

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

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Packet 13 Tossups

1. **These things are “the measure of the little while / that I’ve been long away” in a Robert Frost poem about “gathering” them. The speaker is “cheered ... that there were [these things] also in hell” in a William Carlos Williams poem about a “greeny” one of them. The opening lines of T. S. Eliot’s *The Waste Land* state that April “breed[s]” one kind of these things (*) “out of the dead land.” Another kind of these things are described as “a jocund company” “fluttering and dancing in the breeze” in a Wordsworth poem in which the narrator “wandered lonely as a cloud.” For 10 points, what kind of things does Sylvia Plath describe as “too red” and “too excitable” in the poem “Tulips?”**

ANSWER: **flowers** [accept **asphodel**; accept **lilacs**; accept **daffodils**; accept **tulips** before mention; prompt on plants] <MGS>

2. **This ruler was the *elder* of two monarchs who reformed feudal labor via “Robot Patents.” This ruler appointed Count Haugwitz to lead the *Directorium*, streamlining government administration. This ruler’s minister Wenzel Anton von Kaunitz isolated Prussia in continental Europe by allying with France in the (*) “Diplomatic Revolution.” This monarch lost Silesia during a war against Frederick the Great. She was the mother of Marie Antoinette and Joseph II, Archduke of Austria. For 10 points, name this queen who inherited the rule of the Habsburg Empire under the Pragmatic Sanction.**

ANSWER: **Maria Theresa** <MK>

3. **The Zeldovich mechanism explains the formation of one species during these kinds of reactions, and platinum-containing devices described as “three-way” can control the emission of those NO_x [NO_x] species resulting from this process. A type of analysis named for this process is used to determine (*) composition and percent mass of a molecule. An incomplete version of this reaction generates carbon monoxide. The reaction of glucose and oxygen to yield water and carbon dioxide is one reaction of this type. For 10 points, name this often-explosive chemical process wherein the oxidation of hydrocarbons yields carbon dioxide and water.**

ANSWER: **combustion** [or **burning**; accept word forms like **combust**; prompt on exploding or explosion before “often-explosive”; prompt on oxidation before “oxidation”] <HK>

4. **In a song whose melody resembles the blessing before a Torah reading, a character in this opera sings about Goliath, who “lay down and dieth.” A banjo accompanies another character as he ruminates that he’s “Got Plenty o’ Nuttin’” when he misses a picnic where a (*) happy dust seller irreverently concludes “It Ain’t Necessarily So.” After Clara’s death in this opera, one of its title characters reprises “Summertime” to her orphaned baby before running off to New York with Sportin’ Life. For 10 points, name this opera set on Catfish Row in South Carolina, composed by George Gershwin.**

ANSWER: ***Porgy and Bess*** <AY>

5. In this state, James Longstreet was wounded while fighting against the White League during a Reconstruction-era insurrection called the “Battle of Liberty Place.” The Coushatta and Colfax massacres occurred in this state. A general known as the “Beast,” Benjamin Butler, captured this state’s largest city during the Civil War. A resident of this state deliberately violated its (*) Separate Car Act, prompting the case *Plessy v. Ferguson*. In this state, Edward Pakenham and the pirate Jean Lafitte participated in a battle that occurred after the signing of the Treaty of Ghent. For 10 points, name this state in which Andrew Jackson won the Battle of New Orleans.

ANSWER: Louisiana <VS>

6. Song of Songs begins with a woman saying “let him kiss me with the kisses of his mouth: for thy love is better than” this stuff. In Genesis, Shem and Japheth cover Noah with a cloth as he lies naked after consuming this culinary product. In Judaism, the words *borei pri hagafen* are spoken to bless this substance, over which the (*) *kiddush* is spoken during Shabbat dinners. The first of the “seven signs” of Christ’s divinity occurs when, at the Marriage at Cana, he transforms water into this substance. For 10 points, name this beverage that is consumed during the Eucharist as the blood of Christ.

ANSWER: wine [prompt on grapes or grape juice] <JW>

7. This man ordered the arrest of several men connected with the Atterbury Plot. This man allowed the Lord Chamberlain to censor plays by passing the Licensing Act. This man’s “sinking fund” controlled a scandal that ended the career of John Aislabie and began when a company bought off national debt. This man resigned after the Battle of (*) Cartagena de Indias during the War of Jenkins’ Ear. Following his example, holders of this man’s highest office use the residence at 10 Downing Street. He assumed that office after the South Sea Company collapsed. For 10 points, name this man considered Britain’s first prime minister.

