titles Peter Jackson’s 2018 documentary about this war, *They Shall Not Grow Old*. Barbara Tuchman chronicled the first months of this war in *The Guns of August*. Unofficial (*) Christmas truces occurred in the first year of this war, in which civilians first grew “Victory Gardens.” During this war, Joseph Gallieni requisitioned taxicabs to send reservists to the Battle of the Marne. Battles occurred at Verdun and the Somme during—for 10 points—what war that began with the assassination of Archduke Franz Ferdinand?

ANSWER: World War I [or First World War; or WWI; or the Great War] <MK>

6. An influential essay titled for this philosophical position attacks the analytic–synthetic distinction and reductionism, two central tenets of logical positivism. The defense of this position is the main purpose of *An Essay Concerning Human Understanding*, and an essay written by W. V. O. Quine analyzes (*) “Two Dogmas” of this position. The notion that the human mind begins as a *tabula rasa*, or blank slate, was formulated as an argument for this position by John Locke, one of its major proponents. For 10 points, name this philosophical position that all knowledge comes from sensory experience, a stance often contrasted with rationalism.

ANSWER: empiricism <JW>

7. When asked “shouldn’t we be doing something—constructive?”, a character in this play says “what did you have in mind? ... A short, blunt human pyramid?” A character in this play wins 27 to 3 in the “Game of Questions” without knowing he is playing. A group of characters in this play hide in barrels when pirates attack the ship they are on. The protagonists of this play watch the (*) Tragedians rehearse *The Murder of Gonzago*. This play ends when its title characters’ deaths are announced by an English ambassador and begins with one character winning 92 coin flips successively. For 10 points, what absurdist comedy by Tom Stoppard depicts two friends of Hamlet?

ANSWER: Rosencrantz and Guildenstern Are Dead <VS>

8. The square root of the cohesive energy density gives one indicator of this property called the Hildebrand parameter. Slow ascents and decompression stops are necessary upon returning from underwater dives to prevent a painful condition caused by the decrease in this quantity for inert gases as pressure (*) decreases. That phenomenon can be explained by Henry’s Law, which explains that *this* property of a gas is proportional to its partial pressure above a liquid. The product of ionic concentrations yields a product named for this quantity, K_{sp} [K-s-p]. Though most silver salts tend not to have this property in water, silver nitrate does. For 10 points, name this ability of a solute to dissolve in a solvent.

ANSWER: solubility [accept word forms like soluble] <BY>

9. A 1912 meeting at the Hague passed the “International [this good] Convention,” regulating trade of it and related goods. The majority of the world’s supply of this good is produced in the “Golden Triangle” and the “Golden Crescent.” At a public ceremony, twenty thousand chests of this good were dissolved in lime and seawater; (*) Lin Zexu led that ceremony, which occurred at Humen. In major cities, this good was consumed in namesake “dens.” A war over this good concluded with the signing of the first “unequal treaty,” the Treaty of Nanking. For 10 points, name this drug over which Britain and China fought two 19th-century wars.

ANSWER: opium [or opium dens; accept First Opium War; accept Opium Wars] <MK>

10. An automat offering pies during this period was depicted by Berenice Abbott in her *Changing New York* project. A photographer of this era published a survey of the American South with contrived testimonies by Erskine Caldwell, titled *You Have Seen Their Faces*. That woman also photographed massive floodgates in Montana, documenting the construction of Fort Peck (*) Dam during this time period. One photograph taken during this period features a man in a white hat clutching a tin cup at the White Angel Jungle, while another depicts Florence Owens Thompson. For 10 points, identify this historical period, photographed by Dorothea Lange in *Migrant Mother*.

ANSWER: **Great Depression** [accept **1930s**] <SL>

11. The Ainu language is sometimes thought to be part of a “Paleo-” language family named for this region. The Yukaghir people live in the basin of the Kolyma River in this region, and many Buryat people live in a republic in this region with its capital at Ulan-Ude [OO-day]. The closest Old World relatives to Native Americans, the (*) Chukchi people, live in this region. This region lies east of the Ural Mountains. A namesake railway in this region heads north around Lake Baikal, and that railway connects Moscow to Vladivostok, a major port *here*. Many gulags were once located in—for 10 points—what enormous, frigid Asiatic portion of Russia?

