

Bulldog High School Academic Tournament 2019 (XXVIII): Description acceptable.

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Packet 6 Tossups

1. **This is the *oldest* geologic period that is the subject of the “cool tropics” paradox, which was resolved by the discovery of a warming event. The early part of this period saw the evolution of the bee and the subsequent diversification of angiosperms. At the end of this period, massive volcanic activity created the (*) Deccan Traps. The sedimentary layer at the end of this time period has a thin layer of iridium, indicating that an event at the end of this time period was caused by the Chicxulub asteroid impact. The Jurassic came before—for 10 points—what period that ended with the extinction of the dinosaurs?**

ANSWER: Cretaceous period <BY>

2. **In a Supreme Court case concerning this right, Walter Mondale wrote a brief signed by more than 20 state attorney generals calling for this right to be expanded. This right was first affirmed at the state level in *Powell v. Alabama*, though *Betts v. Brady* limited it to capital crimes. A 1963 case about this right was brought by a Florida (*) inmate who was accused of breaking into a pool hall. This right, which is not exercised by *pro se* defendants, is provided by the government to those who can't afford it as part of their Miranda rights. The case of *Gideon v. Wainwright* affirmed a wide reading of—for 10 points—what right to be assisted by a certain professional during a trial?**

ANSWER: right to counsel [or right to a lawyer; or right to legal defense; or right to a public defender; prompt on right to a fair trial] <SE>

3. **Near the end of this novel, a song about “birds and sunshine and green leaves” is sung by a blind beggar who had been thrown in asylum. After moving to its main setting, a woman in this novel burns her dried wedding bouquet. This novel's protagonist receives a letter at the bottom of a basket of apricots, which her husband obliviously eats. Its last sentence tells us that the pompous pharmacist (*) Homais receives the Legion of Honor. This novel's title character tries to escape the boredom of country life by having affairs with Léon and Rodolphe. The bland doctor Charles marries the title woman, who kills herself with arsenic in—for 10 points—what novel by Gustave Flaubert [floh-BEHR]?**

ANSWER: Madame Bovary <JW>

4. **Handel used this title for a slow movement in dotted rhythms that's played three times in the F-major first suite of *Water Music*. In the Baroque, these pieces typically used an “ABA” *da capo* form. Bach used this name for the second movement of his third *Orchestral Suite* and for the theme of the (*) *Goldberg Variations*. “Double” examples of these pieces, which were popular in the 19th century, consist of a *cabaletta* and a *cavatina*. These pieces were typically prefaced with recitatives. A Bach movement with this name was famously arranged to be played “on the G string.” For 10 points, what Italian name is used for a solo song in an opera?**

ANSWER: arias [or airs] <JR>

5. This modern country's flora and fauna were documented in the 18th century by explorer Robert Jacob Gordon. This country first became independent by the 1852 Sand River convention, before a gold rush in the 1880s. The book *The Brunt of the War, and Where It Fell* by Emily Hobhouse described horrid conditions in (*) internment camps during a war in this country. Robert Baden-Powell withstood the siege of Mafeking in this country, which formed from the merger of the Natal, Orange River, Transvaal, and Cape colonies. For 10 points, name this modern country where the British fought Dutch-speaking colonists in the Second Boer War.

ANSWER: Republic of South Africa [or Republiek van Suid-Afrika; or iRiphabhuliki yaseNingizimu Afrika; or iRiphabliki yomZantsi Afrika] <SPQR>

6. An earthquake in this novel breaks all the bones in the body of a character who is unable to move to get treatment, and is instead healed by Pedro García. In this novel, a man's sister curses him by saying his soul and body will shrivel up, leaving him to die like a dog. Elsewhere in this novel, an engagement party is interrupted when a dog enters with a knife in its back. A woman goes mute after being slapped by her husband, whom she married after her (*) green-haired sister Rosa's death, which she blames herself for magically predicting. For 10 points, name this novel about Clara, Blanca, and Alba Trueba, written by Chilean author Isabel Allende.

ANSWER: *The House of the Spirits* [or *La casa de los espíritus*] <HK>

7. One indicator of severe cases of this condition is a rapidly-evolving petechial or purpuric rash. AIDS can be diagnosed based on the presence of the cryptococcal form of this condition, and HIV itself can cause an aseptic form. Like gonorrhea, one form of this condition is caused by bacteria of genus *Neisseria*. Patients with this condition typically present with a characteristic “stiff (*) neck.” This condition can be caused by bacteria or fungi, but is most commonly viral, and it is diagnosed via spinal tap. For 10 points, name this condition, the inflammation of the brain's protective membrane.