ANSWER: Sir Robert Walpole [accept 1st Earl of Orford] <MK>

8. Dam and Dcm [d-c-m] methylases render cells which use these proteins immune against their action. In molecular cloning reactions, use of two different kinds of these proteins prevents vector recircularization or backwards insertion of the desired gene. Paternity testing can be performed using a technique named for these enzymes, (*) RFLP analysis. Plasmids used in molecular cloning contain polylinker sites recognized by a number of these proteins, such as EcoRI [eco-R-one] and HindIII [hin-dee-three]. These enzymes produce “blunt” or “sticky” ends of DNA when they cut at palindromic sites. For 10 points, name these enzymes that form a bacterial defense system by cleaving DNA at recognition sites.

ANSWER: restriction enzymes [or restriction endonucleases] <HK>

9. Among Gottlob Frege’s contributions to the theory of these systems was his distinction between “sense” and “reference.” Another thinker proposed one of these systems with only four components that could be used by two builders. The idea that the “private” kind of this system is incoherent was illustrated by the “beetle in a box” thought experiment of Ludwig (*) Wittgenstein. The notion that the particular system of this kind that one uses affects one’s worldview is known as the Sapir–Whorf hypothesis. For 10 points, identify these systems that exhibit such features as semantics and syntax, examples of which include Swahili.

ANSWER: language <JW>

10. **An object that this character goes to great lengths to acquire is immediately stolen by a snake. This character is mistaken for a criminal by the alewife Siduri; earlier, this son of Ninsun encounters two scorpion monsters at Mount Mashu. One of the many beings killed by this character is Gugalanna, an enormous (*) bull sent after this character after he spurns the goddess Ishtar. This character meets a survivor of a great flood named Utnapishtim and travels to the Cedar Forest to kill the giant Humbaba. Enkidu is—for 10 points—the wild companion of which character, the protagonist of a namesake Sumerian epic?**

ANSWER: Gilgamesh <JW>

11. **A politician in this country proposed restrictions on free speech after the YouTuber “Rezo” criticized her party’s policies. The natural gas pipeline “Nord Stream 2” will terminate in this country. Since 2013, this country has been ruled by the third “Grand Coalition” between the (*) SPD and CSU/CDU in its history. In 2019, the far-right party “Alternative for [this country]” won major gains in state elections, criticizing the current migration policy. This country is the most populous in the Eurozone, followed by France and Italy. For 10 points, name this country where Angela Merkel is expected to stand down as chancellor in 2021.**

ANSWER: Federal Republic of Germany [or Bundesrepublik Deutschland; accept “Alternative for Germany”] <MG>

12. **Eduard Suess’ study of Glossopteris fossils was key evidence in the first formulation of a theory of this entity. This entity was preceded by several similar ones, including Columbia and Rodinia. Fossil records from (*) North Africa, along with Central and Eastern European salt deposits, indicate that this entity split apart to form the Neo-Tethys Sea. This entity was originally known as “Urkontinent” when proposed by Alfred Wegener in 1912. For 10 points, identify this supercontinent that existed until about 180 million years ago, when it began to split into Laurasia and Gondwana.**

ANSWER: Pangaea <DR>

13. **One figure in this painting has sandals with tiny cress flowers on them, and this painting in total contains more than 500 identifiable plant species. A figure sometimes interpreted as Chastity looks towards the left edge of this painting, where clouds are dispelled by a man wielding a caduceus. To the right edge of this work, a nymph with flowers spilling from her (*) mouth, Chloris, is transformed into Flora after being abducted by a winged, blue-skinned Zephyrus. Three women with interlocked hands and translucent dresses represent the Graces in this painting. Venus presides over an orange grove guarded by Mercury in—for 10 points—what Sandro Botticelli painting?**

ANSWER: Primavera [accept *The Allegory of Spring*] <JW>

14. **The length of this ceremony corresponded to the length of time that the star Sothis disappeared, or 70 days. If this process were successful, its subject would reach the “field of reeds.” This process, during which the “opening of the mouth” occurred, utilized natron, onions, and cedar (*) oil. This ritual ensured that the *ba* and the *ka* could recognize each other. It was followed by a procession called the “Kites of Nephthys.” After this ritual, canopic jars stored the lungs, stomach, liver, and intestine of the subject. Osiris was represented wrapped in linen after having undergone—for 10 points—what ancient Egyptian preservation ritual?**