ANSWER: **Siberia** <HK>

12. One portion of this text is divided into parts like “Women,” “Purities,” “Festival,” and “Seeds.” A section of this text, whose name translates to “Chapters of the Fathers,” asks “If I am not for myself, who will be for me? And being for myself, what am ‘I’? And if not now, when?” That section is the Pirkei Avot. There are two versions of this text, the (*) “Palestinian” and the “Babylonian.” The six orders of one section of this text were arranged by Hillel the Elder. This text consists of the Gemara and the Mishnah. For 10 points, what primary text of Rabbinic Judaism compiles the religion’s oral law?

ANSWER: **Talmud** [accept **Mishnah** before “Palestinian”] <DR>

13. This symphony opens with a flute and a clarinet playing slow, repeated triplet Gs, under which an oboe then goes up the scale from G to E-flat. According to the composer, the ending of this symphony’s slow movement represents the “Distant sound of thunder.” Two harps and two cornets only play in this symphony’s A-major second movement, which depicts a waltz. This symphony’s fifth movement quotes the (*) *Dies Irae* [DEE-ess EE-ray] after a grotesque version of a theme that represents the actress Harriet Smithson. This symphony quotes its *idée fixe* [ee-day FEEX] in movements like “Dream of a Witches’ Sabbath” and “March to the Scaffold.” For 10 points, name this opium-inspired symphony by Hector Berlioz.

ANSWER: **Symphonie fantastique** [accept just **fantastique** after “symphony”; accept **Fantastic Symphony**] <JW>

14. Some of these animals ate Bellerophon’s father Glaucus, while others consumed Heracles’ lover Abderus. To foretell the death of Achilles, Hera gives the power of speech to one of these animals named Xanthus. Hector’s most-frequent epithet calls him “tamer” of these animals, the first of which was created by (*) Poseidon as a gift for Athens. The eighth labor of Heracles involved capturing some man-eating examples of these animals owned by the Bistonian king Diomedes. Chiron, like all centaurs, was half-human and half-[this animal]. Pegasus was—for 10 points—a winged example of what kind of animal?

ANSWER: **horses** [or **mares**] <MK>

15. A character in this novel with the same name as its author sells “old newspapers and empty bottles” in Paris. Another character in this novel escapes from a train filled with bodies of the dead, learning later that the memory of their massacre has been washed away by a rain that falls for over four years. In this novel, permanent Ash Wednesday crosses let the government recognize (*) 17 characters with the same name. At the end of this novel, a child is born with a pig’s tail and Aureliano Babilonia translates some manuscripts left by Melquíades. For 10 points, name this novel that tells the saga of the Buendía family and takes place in Macondo, by Gabriel García Márquez.

ANSWER: One Hundred Years of Solitude [or Cien años de soledad] <JW>

16. In his book *A View of the Conduct of the Executive*, this man defended his actions as Minister to France. During this man’s presidency, overspeculation on frontier lands caused widespread foreclosures and a financial panic. During this man’s presidency, Spain ceded Florida to the United States in the (*) Adams–Onís Treaty. This man ran for reelection unopposed, winning all but one electoral vote. “The Era of Good Feelings” primarily occurred during this man’s presidency. For 10 points, name this fifth president, whose namesake “doctrine” discouraged European nations from intervening in the Western Hemisphere.

ANSWER: James Monroe <MK>

17. This value is the Lebesgue measure of the set of rational numbers, and a function that satisfies Laplace’s equation over a region will have this many local maxima within the region. The integral of sine of x dx from $-N$ to N , where N is any real number, is equal to this value. The derivative of the natural log of x approaches this value (*) asymptotically as x approaches infinity. An inflection point occurs when the second derivative of a function is equal to this value, and the derivative of any constant function is equal to this value at all points. For 10 points, give this number whose reciprocal is undefined.

