

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

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Packet 7 Tossups

1. **An invitation to perform this activity is hidden in a louse hidden within a toad hidden within a snake hidden within a falcon. The severed head of a practitioner of this activity spits in the palm of a maiden to impregnate her. A figure uses his severed head for this activity after being decapitated by a bat god. A rat reveals to two figures that their grandmother has hidden their father and uncle's (*) equipment for this activity, which caused their demise when its noise irritated the Lords of Xibalba. In the Popol Vuh, the Hero Twins go to the underworld and compete in this activity. For 10 points, name this sport played by the Maya using a large rubber item.**

ANSWER: Mayan ballgame [accept Mesoamerican ballgame] <AW>

2. **In one role, one of these performers gushes that “Every woman changes my color, every woman makes me tremble” before hiding under a chair. This was the “fach” [fahkh] of Marilyn Horne and Marian Anderson. According to a common expression, these performers typically play “witches,” “britches,” and a third, rhyming word. Octavian from *Der Rosenkavalier*, Cherubino from *The Marriage of Figaro*, and other (*) “trouser” roles are almost always played by *these* performers in male clothing. These singers are now being replaced by countertenors to sing *castrato* roles. For 10 points, name these female singers with voices lower than a soprano.**

ANSWER: mezzo-sopranos [accept contraltos; do not accept or prompt on partial answer; prompt on singers or similar; accept trouser or breeches or pants role until “fach”] <JR>

3. **An endangered species of wolf and the walia ibex can be found in this country's Simien National Park. This home of the red-chested gelada monkey is currently constructing the Grand Renaissance Dam. This country's capital is the endpoint of pilgrimages to St. George's Cathedral. This country is the southern of the two that use the liturgical script (*) Ge'ez. The African Union is headquartered in this country, which became the most-populous landlocked country in the world in 1993 when independence was granted to its neighbor Eritrea. Amharic is the most-spoken language in—for 10 points—what East African country with capital at Addis Ababa?**

ANSWER: Federal Democratic Republic of Ethiopia [or ye' Itiyoppya Federalawi Demokirasiyawi Ripebilik] <MK>

4. **An application of this technique to directly measure “gross energy” has largely been superseded by the purely arithmetic Atwater system. Phase changes are identified by spikes in the measured response in the “differential scanning” form of this technique. The basic equation for this technique is “ Q equals $M C$ (*) delta- T ,” where C is the specific heat and delta- T is the change in temperature. When applied to combustion reactions, this technique is carried out at constant volume in a “bomb” device. For 10 points, name this technique that measures the flow of heat in a reaction, which is often performed in school labs using nested styrofoam coffee cups.**

ANSWER: calorimetry [accept calorimeter] <SE>

5. This poem was drastically cut down from an early version called “He Do the Police in Different Voices.” Its last section asks “Who is the third who walks always beside you?” This poem is dedicated to “*il miglior fabbro*,” an epithet taken from Dante. This poem, whose second section is repeatedly punctuated by the all-caps line (*) “HURRY UP PLEASE ITS TIME,” was heavily reshaped by Ezra Pound. This poem’s five sections include “The Burial of the Dead,” “The Fire Sermon,” and “What the Thunder Said,” which ends with the Sanskrit words “Shantih shantih shantih.” The line “April is the cruellest month” begins—for 10 points—what poem by T.S. Eliot?

ANSWER: The Waste Land <JW>

6. For most of his life, Vladimir Ilyushin claimed without evidence to have worked as this kind of person. The refusal to acknowledge that Valentin Bondarenko died of severe burns while training for this profession fueled conspiracy theories concerning (*) “Lost” holders of this job. Members of this profession typically traveled through Baikonur, a facility in southern Kazakhstan. Textile worker Valentina Tereshkova was the first female member of this profession, which was referred to in the Soviet Union by a term meaning “universe sailor.” For 10 points, name this profession that was pioneered in 1961 when Yuri Gagarin rode into space in *Vostok 1*.

ANSWER: cosmonauts [or astronauts] <SE>

7. Repackaging a security named for *this* concept forms its “squared” or “synthetic” version. That security named for this concept is divided up into “tranches” by seniority, which dictates the order in which payouts are given. A type of security widely blamed for the 2008 financial crisis was known as a “collateralized [*this concept*] obligation” or CDO. Firms that (*) finance themselves in this fashion are called “levered,” and the ratio of this quantity to equity is known as leverage. The ratio of a form of this quantity to GDP is projected to reach 100% by 2028; the value of that “national” type of this state is currently 21.97 trillion dollars. For 10 points, name this state of owing money.