ANSWER: meningitis <HK>

8. In this region, Antu, Kueyen, Melipal, and Yepun are indigenously-derived names for the four components of the Very Large Telescope Array. Hills called lomas in this region receive most of their moisture from a moist fog called garúa [gah-ROO-ah]. The climate of this region is created by the interaction of a high-pressure oceanic anticyclone with the (*) Humboldt Current. This desert is dotted by nearly 200 ghost towns where nitrate was once mined, and control of its saltpeter reserves has been the source of border disputes between Bolivia and Chile. The Andes mountains border—for 10 points—what driest non-polar desert in the world?

ANSWER: Atacama Desert <HK>

9. A work of art in this medium was found in Pompeii and depicts a dog with an inscription that translates to “beware of the dog.” A number of early works in this medium that depict hunting scenes have been discovered at Pella. Intricate works in this medium were often made using *Opus vermiculatum*. An artwork in this medium in Pompeii's House of the Faun depicts the (*) *Battle of Issus*. The inside of the Hagia Sophia is decorated by artworks of this kind with gold backgrounds. These artworks consist of components known as tesserae, and they often decorated the floors of Roman baths. For 10 points, name these artworks made of small pieces of glass or stone.

ANSWER: mosaics <JW>

10. **The particles of these substances can form self-assembling “crystals” exemplified by the close-packed structure of opal. A Greek aperitif gives its name to the spontaneous formation of one of these substances in the ouzo effect. These substances are easy to prepare when they are lyophilic, while those that are lyophobic require mechanical agitation to prevent (*) flocculation. The large particles of these substances scatter light in the Tyndall effect. These substances, whose types include emulsions, sols, and gels, differ from solutions in that they have two distinct phases. For 10 points, name these mixtures in which insoluble particles are dispersed in a continuous phase.**

ANSWER: colloids [accept emulsions before “emulsions”] <SE>

11. **This non-title character was deemed “negative and insignificant” in the essay that introduced the term “objective correlative.” In a late speech, this character describes a girl with “Her clothes spread wide” lying where a “willow grows aslant a brook.” This character dies after warning the title character “The drink, the drink! I am poisoned.” This character is wryly accused of (*) “thrift, thrift” for having had “marriage tables” that were “coldly furnished” with “funeral baked-meats.” This character’s quick remarriage causes her son to exclaim “Frailty, thy name is woman!” Polonius is stabbed in this woman’s bedroom. For 10 points, name this wife of Claudius and mother of Hamlet.**

ANSWER: Queen Gertrude (The essay is “Hamlet and His Problems” by T.S. Eliot.) <JR>

12. *Description acceptable.* **This war began when one leader issued a proclamation at the Three Holy Hierarchs Monastery. One side in this war employed highwaymen-cum-insurgents called *klephts* and *armatoloi*. A “Society of Friends” sparked this war, after which Otto of Bavaria became king. This war exacerbated the “Eastern Question” since it was lost by the (*) “Sick Man of Europe.” This war ended after the navy of Ibrahim Pasha was defeated at Navarino. This war was sparked in the 1820s by the efforts of Alexander Ypsilantis, and it attracted philhellenes like Lord Byron to come fight. The Ottomans were defeated in—for 10 points—what war that turned Athens into a national capital?**

ANSWER: Greek War of Independence [accept reasonable equivalents like Greek Revolution] <SPQR>

13. **This character exceeds the strength of seven men by lifting the lid of a tomb before crossing a sword-shaped bridge to enter the kingdom of a foe. This character slays Meleagant in a poem in which he humiliates himself by riding in a cart; that poem was written by Chrétien de Troyes. This man saves a lady trapped in a boiling bath; that princess later tricks this man into (*) sleeping with her by disguising herself as his lover. This character and his cousins Lionel and Bors were raised by the Lady of the Lake. With Elaine of Corbenic, this man fathered Galahad. For 10 points, name this greatest Knight of the Round Table, who carries on an affair with Queen Guinevere.**