ANSWER: mummification [or descriptive equivalents like making a mummy; prompt on embalming; do not accept or prompt on anything related to “burial”]

15. To save money, the protagonist of this story plans to work by the light of his landlady's room and cease taking evening tea. When choosing a name for this story's protagonist, his mother initially rejects a long list suggested by his godparents and ultimately names him after his father. This story's protagonist is a "perpetual titular councilor" who receives a generous (*) Christmas bonus, but later feels out of place at a party thrown for him. This story's protagonist visits the "person of consequence" in an attempt to recover an object made by the alcoholic tailor Petrovich. Akaky Akakievich is robbed of his title outerwear in—for 10 points—what story by Nikolai Gogol?

ANSWER: "The Overcoat" [or "Shinel"; accept "The Cloak"] <MK>

16. Nickel oxide is the prototypical example of a class of these materials that is governed by strong electron–electron interactions and named for Nevill Mott. Bismuth antimonide was the first of these materials found to exhibit the symmetry-protected surface states characteristic of their "topological" type. The empty and filled energy levels in these materials are (*) separated by a large band gap. These materials may admit an arc or a discharge above the breakdown voltage, but they generally have a much higher resistivity than semiconductors or conductors. For 10 points, name these materials like rubber and glass that block the flow of electricity.

ANSWER: insulators [accept Mott insulators; accept topological insulators] <SE>

17. In this region, a conflict began after rumors circulated that one side had recruited 20 platoons of militia in Operation Gulmarg. Another conflict in this region centered on the construction of a highway in the Aksai Chin. Operation Meghdoot targeted this region's Siachen Glacier. The 1972 Simla Agreement established the (*) Line of Control along this region's western border. This region was granted special status under Article 370, which was revoked in August 2019. Wars were fought over this region in 1947 and 1965. For 10 points, name this region whose ownership is disputed by China, India, and Pakistan.

ANSWER: Kashmir [or Jammu and Kashmir] <HK>

18. The title track of this artist's 2018 EP ends with a woman saying "I send you a lot of hugs, and I hope to see you very soon." That song features a Spanish chorus requesting that this man be taken back to the city "where he left his heart," which he calls "Suncity" in that song and "the city of the (*) 9-1-5" elsewhere. He collaborated with Ed Sheeran on "Beautiful People" and Normani on "Love Lies." In his breakthrough 2017 single from the album *American Teen*, this man says he doesn't "wanna fall in love off of subtweets" and asks to "focus on communicating." For 10 points, name this singer of "Young, Dumb & Broke," "Talk," and "Location."

ANSWER: Khalid Robinson <HK>

19. In this novel, a character named Nancy imagines that a tide pool is an enormous sea and she is God. In this novel, a character is frustrated by his inability to "reach R" and repeatedly intones the line "some one had blundered" from "The Charge of the Light Brigade." In the short central section of this novel, Andrew and Prue die; that section spans ten years and is titled (*) "Time Passes." At the end of this novel, an artist overcomes Charles Tansley's past criticisms to complete a portrait of her host family's deceased mother; that artist is Lily Briscoe. For 10 points, name this novel in which James Ramsay and his father take a boat to the title structure, written by Virginia Woolf.

ANSWER: To the Lighthouse <JW>

20. A piano piece by this composer begins with the fifth “D-A” in the left hand, which is then repeated up an octave in the right hand. This composer imitated Robert Schumann in a piece that opens with a timpani roll, then a loud series of descending chords in A minor from the piano soloist. A suite by this composer includes “Ingrid’s Lament” and (*) “Solveig’s Song.” This composer used a “Rigaudon” to end his neoclassical *Holberg Suite*. In the last movement of a suite by this composer, a “tiptoeing” pizzicato theme is repeated eighteen times while getting louder and faster. For 10 points, what Norwegian composer included “In the Hall of the Mountain King” in his *Peer Gynt* suites?