ANSWER: debt [accept collateralized debt obligation or CDO until mentioned] <BY/AF>

8. Common additives in this technique include borate salts to maintain viscosity and ethylene glycol to prevent scale buildup. Since the early 2000s, horizontal wells have increasingly replaced vertical wells in this technique. Materials used to maintain openings in this process, such as sand, are known as proppants. In this process, cased (*) wellbores are filled with slickwater, whose wastewater may contaminate groundwater. This process can lead to methane leakage and is controversially associated with increased seismic activity. For 10 points, name this process that uses highly pressurized water to create fissures in shale reserves underground, allowing for natural gas extraction.

ANSWER: fracking [or hydraulic fracturing] <HK>

9. A prayer for this substance, or *geshem*, is the focal point of Shemini Atzeret. This substance is distributed using an *aspergillum*. In a modern Passover tradition, some of this substance is set aside for Miriam, corresponding to a similar offering for Elijah. Bread is dropped into this substance in *tashlikh*. The ritual of *netilat yadayim* uses this substance, which is contained in a (*) *mikvah*. A ritual involving this substance is often celebrated around Epiphany. This substance is produced from Zamzam in Mecca. This substance is used in *wudu* before Islamic prayer. For 10 points, name this substance used to perform baptisms.

ANSWER: water [accept holy water; accept rain] <JR>

10. **These people were targeted by Richard Richardson in South Carolina’s Snow Campaign. These people included Ben Franklin’s son William, and a man named John Malcolm who was forced to drink hot tea as part of a gruesome public torture. These people, who were especially numerous in New York, were joined by many escaped slaves after Lord (*) Dunmore’s Proclamation. These people, who made up most of the defeated forces at Cowpens and King’s Mountain, fled in droves to what is now Canada after Yorktown. For 10 points, name these American colonists who opposed the Patriots during the Revolutionary War.**

ANSWER: Loyalists [or Tories; or Royalists; or King’s Men; prompt on descriptive answers; prompt on colonials or colonists] <SPQR>

11. **In 1968, the White Sox played ten “Home away from home” games in this city, partially as a consolation for a team that moved to Atlanta two years earlier. A team in this city was the *second*-most recent MLB team to switch leagues, which they did under owner Bud Selig. That team moved to this city after one season as the Seattle Pilots, and their home games now feature a (*) sausage race. Former stars for this city included Robin Yount and Paul Molitor, while current players include Ryan Braun and reigning National League MVP Christian Yelich. This city’s basketball team is now led by Giannis Antetokounmpo [YAH-niss ahn-deh-deh-KOON-poh]. For 10 points, name this city home to the Bucks and the Brewers.**

ANSWER: Milwaukee <SCW>

12. **This character’s story was retold in the form of an interview with the author in a graphic novel titled for this character by Will Eisner. Most scholars believe that this character was based on Ikey Solomon. This character often warns others not to “peach” on him. The title character is brought to this character by his half-brother (*) Monks. Insinuations of betrayal from this “receiver of stolen goods” result in the murder of Nancy by this man’s former protégé Bill Sikes. Charley Bates and the Artful Dodger are the underlings of—for 10 points—what Jewish criminal in *Oliver Twist*?**

ANSWER: Fagin [accept Fagin the Jew] <MK>

13. **One method for performing this technique involves using the intensity of light produced by luciferin to determine the amount of released pyrophosphate. Another method utilizes bridge-PCR to amplify fragments attached to a solid surface to form “clusters” and was pioneered by Illumina. The first process for performing this task was invented by Maxam and Gilbert. A method of performing this process that relies on ddNTPs for (*) chain-termination is named for Sanger. That method has been replaced by “next-gen” methods for this process, including the “shotgun” method utilized by the Human Genome Project. For 10 points, name this process of determining the order of bases of DNA.**

ANSWER: DNA sequencing <HK>

14. **This politician’s name is often prefixed with the honorific “Daw.” This politician first emerged as a national figure during the 8888 Uprising, during which she addressed half a million people from Shwedagon Pagoda. Provisions of a 2008 constitution that bars spouses and parents of foreigners from serving as president prevented this (*) woman from taking that office; she instead serves as State Counsellor and leads the National League for Democracy. She has been criticized for refusing to discuss her country’s treatment of Rohingya Muslims. For 10 points, name this 1991 Nobel Peace Prize laureate from Myanmar who spent 15 years under house arrest.**