ANSWER: zero <JW>

18. During a ceremony arranged by Illyrio Mopatis, this character receives a white mare and three stone objects as wedding-gifts. This character crucifies the slave-masters of Meereen after taking the city. During the Battle of Ice and Fire, this character witnesses the death of her friend and would-be lover, (*) Jorah Mormont. This character is known by the titles “Unburnt” and “Breaker of Chains.” After this character burns down King’s Landing, her nephew Jon Snow stabs her with a dagger. For 10 points, name this Khaleesi who is called the “Mother of Dragons,” a character from *Game of Thrones* played by Emilia Clarke.

ANSWER: Daenerys “Stormborn” of the House Targaryen [or Daenerys “Stormborn”; accept Dany; prompt on Targaryen] <BY>

19. The Third Servile War, but not the First or Second, was sparked by one of these people who studied studying at Capua under Lentulus Batiatus. These people were divided into four classes: *murmillo*, *retiarius*, *Samnite*, and *Thracian*. The emperor Commodus participated in the (*) *ludi* of these people. Marius based his legionary training on techniques used by members of this profession, who could be condemned *pollice verso*. According to legend, these people shouted “we who are about to die salute you” before fighting. For 10 points, name these Romans who fought for entertainment in public arenas like the Colosseum.

ANSWER: gladiators [or gladiatores] <MK>

20. A story within a story from this novel is entitled “The Man Who Was Recklessly Curious” and involves Lothario seducing Anselmo’s wife, Camilla. In this novel, the Duke and Duchess make one character the governor of Barataria; earlier, Ginés de Pasamonte had stolen that character’s donkey, Dapple. A character in this novel tries to acquire a (*) barber’s basin that he believes is the Helmet of Mambrino. This novel’s protagonist rides the horse Rocinante and loves a woman he calls Dulcinea del Toboso. Sancho Panza aids the title chivalry-obsessed nobleman in—for 10 points—what novel by Miguel de Cervantes?

ANSWER: Don Quixote <SL>

Tiebreaker

Alexandre de Rhodes developed an alphabet for this country’s language that involves heavy diacritic use. A precursor to this country repelled a Mongol invasion under Omar Kham at the Battle of Bạch Đằng [BIKE-dahng]. A combined command of Pierre Langlais and Christian de Castries lost a battle in this country. General (*) Ma Yuan defeated a pair of rebel leaders from this country, the Trung Sisters. The Battle of Dien Bien Phu occurred in this country. Bao Dai was the last ruler of this country’s Nguyen [win] Dynasty. For 10 points, name this Southeast Asian country whose capital was once called Saigon.

ANSWER: Socialist Republic of Vietnam <HK>

Bonuses

1. The “residual” form of this interaction is the attractive force that binds together protons and neutrons in the nucleus. For 10 points each:

[10] Name this short-ranged member of the four fundamental forces that is carried by gluons.

ANSWER: **strong** force [or **strong** interaction]

[10] The strong force is so-named because over short distances it is orders of magnitude stronger than the other fundamental forces, namely the weak force, electromagnetism, and this force that affects all objects with mass.

ANSWER: **gravity** [or **gravitation**; or **gravitational** force]

[10] In the Standard Model, this gauge theory explains the strong force in terms of quarks and gluons. David Gross, Frank Wilczek [wilt-shek], and David Politzer won a Nobel Prize for proving the asymptotic freedom of this theory.

ANSWER: **quantum chromodynamics** [or **QCD**] <SE>

2. In a David Rosenhan study, a group of actors faked the most notable symptoms of this condition, including hallucinations. For 10 points each:

[10] Name this psychiatric disorder whose name misleadingly means “split mind.” Treated with antipsychotics like haloperidol, this condition was once classified into “paranoid” and “catatonic” types.

ANSWER: **schizophrenia** [do NOT accept “split personality” or “multiple personality disorder” or “dissociative identity disorder”]

[10] This psychological therapy which focuses on actively recognizing and modifying maladaptive thinking has been tested in schizophrenia treatment to little significant effect. It’s far more effective in treating anxiety disorders.