ANSWER: Edvard (Hagerup) **Grieg** (The first piece is “Wedding Day at Trolldhaugen.”) <JW>

Tiebreaker

One poet from this country concluded a poem with the line “edging back, I gaze to the west, long and deep my sighs.” Another poet from this country wrote of men, “each wearing quiver and bow,” in a poem that begins “War-carts clatter and creak, / horses stomp and splutter.” In a poem from this country, a woman describes a time when “my (*) hair was still cut straight across my forehead.” Poets from this country wrote “Song of the Wagons,” “The River Merchant’s Wife,” and “The Road to Shu is Hard.” For 10 points, name this country, the homeland of the poets Li Bai and Du Fu.

ANSWER: **China** <MK>

Bonuses

1. One leader in this conflict rebellion founded the “God Worshipping Society” after repeatedly failing his civil service examinations. For 10 points each:

[10] Name this rebellion, whose participants primarily belonged to the Hakka and Zhuang ethnic groups. Zeng Guofan created the Hunan Army to suppress this rebellion.

ANSWER: **Taiping** Rebellion [or **Taiping** Revolt]

[10] During the rebellion, Taiping forces used this city as the capital of their “Great Kingdom of Heavenly Peace.” This city was the site of the Porcelain Tower, which was built during the Ming Dynasty.

ANSWER: **Nanjing** [or **Tianjing**; or **Tienking**]

[10] The Hui people, who primarily follow this religion, also revolted while the Imperial government was occupied with the Taiping Rebellion. Oppressed Xinjiang Uighurs predominantly follow this religion.

ANSWER: **Islam** [or **Muslims**] <HK>

2. After falling in love with Kamala and becoming rich through his partnership with Kamaswami, the title character of this novel ultimately decides that his life of luxury is not spiritually fulfilling. For 10 points each:

[10] Name this novel about a boy who leaves his family to pursue asceticism. This novel, which takes place in ancient India, was heavily inspired by the life of the Buddha.

ANSWER: **Siddhartha**

[10] Early in the novel, Siddhartha becomes estranged from this friend of his. The novel concludes with this man seeking out an “enlightened ferryman,” who turns out to be Siddhartha.

ANSWER: **Govinda**

[10] *Siddhartha* was written by this German author, who also wrote about Harry Haller in *Steppenwolf* and the *magister ludi* in *The Glass Bead Game*.

ANSWER: Hermann **Hesse** <JW>

3. Secondary antibodies can be conjugated with a fluorophore or an enzyme like HRP for use in this technique. For 10 points each:

[10] Name this laboratory technique that detects proteins by running an SDS-PAGE gel which is later transferred to a membrane. Primary and secondary antibodies are then applied to the membrane to visualise the protein.

ANSWER: **Western** blot [accept protein **immunoblot**]

[10] In order to reduce nonspecific antibody binding, blots are often “blocked” in this substance. While its skim or 2% varieties may be found in the grocery store, biologists reconstitute this liquid from a powdered nonfat form.

ANSWER: **milk**

[10] Another blocking agent used in Western blotting is this protein commonly used as a protein standard. The human *analogue* of this 66 kilodalton protein is measured to test liver function.

ANSWER: **bovine serum albumin** [or **BSA**; prompt on partial answer; do not accept or prompt on “human serum albumin”] <HK>

4. Eero Saarinen [EE-row SARE-in-en] said: “The undercarriage of chairs and tables in a typical interior makes an ugly, confusing, unrestful world. I wanted to clear up the slum of legs.” For 10 points each, answer some questions about chairs:

[10] Saarinen developed a collection of furniture named after this flower. This flower’s namesake chair, which had a rounded white fiberglass shell and red cushion, was featured on the original *Star Trek* set.

ANSWER: **Tulip** Chair

[10] Saarinen and his father Eliel were compatriots of this other Finnish architect and interior designer. This man created the Paimio Chair, a scrolled bentwood armchair designed for a tuberculosis sanatorium.

ANSWER: Alvar **Aalto**

[10] Frank Gehry used the “corrugated” version of this material in his Wiggle Chair. This heavy-duty paper product is most commonly used for shipping and packaging.

ANSWER: **cardboard** <SL>

5. This book of the Bible contains the “five discourses of Jesus.” For 10 points each:

[10] Name this book of the New Testament that gives Jesus’ genealogy beginning with Abraham. It comprises the Gospels together with Mark, Luke, and John.

ANSWER: Gospel of **Matthew** [or Gospel According to **Matthew**]

[10] This speech from the Gospel of Matthew is the first and longest discourse of Jesus. In this speech, Jesus calls his disciples the “salt of the earth” and “the light of the world.”