ANSWER: Aung San Suu Kyi [do not accept or prompt on “Aung” or “Aung San”] <HK>

15. **This author once declared that “A novel that does not uncover a hitherto unknown segment of existence is immoral.” This author explained his tendency to write seven-chapter novels in the book *The Art of the Novel*, and began to write in French with the novels *Slowness*, *Identity*, and *Ignorance*. This author used a discussion of Late Beethoven to open a novel whose protagonist compares the government to (*) Oedipus and loses his job. This author imagined that Nietzsche’s theory of the “eternal return” would lead to life being intolerably “weighty” in a novel about the dissidents Tereza and Tomáš. For 10 points, name this Czech author of *The Unbearable Lightness of Being*.**

ANSWER: Milan Kundera <SPQR>

16. **In an early painting by this artist, two women with blue bonnets and bright yellow dresses sit on the left. A painting by this artist repeats the curves of the central woman in the shape of a glass bowl of oranges, which stands next to several bottles of alcohol. That painting by this artist depicts (*) you, the viewer, as a man with a moustache in a top hat reflected in a mirror behind the central barmaid. In another painting by this artist, two fully-dressed men talk while a nude woman seated with them stares at the viewer. For 10 points, name this painter of *A Bar at the Folies-Bergère* and *Luncheon on the Grass*.**

ANSWER: Édouard Manet <JW>

17. **One observation predicted by this theory results from the spontaneous symmetry breaking of an SU(2) doublet in a “Mexican hat” potential. Improvements to this theory try to address its CP violation and the fine-tuning of its 19 free parameters. In this theory, local symmetries give rise to gauge bosons that mediate interactions. A single treatment of all the interactions in this theory is the goal of (*) Grand Unified Theories, while “theories of everything” combine it with gravity. The last particle in this theory, the Higgs boson, was discovered in 2012. The electromagnetic, weak, and strong forces are all described by—for 10 points—what basic framework of modern particle physics?**

ANSWER: Standard Model <SE>

18. **Charles James Fox denounced *this man* for “the atrocities at the Bay of Naples” after he condemned Francesco Caracciolo to death. This man was given the Sicilian title of “Duke of Bronté” in 1799. Thanks to an injury sustained while capturing Corsica, this lover of (*) Emma Hamilton could claim he “really did not see the signal” given by Hyde Parker at the Battle of Copenhagen. Before his final battle, this man sent the signal “England expects that every man will do his duty.” For 10 points, name this English admiral who won at the Battle of the Nile and died at the Battle of Trafalgar.**

ANSWER: Horatio Nelson <SPQR>

19. **Traditionally in China, one of these devices is used to resonate two strings that are connected to a box covered on one end by python skin. This device was redesigned by François Tourte. A hand-cranked wheel replaces this device in a hurdy-gurdy. This device is held in the right hand by users of rebabs and *erhus* [ARE-hooz]. For some users, these devices can be held with either a (*) “French” or a “German” grip. These devices often have an adjustable “frog” and must be rosined. *Pizzicato* is a way of playing without these devices, which are usually made with horsehair. For 10 points, name these devices used to play instruments like the violin.**

ANSWER: bows <JR>

20. Inhabitants of *these* objects call the speaker to live with them in a Rabindranath Tagore poem named for these things and waves. An exiled man asks one of *these* objects to bring his wife a message in a poem by Kalidasa. One of these objects is invoked in the first line of a poem whose speaker “little thought / What wealth the show to me had brought,” and which ends by describing “that (*) inward eye / Which is the bliss of solitude.” One of these things “floats on high o’er hills and vales” at the beginning of a poem whose speaker sees “A host of golden daffodils.” William Wordsworth “wandered lonely as”—for 10 points—what atmospheric objects?
ANSWER: clouds [accept “The Cloud Messenger”] <HK>

Tiebreaker

21. This was the original language of a poem that describes a man who “listens close to your sweet speaking / and lovely laughing” and “seems to me equal to the gods,” according to the translation *If Not, Winter* by Canadian poet Anne Carson. Another poet in this language wrote that “the fox knows many things, but the hedgehog knows one big thing.” Poets in this language introduced the use of (*) dactylic hexameter. One of this language’s Nine Lyric Poets wrote “Victory Odes” for winning athletes. Pindar wrote in this language, which was used to write drinking poems by Anacreon. For 10 points, name this language in which Sappho wrote a “Hymn to Aphrodite.”

ANSWER: Ancient Greek [accept hellenika or hellenike] <SPQR>

Bonuses

1. This story begins by telling us that its protagonist drowned, before the narrator finds his journals in his briefcase. For 10 points each,

[10] Name this short story in which the title object slowly becomes a human, and then demands things like rice with chicken and numerous buckets of water.