ANSWER: **cognitive-behavioral therapy** [accept **CBT**, prompt on partial answer]

[10] Another use of CBT is in the treatment of these conditions which come in antisocial, borderline, and narcissistic types. The antisocial one of them is characterized by blatant disregard for others and a low sense of morality.

ANSWER: **personality disorders** [accept more specific answers like antisocial **personality disorder** or borderline **personality disorder**] or <HK>

3. Postcolonial scholar Edward Said claimed this novel relegates Hindus to the background while highlighting the affinities between Muslims and the West. For 10 points each:

[10] Name this E. M. Forster novel in which one of those Muslims, Dr. Aziz, is acquitted after Adela Quested recants her accusation of sexual assault.

ANSWER: ***A Passage to India***

[10] Aziz is suspected of the crime because this type of object belonging to Adela is found in his possession. In another novel, some characters raid a camp to take this type of object, and not a conch shell as first thought.

ANSWER: Adela’s field **glasses** [or Piggy’s **glasses**, or **binoculars**; accept equivalents]

[10] Forster based *this* fictional cave complex where the supposed assault took place on a Mauryan rock-cut cave in Bihar, India. Rather lazily, Forster only changed the caves’ first letter from their real-life counterpart.

ANSWER: **Marabar** caves [do not accept or prompt on “Barabar caves”] <DS>

4. This condition supposedly led people to collect one man's coffee dregs and cigar butts, and even to try pulling out locks of his hair. For 10 points each:

[10] Give this term that Heinrich Heine coined to describe the unprecedented hype surrounding a nineteenth-century piano virtuoso. It's sometimes seen as a predecessor to modern celebrity culture.

ANSWER: **Lisztomania**

[10] Franz Liszt's "La Campanella" is an arrangement of a piece by this *other* virtuoso, an Italian who wrote *24 Caprices* for solo violin.

ANSWER: Niccolò **Paganini**

[10] Liszt's "La Campanella" is a piece in *this* genre. Liszt also wrote twelve *Transcendental* examples of these pieces, while Chopin's works in it have nicknames like "Black Key" and "Revolutionary."

ANSWER: **études** [or **studies**] <JW>

5. The Druze venerate a ruler from this dynasty. For 10 points each:

[10] Name this dynasty whose ruler Al-Hakim ordered the demolition of the Church of the Holy Sepulchre. This dynasty was overthrown by Saladin's Ayyubid dynasty.

ANSWER: **Fatimid** dynasty [or **Fatimid** caliphate; accept **Fatimites**]

[10] The Fatimid dynasty had its capital in this city, where it built the Al-Azhar Mosque. The Mamluk Sultanate also had its capital in this city.

ANSWER: **Cairo**

[10] Members of the Fatimid dynasty followed this second-largest branch of Islam, which is often contrasted with Sunni Islam.

ANSWER: **Shia** Islam <MK>

6. This oceanic region is notable for its namesake brown seaweed, deep blue water, and significant role in the migration and mating patterns of several species of eel. For 10 points each:

[10] Name this oceanic region that is bounded by four currents circling around it in a clockwise formation. This region is known as a "sea" despite the fact that it is not bounded by land on any side.

ANSWER: **Sargasso** Sea

[10] This is the current that forms the western border of the Sargasso Sea. This large warm-water current is responsible for the relatively warm climate of Northern Europe.

ANSWER: **Gulf Stream**

[10] The Sargasso Sea and Gulf Stream are both contained in this second-largest ocean, named for a Titan. This ocean lies to the east of the Americas and to the west of Europe and Africa.

ANSWER: **Atlantic** Ocean <JW>

7. The yearlong disappearance of one of these animals foreshadows, and is eventually overshadowed by, the disappearance of Kumiko Okada. For 10 points each:

[10] Name these animals. In the first section of *The Wind-Up Bird Chronicle*, Kumiko asks her husband, Toru, to search for a missing one of these animals in the alley behind their house.