ANSWER: Sir Lancelot du Lac <AW>

14. **A ballet titled for one of these characters was created by Igor Stravinsky from piano pieces and songs by Tchaikovsky. In Act 1 of a Prokofiev ballet that includes a “Bourrée” and a “Mazurka,” four of these characters named for the four seasons help the title character. One of these characters blesses the wedding of Prince Désiré and Princess (*) Aurore. That “Lilac” one of these characters is opposed by one named Carabosse in the prologue to *Sleeping Beauty*. Tchaikovsky has one of these characters dance to one of the first orchestral uses of the celesta. The ruler over *The Nutcracker*’s Land of Sweets is a “sugar plum” example of—for 10 points—what magical characters?**

ANSWER: fairies [or fairy; accept Sugar Plum Fairy or La Fée-Dragée; accept *The Fairy’s Kiss* or *Le baiser de la Fée*] <JR>

15. According to the score kept on a whiteboard in one episode, this character ends up in a 3-3 tie with God. At one point, this man ends a phone call by saying “Sorry, I’m about to lose you because I’m about to drive into a tunnel in a canyon on an airplane while hanging up on you.” Part of this character’s origin story is shown as a story about (*) Carmen Electra, who is then replaced with a middle-aged man. This character, who works for Lisa Cuddy, claims that “everybody lies” and insists that “it’s never lupus.” For 10 points, name this limping, Vicodin-addicted doctor played by Hugh Laurie on a namesake TV show.

ANSWER: Gregory House, M.D.

16. In a chapter of this book, a man imagines telling his father a story and then watches some fireworks after driving around a Minnesota lake eleven times. This book opens with the claim “This is true” and then declares “If a story seems moral, do not believe it.” In this book’s first chapter, a man’s death prompts his friend to shoot off parts of a baby water (*) buffalo. Kiowa tries to get the narrator to stop obsessing over a boy’s body in this book’s chapter “The Man I Killed.” Rat Kiley’s medical satchel and Ted Lavender’s pills are among this book’s title objects, along with a photo of Martha held by Jimmy Cross. For 10 points, name this book of Vietnam War stories by Tim O’Brien.

ANSWER: *The Things They Carried* <SCW>

17. In a dialogue about this subject, Socrates compares himself to a “midwife” for ideas. In the *Protagoras*, Socrates argues that weakness of the will is impossible since virtue is really just *this* concept. This concept is “recovered” in a demonstration in which a slave learns how to double the area of a square. This concept is held to be mere *anamnesis* in a proof of the immortality of the soul from Plato’s *Meno*. Plato’s (*) *Theaetetus* proposes, and then rejects a definition of this concept as “true judgment with an account.” Epistemology is the study of—for 10 points—what combination of facts and understanding?

ANSWER: knowledge [or gnosis; accept wisdom] <JR>

18. In Mössbauer spectroscopy, this effect allows one to scan through the absorption spectrum using a linear motor. Steven Chu won a Nobel Prize for his work on laser devices that use this effect to cool ultracold atoms. The thermal broadening of spectral lines is due to this effect, which leads to a fractional (*) shift of “delta- v over c ” at small velocities. The Austrian namesake of this effect discovered it from observing color shifts in binary star systems, while Buys Ballot confirmed it for sound waves using musicians on a train. For 10 points, name this effect in which a moving sound source, such as a car siren, appears to change pitch.

ANSWER: Doppler effect <SE>

19. This queen turned down an offer of increased power from Lord Danby. This queen took power with the Declaration of Right, and her lady-in-waiting Elizabeth Villiers was supposedly her husband’s only mistress while in power. Due to worries about the influence of Sarah Churchill on her sister, this queen was the *first* to have the Duke of (*) Marlborough dismissed. The English Bill of Rights was adopted under this queen after her husband won that Battle of the Boyne. This sister of Queen Anne took power in the Glorious Revolution. For 10 points, name this daughter of James II who ruled with her husband William III.

ANSWER: Mary II [prompt on partial answer; accept William and Mary] <SPQR>

20. St. Vitus was tortured and executed after performing *this* action, which Catholics typically perform while invoking the Church Triumphant and the Archangel Michael. In Lutheranism, this activity requires the consultation of a physician, and its “minor” form of this activity is performed during baptism. The Anglican Church created a (*) “Deliverance ministry” dedicated to performing this action. In the Gospels, Jesus performs this action on a Gerasene man afflicted by “Legion.” This action was often performed on sufferers of epilepsy. For 10 points, name this ritual in which the name of Jesus is invoked to expel demons from “possessed” people.