ANSWER: **Sermon on the Mount**

[10] The Sermon on the Mount features Jesus’ “Beatitudes,” in which he declares that “blessed are those who hunger and thirst for [this thing],” for they will be filled.

ANSWER: hunger and thirst for **righteousness** <AY>

6. At the top of this painting, Christ sits enthroned in clouds next to the Virgin Mary and John the Baptist, while Saint Peter wears a golden robe and holds a pair of keys. For 10 points each:

[10] Identify this painting. The title figure of this painting, a Spanish nobleman, wears black-and-gold armor and is supported by Saints Stephen and Augustine.

ANSWER: *The **Burial of the Count of Orgaz*** [or *El **Entierro del Conde de Orgaz***]

[10] This Mannerist artist included his son Jorge Manuel in *The Burial of the Count of Orgaz*. He drew from the Book of Revelation to depict a blueclad Saint John in the *The Opening of the Fifth Seal*.

ANSWER: El **Greco** [accept Doménikos **Theotokópoulos**]

[10] El Greco created a portrait of Jorge Manuel in a white ruff holding these objects. In a Gentileschi painting, a woman with green sleeves and a gold necklace holds one of these objects up, clutching more in her other hand.

ANSWER: **paintbrushes** <SL>

7. This career diplomat retired in January 2020 after 33 years in the U.S. Foreign Service. For 10 points each:

[10] Name this former ambassador to Ukraine, who was ousted after opposing investigations into Joe Biden. Gordon Sondland, U.S. ambassador to the E.U., advised her to tweet in favor of President Trump in order to keep her job.

ANSWER: Marie **Yovanovitch**

[10] Yovanovitch testified in November 2019 as part of an inquiry that led to the House to take this action against Trump. This action can be taken by the House in response to “high crimes and misdemeanors.”

ANSWER: **impeachment** of the President [accept word forms]

[10] This California Democratic congressman, the Chair of the House Intelligence Committee, described Trump’s Twitter response to Yovanovitch’s testimony as witness intimidation.

ANSWER: Adam **Schiff** <DS>

8. The use of the asterisk in these structures is inspired by the Kleene star operator. For 10 points each:

[10] Brackets are used to enclose character classes in these structures, whose most common implementation is based on Perl and which are often used for string-matching and “find-and-replace” operations.

ANSWER: **regular expressions** [or **regexes**]

[10] These symbols are used in regular expressions to denote a range for how many times in sequence a character appears. In mathematics, these symbols are placed around the elements of a set.

ANSWER: **curly braces** [or **curly brackets**; prompt on **brackets**]

[10] This symbol represents a wildcard in regular expressions—in other words, it can match any character. This symbol is also used before file extensions, like “exe” or “jpg.”

ANSWER: **period** [or **dot**] <JW>

9. Answer some questions about the history of sewage in America, for 10 points each:

[10] Morris Hillquit termed this city’s politicians “sewer socialists,” as they were endlessly bragging about the city’s excellent public utilities infrastructure. A mayor of this city, Victor L. Berger, was charged under the Espionage Act.

ANSWER: **Milwaukee**

[10] In 1968, sanitation workers in this city went on strike after two garbage collectors were crushed to death. In this city, James Earl Ray shot an activist who delivered the “I’ve Been to the Mountaintop” speech to support the workers.

ANSWER: **Memphis**

[10] An early sewer system was developed in this city, with waste draining directly into the Schuylkill [SKOO-kill] River. In the 1750s, Benjamin Franklin founded this city’s Fire Department.

ANSWER: **Philadelphia** <MK>

10. Benjamin Britten commemorated the bombing of Coventry Cathedral with one of these pieces named for *War*. For 10 points each:

[10] Name this choral genre whose sections usually include “Pie Jesu,” “Lacrimosa,” and “Dies Irae.”

ANSWER: **Requiem** [or **Mass for the Dead** or **missa pro defunctis**; prompt on partial answer]

[10] Probably the most famous requiem was written by *this* composer, who left it unfinished when he died at the age of 35. This composer also wrote *Eine kleine Nachtmusik*.

ANSWER: Wolfgang Amadeus **Mozart**

[10] In Mozart’s Requiem, the “Dies Irae” is followed by *this* movement, which begins with a slow trombone solo outlining a B-flat major arpeggio.