ANSWER: **cats**

[10] This author of *The Wind-Up Bird Chronicle* wrote about an elderly man named Nakata who can speak with cats in *Kafka on the Shore*. He also wrote *Norwegian Wood* and an essay entitled "On the Death of My Cat."

ANSWER: Haruki **Murakami**

[10] In this satirical Natsume Soseki novel narrated in shockingly high register, an unnamed feline contemplates the inferiority of asinine humans like Mr. Sneaze. Unfortunately, the cat drowns in a barrel at the novel's end.

ANSWER: **I Am a Cat** [or **Wagahai wa Neko de Aru**] <HK>

8. The subject of one sculpture with this characteristic might be a baboon, an Afghan hound, or the model Sylvette David. For 10 points each:

[10] Name this characteristic, represented in the name of that sculpture by Pablo Picasso. This characteristic also describes a series of “Film Stills” by the photographer Cindy Sherman.

ANSWER: being **untitled** [accept equivalent answers]

[10] That untitled Picasso sculpture can be found in this city, which is also home to Anish Kapoor’s *Cloud Gate*, a giant mirrored bean in Millennium Park.

ANSWER: **Chicago**

[10] This bright-red Alexander Calder stabile, titled for a bird, can also be found in Chicago. It is located in front of the Kluczynski Federal Building.

ANSWER: **Flamingo** <SL>

9. This period of the French Revolution ended with the Thermidorian Reaction. For 10 points each:

[10] Name this bloody, year-long phase of the Revolution in which Maximilien Robespierre’s Committee of Public Safety executed many political dissidents.

ANSWER: **Reign of Terror** [or **The Terror**; or *la terreur*]

[10] Those who led the Reign of Terror identified themselves with these radical Parisian wage-earners. Their name literally means “without breeches,” as they wore long trousers instead of fashionable, knee-high breeches.

ANSWER: **sans-culottes**

[10] Most of the victims of the Reign of Terror were executed by this device, which decapitated them. This device was used to execute Marie Antoinette and Louis XVI.

ANSWER: **guillotine** <MK>

10. Answer the following about various biomes, for 10 points each:

[10] Name this biome whose climate is classified as ET under the Köppen Climate Classification System. Permafrost is common throughout the treeless plains from which this biome’s name is derived.

ANSWER: **tundra** [accept alpine **tundra** or Arctic **tundra** or Antarctic **tundra**]

[10] Tundra grades out into taiga, a biome of boreal forests whose composition depends largely on the namesake cycle of these events. After these events, primary succession leads to a resurgence of pioneer species like birches.

ANSWER: forest **fires** [accept wild**fires**]

[10] This other fire-prone biome is characterized by a “Mediterranean” climate and drought-resistant plants. In the U.S., this mid-latitude coastal biome exists only in California, though it also exists in southern Australia and Chile.

ANSWER: **chaparral** <BY>

11. Some claim that the bird sounds heard during the telecast of this tournament are fake, being artificially pumped in by its broadcaster, CBS. For 10 points each:

[10] Name this annual tournament held at Augusta National, the first major of the calendar year. Winners of this tournament receive a “Green Jacket” in place of a more traditional trophy.

ANSWER: The **Masters**

[10] The vital 11th, 12th, and 13th holes of Augusta National have this joint nickname. According to legend, this nickname evokes the prayers said by golfers as they enter the stretch of the course.

ANSWER: **Amen Corner**

[10] This American golfer won the 2019 Masters, earning his 15th major championship. In November 2018, Phil Mickelson earned \$9,000,000 by defeating this golfer in a head-to-head match play.

ANSWER: Tiger **Woods** [or **Tiger** Woods; or Eldrick Tont **Woods**] <MK>

12. On this day, Jews read selections from the Book of Lamentations. For 10 points each:

[10] Name this day of the Jewish calendar. It commemorates five historical “calamities,” including the destructions of the Temples and the defeat of the Bar Kokhba revolt.