ANSWER: exorcism [accept word forms like exorcizing; prompt on descriptions like “expelling demons”] <MK>

Tiebreaker

21. **This material names a frequency above which metals become transparent. Like an ideal gas, the pressure exerted by this material equals number density times Boltzmann's constant times temperature. Irving Langmuir gave this material its name and devised a "probe" that can measure its properties. The strong magnetic field in stellarators and (*) tokamaks confines this material at high temperatures for the purpose of nuclear fusion. This material is produced when high temperatures or large electric fields strip gaseous nuclei of their electrons. For 10 points, name this ionized material sometimes called the "fourth state of matter."**

ANSWER: **plasma** <SE>

Bonuses

1. Ibn Arabi concluded that these things were “outward signs of the universe’s inner mysteries.” For 10 points each, [10] Name this group of attributes of God in Islam. According to a hadith narrated by Bukhari, Allah is One and thus loves the odd numbers, which accounts for the odd number of these attributes.

ANSWER: **99 names** [prompt on just names by asking “How many names?”]

[10] Allah is addressed by *this* name which translates to “The Most Gracious,” before being called “Ar-Rahim” in the *basmala*. This is thus the second name of God used in the Qur’an, after “Allah” itself.

ANSWER: ar-**Rahman**

[10] The names “al-Awwal” and “al-Akhir” refer to *this* paired set of attributes of Allah. In the book of Revelation, Jesus calls himself *this* pair of attributes after similarly calling himself “Alpha and Omega.”

ANSWER: the **first** and the **last** [accept “**beginningless** and **endless**”] <HK>

2. This action was preempted by the 1772 “Somerset case.” For 10 points each:

[10] Name this action, which was carried out throughout the British Empire in 1833. Josiah Wedgwood advocated for this action with the slogan “Am I Not a Man And a Brother?”

ANSWER: **abolition of slavery** [accept any answer indicating an end to **slavery** or the **slave trade**]

[10] This company’s territory, which included large swaths of South Asia, was exempt from abolition in the 1833 act. By 1800, this company had an army of over 250,000, which was larger than the British army fighting Napoleon.

ANSWER: British **East India** Company [or **HEIC**]

[10] The British East India Company only stopped having direct rule over India after the so-called Sepoy Mutiny in *this* decade. The Crystal Palace was built in this decade.

ANSWER: **1850s** <SPQR>

3. For 10 points each—answer the following about the unification of electricity and magnetism into electromagnetism:

[10] Electromagnetism was laid down by James Clerk Maxwell in a treatise presenting a set of *this* many equations. Einstein’s special relativity posits a “spacetime” containing this many dimensions.

ANSWER: **four**

[10] Using the curl-of-the-curl identity to combine Maxwell’s equations in a source-free region gives two copies of *this* common differential equation, which Maxwell used to predict the existence of electromagnetic radiation.

ANSWER: **wave** equation

[10] Maxwell made the aforementioned prediction after fixing *this* equation by adding a displacement current term. This equation describes the magnetic field around a loop due to current piercing the loop.

ANSWER: **Ampere**’s law [accept **Ampere**’s circuital law] <SE>

4. Name some aspects of the Watergate investigation that may or may not have parallels in 2019. For 10 points each:

[10] Comparisons are frequently drawn between Robert Mueller and *this* lawyer, who was the Special Prosecutor before being fired as part of the Saturday Night Massacre.

ANSWER: Archibald **Cox**

[10] White House lawyer Thomas McGahn’s cooperation with the Mueller investigation has been likened to the testimony offered by *this* White House Counsel for Nixon, who was called the “master manipulator” of the scandal.

ANSWER: John **Dean**

[10] A major precedent for the Russia scandal is *U.S. v. Nixon*, which held that sitting presidents can’t use executive privilege to avoid complying with *these* orders, which compel witnesses to testify or bring evidence before the court.

ANSWER: **subpoenas** <AF>

5. The last section of this novel begins with the invocation “Dear God. Dear stars, dear trees, dear sky, dear peoples. Dear Everything. Dear God.” For 10 points each:

[10] Name this novel whose protagonist ends up running a pants-making business after escaping from a marriage to a man known only as “Mr. _____” [mister “blank”].

ANSWER: *The **Color Purple***

[10] *The Color Purple* won a Pulitzer Prize in fiction for *this* author, who thus became the first black woman to do so.