ANSWER: “**Chac Mool**”

[10] The author of “Chac Mool,” Carlos Fuentes, also fictionalized the death of *this* American author in *The Old Gringo*. This man wrote the satirical *Devil’s Dictionary*, as well as the story “An Occurrence at Owl Creek Bridge.”

ANSWER: Ambrose (Gwinnett) **Bierce**

[10] “An Occurrence at Owl Creek Bridge” is set during *this* historical event, which was also the setting of Bierce’s story “The Horseman in the Sky.”

ANSWER: American **Civil War** <HK>

2. Bismuth is the element that exhibits this property most strongly, and it is generally observed in materials with paired electrons. For 10 points each:

[10] Name this property of materials that repel applied magnetic fields.

ANSWER: **diamagnetism** [do not accept or prompt on just “magnetism”]

[10] Superconductors exhibit *this* type of perfect diamagnetism, in which they completely expel a magnetic field from their interior. This effect was discovered in 1933.

ANSWER: **Meissner** effect [or **Meissner**–Ochsenfeld effect]

[10] In *paramagnetism*, magnetization grows with applied field according to a law named for Pierre, a physicist with *this* surname. Pierre’s Polish wife, who took this surname, was the first woman to win a Nobel Prize.

ANSWER: **Curie** [accept Pierre **Curie** or Marie Sklodowska **Curie**] <SE>

3. Parts of this city were destroyed by ISIL, but it will receive tourists again as early as this year. For 10 points each,

[10] Name this Syrian city which grew to power under the rule of Odenathus and Zenobia.

ANSWER: **Palmyra**

[10] Among the most famous landmarks at Palmyra is the temple of *this* god, who was worshipped with Aglibol and Yarhibol. This god was worshipped at Rome in the form of a black stone.

ANSWER: **Bel** [or **Baal**; accept **El-Gabal**]

[10] Despite Palmyra’s continued control by the Romans, it eschewed using *this* main language of the Roman empire in favor of Aramaic, Greek, and Arabic.

ANSWER: **Latina** <SPQR>

4. For 10 points each—answer the following about fruit in painting:

[10] Fruit is probably most likely to appear in *this* genre of painting, which generally depicts arrangements of inanimate objects. Other common subjects include other food, flowers, and ~skulls~.

ANSWER: **still lifes**

[10] Early on, this first major Baroque artist painted still lifes like *Basket of Fruit*, *Boy Peeling a Fruit*, and *Boy with a Basket of Fruit*. He included baskets of fruit in his *Bacchus* and *Supper at Emmaus*.

ANSWER: Michelangelo Merisi da **Caravaggio**

[10] This earlier painter is known for combining still lifes with portraits in paintings like *Vertumnus*, which depicts his patron Rudolf II as a bunch of fruits and vegetables.

ANSWER: Giuseppe **Arcimboldo** <JW>

5. This man is stared at in court by an old woman whom he earlier saw compulsively examining checklists in a restaurant. For 10 points each:

[10] Name this character who, on a dazzlingly bright, hot day, shoots a knife-wielding man on the beach. At the end of the novel, he discovers the “benign indifference of the universe,” hoping for a big, hateful crowd at his execution.

ANSWER: **Meursault** [prompt on descriptions like “the narrator of *The Stranger*”]

[10] Meursault begins the novel *The Stranger* with this almost sociopathically matter-of-fact sentence.

ANSWER: “**Mother died today.**” [or “**Today, mother is dead.**” or “**Aujourd’hui, maman est morte.**”]; accept “**Maman died today.**”]

[10] *The Stranger* was written by *this* Algerian-French author, who also explored his Existentialist philosophy of Absurdism in books like *The Myth of Sisyphus*

ANSWER: Albert **Camus** <JR>

6. For 10 points each—answer the following about environmental disasters:

[10] In 1989, *this* ship struck a reef in Prince William sound, sending 260,000 barrels of oil into the ocean.

ANSWER: **Exxon Valdez** [do not accept or prompt on partial answer]

[10] As bad as *Exxon Valdez* was, this 2010 spill in the Gulf of Mexico was over 18 times worse. This spill began when the namesake BP drilling rig exploded a few miles off the coast of Louisiana.

ANSWER: **Deepwater Horizon**

[10] From a human standpoint, probably the worst industrial disaster to date was a 1984 release of toxic methyl isocyanate from a Union Carbide plant in *this* Indian city.