ANSWER: **Tisha B’Av** [or the **Ninth of Av**]

[10] On Tisha B’Av, Jews perform this activity, which is known in Hebrew as *ta’anit*, for a 25-hour period. Muslims perform this activity between dawn and dusk during Ramadan. Either a description or the proper term is fine.

ANSWER: **fasting** [accept descriptions like **not eating** or **not drinking**]

[10] The only other 25-hour fast in Judaism occurs on this day. On this day, Jews read the entire Book of Jonah during the *minchah*.

ANSWER: **Yom Kippur** <DR>

13. A newlywed couple learns to live together in this author’s play *Barefoot in the Park*. For 10 points each:

[10] Name this playwright, who wrote about the strange relationship between roommates Felix Ungar and Oscar Madison in *The Odd Couple*.

ANSWER: Neil **Simon**

[10] In *The Odd Couple*, Felix moves in with Oscar after performing this action. In Sylvia Plath’s *The Bell Jar*, Esther Greenwood is sent to a treatment center as a result of performing this action.

ANSWER: **attempted suicide** [accept equivalents that indicate failed attempts to take one’s own life; prompt on **suicide**]

[10] *Barefoot in the Park* takes place in Greenwich Village in this state, where Neil Simon lived. This state was also the setting for Simon’s play *Lost in Yonkers*.

ANSWER: **New York** <BCE>

14. Answer some questions about giants in mythology, for 10 points each:

[10] The giant Surt sets the world on fire during this mythological event. Líf and Lífthrasir are the only humans to survive this cataclysmic event, which they accomplish by hiding in Hoddmimir’s forest.

ANSWER: **Ragnarök**

[10] In Greek mythology, this deity gave birth to the giants and Typhon. This goddess was the personification of the earth.

ANSWER: **Gaia** [or **Ge**]

[10] This Finnish sorcerer woke the sleeping giant Vipureen in order to obtain the three missing words he needed to complete a spell. He also lecherously tried to marry the maiden Aino.

ANSWER: **Väinämöinen** <AY>

15. This character’s *nom de guerre* derives from the time she “drove through the bombardment of Riga like a madwoman, with fifty loaves of bread in [her] cart.” For 10 points each:

[10] Name this character who has some shirts stolen by the Chaplain, hears Yvette sing the “Song of Fraternization,” and sings a lullaby over her daughter’s corpse at the end of the work in which she appears.

ANSWER: **Mother Courage** [or **Mutter Courage**; or **Anna Fierling**]

[10] Bertolt Brecht’s play *Mother Courage and Her Children* is set during this seventeenth-century conflict, as is the much earlier novel *Simplicius Simplicissimus*.

ANSWER: **Thirty Years’ War**

[10] Brecht also wrote the play *Saint Joan of the Stockyards*, which reimagined Joan of Arc in this Midwestern city. Carl Sandburg called this city “Tool Maker, Stacker of Wheat ... City of the Big Shoulders.”

ANSWER: **Chicago** <MK>

16. Rumors that Enfield rifle cartridges contained tallow and lard helped cause this conflict. For 10 points each:
[10] Name this conflict that began, according to tradition, with the death of Mangal Pandey. Colin Campbell led a relief of Lucknow during this conflict.

ANSWER: **Sepoy Mutiny** of 1857 [or **Indian Mutiny** of 1857; accept **First Indian War of Independence**; accept equivalents for “mutiny”]

[10] The Sepoys who objected to the use of lard in rifle cartridges belonged to this religion. After the partition of India in 1947, this religion comprised the majority in the Dominion of Pakistan.

ANSWER: **Islam** [accept **Muslims**; accept Sunni **Islam**; accept Shia **Islam**]

[10] Some historians have speculated that part of the tension leading to the Sepoy Rebellion stemmed from the British ban on this practice, which entailed widows leaping onto their husbands' funeral pyres.

ANSWER: **sati** [or **suttee**] <JS>

17. John Goodenough, M. Stanley Whittingham, and Akira Yoshino won the Nobel Prize in Chemistry in 2019 for the development of lithium-ion batteries. For 10 points each:

[10] Lithium ion batteries, like all batteries, contain these systems which generate electricity. These systems consist of two chambers of metal ions in electrolyte solution connected by a salt bridge.