ANSWER: Alice **Walker**

[10] An article by Alice Walker helped revive the reputation of *this* African-American anthropologist and author. Her novels include *Their Eyes Were Watching God*.

ANSWER: Zora Neale **Hurston** <SCW>

6. In the most recent *Star Wars* films, this actress has portrayed Maz Kanata through motion capture. For 10 points each:

[10] Name this Kenyan-Mexican actress who played the slave Patsey in *12 Years a Slave*. In a 2018 film, she played the Wakandan bodyguard Nakia.

ANSWER: Lupita (Amondi) **Nyong’o**

[10] Nakia and other denizens of Wakanda star in *this* 2018 Marvel Cinematic Universe film, in which Chadwick Boseman’s T’Challa fights off a challenge to the throne from Michael B. Jordan’s “Killmonger.”

ANSWER: ***Black Panther***

[10] The movie version of *Black Panther* was heavily influenced by the most recent comic book iteration, which was written by *this* man.

ANSWER: Ta-Nehisi [TAH-nuh-HAH-see] **Coates** <JR>

7. There are “demi” and “grand” versions of this technique, which can be performed from all five ballet positions. For 10 points each:

[10] Name this technique, which begins and ends many ballet steps. It involves the dancer bending their knees while their feet are “turned out.”

ANSWER: **plié**

[10] A special “technique” named for *this* choreographer entails deeper pliés and performing outside pirouettes from a fourth position lunge. This Russian son of Georgian immigrants co-founded the New York City Ballet.

ANSWER: George **Balanchine** [accept Georgy Melitonovich **Balanchivadze**]

[10] Balanchine co-choreographed a 1970 production of *The Firebird* with Jerome Robbins, who is best known for choreographing the original production of *this* musical about the Jets and the Sharks by Leonard Bernstein.

ANSWER: ***West Side Story*** <WJ>

8. The Lakota culture hero Iktomi takes the form of one of these animals. For 10 points each:

[10] Name this animal. A “woman” or “grandmother” named for this animal is a common figure in the mythology of the American Southwest, where she is often associated with the earth.

ANSWER: **spiders**

[10] This spider character from West African and Caribbean folklore is a trickster who possesses all the world’s stories.

ANSWER: **Anansi**

[10] In Greek mythology, this woman bragged that she was a better weaver than Athena and was transformed into a spider for her hubris. The taxonomic class containing spiders bears her name.

ANSWER: **Arachne** [accept **arachnids**] <JW>

9. This man's archbishop Arnulf was involved in Charles of Lorraine's attempt to usurp his throne. For 10 points each:

[10] Name this ruler, who founded a dynasty that succeeded the Carolingians as rulers of the Franks.

ANSWER: **Hugh** Capet [prompt on Capet]

[10] A saint with *this* name from the Capetian dynasty tried to set up an alliance with the Mongols, but Güyük Khan died before talks could begin. A later French ruler of this name was nicknamed "the Sun King."

ANSWER: **Louis** [accept Saint **Louis IX** or **Louis XIV**]

[10] After a long series of long-lived kings with stable succession, the Capetian dynasty entered a crisis after the sons of Philip the Fair all died young. Name any *two* of those three sons.

ANSWER: **Louis X** [prompt on partial answer]

Philip V [prompt on partial answer]

Charles IV [prompt on partial answer] <MK>

10. This novel's narrator claims that having compassion for absolutely everybody would be as overwhelming as "hearing the grass grow and the squirrel's heart beat." For 10 points each:

[10] Name this 1872 novel, whose protagonist uses her skill in reading German to help her elderly husband with his research. Its protagonist repeatedly contemplates a portrait of her lover's grandmother.

ANSWER: **Middlemarch**: *A Study of Provincial Life*

[10] In *Middlemarch*, Dorothea's husband Casaubon is a scholar with *this* main profession. A Catholic one of these people attempts to minister in rural Mexico in Graham Greene's *The Power and the Glory*.

ANSWER: **priests** [accept **Reverend**; accept "**whisky priest**"]

[10] The "Prelude" to *Middlemarch* compares women like Dorothea to *this* Spanish saint. After writing her autobiography, this saint wrote guides to spiritual devotion like 1577's *The Interior Castle*.

ANSWER: Saint **Teresa** of Ávila <JR>

11. This scientist names an equation relating the strength of an acid and activity for general acid catalysts. For 10 points each:

[10] Name this scientist who is also the alphabetically-*first* namesake of a theory that classifies acids and bases as proton donors and acceptors, respectively.