ANSWER: “**Tuba Mirum**” <JW>

11. This poet wrote the lines “someone will remember us / I say / even in another time.” For 10 points each:

[10] Name this lyric poet who begged “deathless Aphrodite of the spangled mind” not to bring heartbreak “with hard pains.” Anne Carson’s *If Not, Winter* translates the extant fragments of this so-called “Tenth Muse.”

ANSWER: **Sappho**

[10] The longest Sappho fragment, addressed to Aphrodite, belongs to this genre of poetry; many years later, Shelley wrote one of these poems “to the West Wind.” In general, this kind of poem praises or glorifies its subject.

ANSWER: **ode**

[10] This other lyric poet is best known for his Victory Odes, such as one that celebrated the charioteering of the Sicilian ruler Hieron. Horace compared the style of this rival of Bacchylides to a “river bursting its banks.”

ANSWER: **Pindaros** <MK>

12. Name some classic American breakfast foods based on their descriptions, for 10 points each:

[10] This dish, probably invented in New York City but now popular across the United States, consists of an English muffin sliced in half, topped with a poached egg, meat, and hollandaise sauce.

ANSWER: **Eggs Benedict**

[10] This simple side dish consists of potatoes that are shredded and then fried. In some iterations of this dish, the potato shreds are kept independent, while in others they are made into a patty.

ANSWER: **hashed browns**

[10] Although its name would suggest European origin, this very eggy oven-baked “pancake” is fully American. This variety of popover is recognizable by its extreme puffiness.

ANSWER: **Dutch baby** pancake [accept **German** pancake; accept **Dutch puff**; accept **Bismarck**] <JW>

13. Answer the following about the discoveries of physicist Lise Meitner [ly-zuh “mite”-nur], for 10 points each.

[10] In 1938, Meitner deduced that experiments by her colleague Otto Hahn had split this element into barium and krypton, setting off a race during World War II to produce a bomb from this fissile element.

ANSWER: **uranium** [or **U**]

[10] Meitner discovered this effect a year before its French namesake. In this effect, a photon removes a core electron from an atom, and the process of filling the core state kicks out a second electron.

ANSWER: **Auger** [OH-zhay] effect

[10] After fleeing Germany, Meitner spent most of World War II at the research center run by Niels Bohr in this city, where he and Werner Heisenberg had developed the theory of wave function collapse in the 1920s.

ANSWER: **Copenhagen**, Denmark <SE>

14. The international symbol for this movement, which depicts a capital “A” within a circle, is now frequently used by taggers. For 10 points each:

[10] Name this school of thought that argues against hierarchy and government, often advocating a stateless society.

ANSWER: **anarchism** [accept word forms]

[10] This French theorist who feuded with Karl Marx is often referred to as the “father of anarchism.” He answered the title question of his book *What Is Property?* with the slogan “property is theft!”

ANSWER: Pierre-Joseph **Proudhon**

[10] Political works of this contemporary philosopher and anarchist include *Manufacturing Consent* and the anti-war essay “The Responsibility of Intellectuals.” He is better known for his theory of generative grammar.

ANSWER: Noam **Chomsky** <JW>

15. Some insults traded in this play include “there isn’t an abomination award going that you haven’t won” and “if you existed I’d divorce you.” For 10 points each:

[10] Name this play in which a middle-aged married couple, George and Martha, engage in progressively cruel and crude party games with their younger guests, Nick and Honey.

ANSWER: ***Who’s Afraid of Virginia Woolf?***

[10] *Who’s Afraid of Virginia Woolf?* was written by this American playwright associated with the Theatre of the Absurd. His first successful play was the one-act *The Zoo Story*.

ANSWER: Edward **Albee**

[10] The second act of *Who’s Afraid of Virginia Woolf?* is titled after this Germanic holiday, traditionally held the night of April 30. In Goethe’s *Faust*, a witches’ sabbath occurs on this holiday.

ANSWER: **Walpurgisnacht** [accept **Walpurgis night**] <MGS>

16. The Cato Street conspirators targeted an earl of this city who was then serving as Prime Minister. For 10 points each:

[10] Name this English port city in Lancashire that became a trading hub during the Industrial Revolution. An early steam-powered railway connected this city to Manchester.