ANSWER: **galvanic cell** [accept **voltaic cell**; do not accept or prompt on “electrolytic cell”]

[10] Galvanic cells generate electricity via the occurrence of this kind of reaction. These reactions which involve the transfer of electrons from one species to another can be written as two half-reactions.

ANSWER: **oxidation-reduction** reactions [accept **redox** reactions or **reduction-oxidation** reaction; do not prompt partial answer]

[10] *Two answers required.* The historical model of a galvanic cell is the Daniell cell, which uses solutions of the sulfates of these *two* elements which exchange a +2 oxidation state.

ANSWER: **zinc** and **copper** [accept **Zn** 2+ and **Cu** 2+; accept either in either order] <MP>

18. Inscriptions in this language, referencing *Zulfiqar*, might be found on the blade of an Ottoman knife known as a *yatagan*. For 10 points each:

[10] Name this language, which is used in inscriptions of Quranic verses on Islamic swords.

ANSWER: **Arabic**

[10] The *yatagan*, along with the Turkish *kilij* and the Indian *talwar*, have this characteristic shape. Mameluke swords also have this shape, which is less pronounced in the Mameluke swords of U.S. Marine officers.

ANSWER: **curved** [description acceptable]

[10] One might see Islamic swords made with watered steel named for this Middle Eastern city. Europeans once thought that the technique for producing wavy-patterned steel originated from this city.

ANSWER: **Damascus** <AY>

19. The innate immune system's toll-like receptors recognize broadly shared classes of molecules carried by various pathogens. Answer the following about some of those structures, for 10 points each.

[10] TLRs can recognize a number of proteins associated with these whip-like bacterial structures which use ATP in order to power locomotion. The eukaryotic versions of these structures also form the “tails” of sperm cells.

ANSWER: **flagella** [or **flagellum**]

[10] Another pattern recognized by TLRs are these molecules which populate the outer membranes of Gram-negative bacteria. They consist of an O-antigen, a core, and Lipid A, and they often act as endotoxins.

ANSWER: **lipopolysaccharides** [or **LPS**]

[10] One last motif recognized by TLRs is the unusually double-stranded form of this molecule. The presence of that form of this molecule is indicative of viral infection and activates enzymes like Drosha and DICER.

ANSWER: **dsRNA** [or **mRNA**; or **ribonucleic acid**; do not accept or prompt on “rRNA” or “tRNA”] <HK>

20. This man was known as the “Little Giant” because of his short stature but powerful politics. For 10 points each:
[10] Name this politician who drafted the Kansas-Nebraska Act. This politician created the Freeport Doctrine to reconcile popular sovereignty and the Supreme Court’s decision in *Dred Scott v. Sandford*.

ANSWER: Stephen A(mold) **Douglas**

[10] Douglas articulated the Freeport Doctrine during his second debate against this Illinois politician. This politician defeated Douglas and two other candidates in the 1860 presidential election.

ANSWER: Abraham **Lincoln**

[10] During the 1860 election, Douglas’ Northern Democrats split the vote with this man’s Southern Democrats. This man was Vice President under James Buchanan.

ANSWER: John C(abell) **Breckenridge** <MK>

Tiebreaker

The archbishop of this city traditionally called the election for the Holy Roman Emperor. For 10 points each:

[10] Name this German city where Johann Tetzel sold indulgences under the direction of Albert of Brandenburg. A goldsmith from this city created the B42 Bible.

ANSWER: **Mainz**

[10] This man created the B42 Bible, which was the first Western book to be produced with a movable-type printing press. Marshall McLuhan analyzed this man’s “galaxy” in a book that popularized the term “global village.”

ANSWER: Johannes **Gutenberg**

[10] To create his printing press, Gutenberg adapted a screw from a press used to produce this commodity. Charles the Bold ruled a region primarily known for producing this commodity.

ANSWER: Burgundy **wine** <MK>