ANSWER: Johannes Nicolaus **Brønsted**

[10] Drago–Wayland theory improves on the Brønsted–Lowry definition using parameters named for "electrostatic" interactions and for *this* type of interaction. Atoms share electrons in this type of bond, in contrast to an ionic bond.

ANSWER: **covalent** interactions/bonds

[10] The ECW theory of acid-base interactions combines Drago–Wayland theory with a parameter representing *this* process. One type of this process is also referred to as homolysis.

ANSWER: **cleavage** [accept **bond-breaking** or equivalents; prompt on dissociation] <AF>

12. For 10 points each—answer the following about traditional Chinese painting:

[10] From the 8th century, *this* genre of painting, whose Chinese name means "mountains and waters," became the most prized genre in China. Painters in this genre often used long handscrolls to show miles of "fields and gardens."

ANSWER: **landscape** painting

[10] The so-called "Southern School" of "literati painters" primarily worked in *this* medium. Artists in this medium traditionally had to grind a namesake "stick" against a namesake "stone."

ANSWER: **ink** wash [accept **ink stick** or **inkstone**]

[10] The term "literati painting" first gained real prominence during the "Northern" first half of *this* Chinese dynasty. During this dynasty, Chinese literary culture changed forever with the invention of movable type printing.

ANSWER: **Song** dynasty <JR>

13. Hashim Thaci, the president of the smaller of these two countries, said in 2018 that he is willing to solve their current dispute via “correcting borders.” For 10 points each:

[10] Name these *two* countries that dispute the legitimacy of the smaller one’s 2008 declaration of independence. Talks stalled after the smaller one of them instituted a 100% tariff on the larger one’s goods.

ANSWER: Republic of **Serbia** AND Republic of **Kosovo** [accept answers in either order]

[10] Enlargement Commissioner Johannes Hahn said that Serbia must recognize Kosovo to join *this* multinational organization, whose 28 members will be reduced to 27 when its second-largest economy “exits” in 2019.

ANSWER: **EU** [or **European Union**]

[10] This EU member’s non-recognition of Kosovo is perhaps motivated by the active breakaway movements in its own autonomous communities, including one led by Carles Puigdemont [CAR-lez POOJ-duh-mon].

ANSWER: Kingdom of **Spain** [or Reino de **España**] <AF>

14. A class of drugs known as DMARDs can be used to slow the progression of this disease. For 10 points each:

[10] Name this disorder that causes swelling of and damage to joints. Unlike a similar condition, this disorder is autoimmune.

ANSWER: **rheumatoid arthritis** [or **RA**; prompt on partial answer]

[10] Rheumatoid arthritis specifically affects *this* most common kind of joint, in which the bones’ articular surfaces are separated by a membrane and surrounded by a namesake fluid.

ANSWER: **synovial** joints [accept **synovial** fluid]

[10] A different kind of joint is named for *this* tissue which has elastic, hyaline and fibro- types. This connective tissue’s breakdown over time can also cause arthritis, and it also makes up intervertebral discs and the earlobe.

ANSWER: **cartilage** <HK>

15. This foot is the reverse of a trochee. For 10 points each:

[10] Name this metric foot, which consists of a short syllable and then a long syllable. English blank verse usually uses a “pentameter” with five of these feet per line.

ANSWER: **iamb**s [accept **iambic pentameter**]

[10] Blank-verse advocate John Milton also loved using *this* technique, in lines such as “Of man’s first disobedience, and the fruit [pause] / of that forbidden tree.” Lines without this property are called “end-stopped.”

ANSWER: **enjambment** [accept word forms like **enjamb**ed]

[10] This Victorian poet often took enjambment to an extreme, splitting the syllables of a single word between lines to emphasize the alliteration of sentences like “I caught this morning morning’s minion, king- [pause] / dom of daylight’s dauphin.”

ANSWER: Gerard Manley **Hopkins** <JR>

16. For 10 points each—answer the following about the achievements of the Ming dynasty:

[10] The Ming built the present-day version of *this* huge defensive barrier, which was built to keep out the Oirat Mongols.

ANSWER: **Great Wall** [or **changcheng**]

[10] Before the Ming dynasty was brought down by the power of *these* court officials, it sent a Muslim one of them named Zheng He [JUNG huh] on several naval expeditions. The historian Sima Qian [SUH-mah CHYEN] was forced to become one of these people.