ANSWER: **Liverpool** [accept Robert Banks Jenkinson, 2nd Earl of **Liverpool**]

[10] The economies of Liverpool and Manchester relied on this crop, which was “king” in the American South. Eli Whitney invented a machine that removed this crop’s seeds.

ANSWER: **cotton**

[10] This thinker analyzed the residents of Manchester in *The Condition of the Working Class in England*, arguing that they were disadvantaged by the Industrial Revolution.

ANSWER: Friedrich **Engels** <MK>

17. A running gag on this show is that it is not as popular as a similar show created by the same man. For 10 points each:

[10] Name this animated T.V. show centered around the crazy antics of Peter Griffin and his family, created by Seth MacFarlane.

ANSWER: **Family Guy**

[10] *Family Guy* takes place in this fictional city in Rhode Island. It is named after a type of hard, edible clam popular in chowders.

ANSWER: **Quahog** [ko-hog]

[10] Another recurring gag on *Family Guy* is that Peter repeatedly fights this giant animal. Peter’s feud with this animal began when he gave Peter an expired coupon.

ANSWER: **Ernie** the Giant **Chicken** [accept either underlined portion] <BY>

18. A woman with this last name wrote *The Tenant of Wildfell Hall* under the pseudonym Acton Bell. For 10 points each:

[10] Give this last name of three British literary sisters. One woman with this surname created Catherine Earnshaw and Heathcliff under the pseudonym Ellis Bell, while another called herself Currer Bell and wrote *Jane Eyre*.

ANSWER: **Brontë** [accept any of Anne, Emily, or Charlotte **Brontë**]

[10] This other British writer used the pseudonym “Boz” for much of his early work, including the eponymous *Sketches by Boz*. Later, he published his writing serially in the weekly periodical *Master Humphrey’s Clock*.

ANSWER: Charles **Dickens**

[10] Unlike Dickens and the Brontë sisters, this author is best known by his pseudonym. This man, whose real name was Charles Dodgson, wrote “The Hunting of the Snark” and a poem that begins “‘Twas brillig.”

ANSWER: Lewis **Carroll** <JW>

19. This empire’s *devshirme* system enslaved Christian boys and forced them to become janissaries. For 10 points each:

[10] Name this empire, where religious communities maintained some autonomy through millet courts. In 1453, this empire conquered Constantinople under Sultan Mehmed II.

ANSWER: **Ottoman** Empire [prompt on **Turkish** Empire]

[10] This period of Ottoman reform began with the 1839 “Noble Edict of the Rose Chamber.” The reforms of this period, whose name means “reorganization,” eliminated millet courts.

ANSWER: **Tanzimat** period

[10] The Tanzimat period coincided with this conflict, during which Scottish troops under Colin Campbell became known as “the thin red line.” The “lady with the lamp” introduced modern nursing during this war.

ANSWER: **Crimean** War <MK>

20. These systems are exemplified by fog, blood, and jelly. For 10 points each:

[10] Name these homogeneous mixtures containing one substance dispersed within another. Shining light on these systems causes them to appear blue in the Tyndall effect.

ANSWER: **colloids**

[10] The Tyndall effect, like this *other* process, is governed by an inverse fourth power relationship to wavelength. This phenomenon is the elastic counterpart of the inelastic Raman effect.

ANSWER: **Rayleigh** scattering [prompt on scattering]

[10] Colloids are defined as systems in which the dispersed phase particles' diameter is between one and one thousand of these units. Red light is light whose wavelength is between approximately 625 and 780 of these units.

ANSWER: **nanometers** [accept 10^{-9} [ten to the negative ninth] **meters**] <MP>

Tiebreaker

When integrating trigonometric functions, the first step often involves using one of these equalities. For 10 points each:

[10] Give the specific name used for a broad class of formulae that equate two expressions involving trig functions. An example is the equation "secant-squared equals tangent-squared plus 1."

ANSWER: trigonometric **identities**

[10] This set of identities follows from the equation for the unit circle. One states that sine squared plus cosine squared equals 1, and they are named for a Greek mathematician who also names a theorem about right triangles.

ANSWER: **Pythagorean** identities

[10] Using the double-angle identity, give the formula in terms of x that is equivalent to the sine of $2x$.

ANSWER: **$2 \sin(x) \cos(x)$** [accept **$2 \cos(x) \sin(x)$**] <BY>