ANSWER: **eunuchs**

[10] The leading thinker of the Ming dynasty was a Neo-Confucian with *this* surname who opposed the ideas of Zhu Xi [joo shee]. An 11th-century official with this surname promoted the reformist New Policies.

ANSWER: **Wang** [accept **Wang Yangming** or **Wang Anshi**] <JR>

17. This man's late works include the cycle *Songs and Dances of Death*. For 10 points each:

[10] Name this Russian composer, who depicted a Witches' Sabbath led by the demon Chernabog in an 1867 tone poem.

ANSWER: Modest (Petrovich) **Musorgsky** (The tone poem is *Night on Bald Mountain*.)

[10] Musorgsky is best known for composing *Pictures at an Exhibition*, which was later orchestrated by *this* French composer of *La Valse* and *Boléro*.

ANSWER: (Joseph-)Maurice **Ravel**

[10] Like many Russian composers, Musorgsky often used *this* musical scale, as in the Coronation Scene of his opera *Boris Godunov*. This scale is composed of alternating whole steps and half steps.

ANSWER: **octatonic** scale [accept **octatonic** collection] <WJ>

18. The title character of a novel by this author spends his time contemplating such things as an albino gorilla, a naked bosom, and various plants and birds. For 10 points each:

[10] Name this author of 27-chapter postmodern novel, whose perpetually introspective title character is named for an observatory in San Diego. He also published a collection of 200 *Italian Folktales*.

ANSWER: Italo **Calvino** (The novel is *Mr. Palomar*.)

[10] Calvino's collection of folktales was inspired by the work of folklorists Jakob and Wilhelm, two German brothers with *this* last name.

ANSWER: Brothers **Grimm**

[10] In interviews and letters, Calvino confirmed that the literary tricks of his novel *If on a winter's night a traveler* were inspired by works like *Pale Fire* by *this* other author.

ANSWER: Vladimir (Vladimirovich) **Nabokov** <JW/JR>

19. For 10 points each—answer the following about ethically objectionable studies in psychology:

[10] This prematurely-aborted experiment is discussed in the book *The Lucifer Effect*. In this study, participants were randomly assigned as prisoners or guards, leading to the guards psychologically abusing the prisoners.

ANSWER: **Stanford Prison** experiment

[10] This man tested the effects of deprivation of physical contact in monkeys by creating wire-and-terrycloth "surrogate mothers." He also kept monkeys in isolation chambers for two years.

ANSWER: Harry (Frederick) **Harlow**

[10] The Milgram obedience experiment involved participants who were told to perform *this* action on a "learner" and showed that most people were willing to perform this action even when it risked killing the learner.

ANSWER: administer an electric **shock** [accept reasonable equivalents] <HK>

20. This mathematician names the inhomogeneous generalization of Laplace's equation. For 10 points each:

[10] Name this French mathematician whose namesake distribution describes the likelihood that different numbers of independent events occur in a given time interval and is used to model events such as radioactivity counts.

ANSWER: Siméon Denis **Poisson**

[10] A scientist is studying a process obeying a Poisson distribution and is dissatisfied with her signal-to-noise ratio. How should she change her measurement time interval in order to *double* her signal-to-noise ratio?

ANSWER: she should **multiply it by four** [or **quadruple** it] (In a Poisson process, noise scales with the square root of the number of counts.)

[10] A Poisson distribution can be thought of as the limit of a distribution named for *this* word as the number of trials goes to infinity. This word names a theorem that helps you to expand powers of the quantity "x plus y."

ANSWER: **binomial** [accept **binomial distribution** or **binomial theorem**] <AF>

Tiebreaker

21. For 10 points each—answer the following about attacks on American diplomats abroad:

[10] In 1998, the Egyptian Islamic Jihad and Al-Qaeda killed 224 people with truck bombs at U.S. embassies in Dar Es Salaam and this capital of Kenya.

ANSWER: **Nairobi**

[10] In 2012, ambassador J. Christopher Stephens was killed at the United States consulate in *this* city, sparking a long series of congressional investigations into State Department security protocols.

ANSWER: **Benghazi**

[10] Many American diplomats in *this* non-China country have been withdrawn due to a mysterious high-pitched sonic attack that has caused health problems dating back to 2016.

ANSWER: Republic of **Cuba** [or **República de Cuba**] <SCW>