ANSWER: **Bhopal** <BY>

7. People infected with any of *this* group of diseases can be co-infected with babesiosis [buh-bee-zee-OH-sis] or human granulocytic anaplasmosis. For 10 points each:

[10] Name these diseases which, like typhus, are caused by bacteria of genus *Rickettsia*. These diseases present with a patterned rash on the skin.

ANSWER: **spotted fevers** [accept Rocky Mountain **spotted fever** or Mediterranean **spotted fever**; accept **RMSF**; accept **MSF**; prompt on **fevers**]

[10] *B. burgdorferi* is spread by *these* arthropods, which can also carry the causative agent of Rocky Mountain spotted fever and Lyme disease.

ANSWER: **ticks** [or **Ixodida**]

[10] Ticks, mosquitoes, and other animals which transmit pathogens between reservoir species and host species are referred to by *this* term in epidemiology. These species can also be the pathogen’s reservoir species.

ANSWER: disease **vectors** <HK>

8. This poem becomes markedly more morbid around the thirty-sixth of its fifty-five stanzas. For 10 points each:

[10] Name this elegy by Percy Shelley on the death of his friend, John Keats. It compares life to a “dome of many-coloured glass” that “stains the white radiance of eternity.”

ANSWER: “**Adonaïs**”

[10] “Adonaïs” was heavily influenced by *this* earlier elegy, which declares “Fame is no plant that grows on mortal soil” and describes “Flames in the forehead of morning sky.” It was written in 1637 after the death of Edward King.

ANSWER: “**Lycidas**” (by John Milton)

[10] Milton’s “Lycidas” is narrated by a character with *this* profession, which features in “pastoral” poetry. In *The Winter’s Tale*, Perdita is set to be married at a sheep-shearing festival after being raised by one of these people,

ANSWER: **shepherds** [accept **swains**; prompt on **farmers**] <JW>

9. A competitor in this sport was played by Margot Robbie in the 2017 biopic, *I, Tonya*. For 10 points each,
[10] Name this artistic sport of Michelle Kwan and Nathan Chen, which involves performing spins and jumps on ice.

ANSWER: **figure skating** [prompt on partial answer]

[10] This Japanese skater, who won Gold at the 2014 and 2018 Olympics, can perform four kinds of quad jumps and was the first skater ever to land a quad loop in competition. He's also known for his love of Winnie-the-Pooh.

ANSWER: Yuzuru **Hanyu** [accept names in either order]

[10] Yuzuru Hanyu's "Noche Stellata" program contains a delayed single one of *this* most technically difficult jump in figure skating. In 2018, Mirai Nagasu became the first American woman to land a triple one at the Olympics.

ANSWER: **axel** [accept **triple axel** or **single axel**] <HK>

10. This man, who eventually became a U.S. Senator, did his most famous work as an Assistant Secretary of Labor under Lyndon Johnson. For 10 points each,

[10] Name this author of the 1965 report "The Negro Family," which claimed that "ghetto culture" was the cause of poverty among African-Americans, rather than a lack of job opportunities or the effects of racism.

ANSWER: Daniel Patrick **Moynihan**

[10] Moynihan would serve as Senator from this U.S. state. His contemporaries from this state included Congressman Adam Clayton Powell, Jr. and Governor Nelson Rockefeller.

ANSWER: **New York**

[10] Adam Clayton Powell, Jr. was a major campaigner against *these* taxes on voter registration, which were often used to suppress black turnout. These taxes were banned by the 24th Amendment.

ANSWER: **poll** taxes <SCW>

11. A large monument of this kind was created several hundred years ago in what is now Bighorn National Forest. For 10 points each:

[10] Name this spiritual symbol of midwestern Native Americans, which is often represented by a large ring of stones, with lines of stones radiating from the center in the cardinal directions.

ANSWER: **medicine wheel**

[10] Some medicine wheels were designed to track *this* celestial object, which is honored by Plains Indians in a namesake "dance." In a Haida myth, Raven stole this object and hung it up in the sky along with the Moon.

ANSWER: the **Sun** [accept **Sun Dance**]

[10] Other wheel-shaped Native American spiritual objects include *these* hoops, which are woven with a spider's-web like net and hung above the cradles of Ojibwe infants. They are often decorated with feathers.

ANSWER: **dreamcatchers** <JR>

12. Luminosity is typically plotted against this quantity on H-R diagrams. For 10 points each:

[10] Name this quantity that gradually decreases along with luminosity for main-sequence stars. The value of this quantity can be as high as fifty thousand Kelvin for O-type stars.

ANSWER: effective **temperature** [prompt on **T**]

[10] Stars evolving according to the main sequence of an HR diagram start in one quadrant and end in another quadrant. Give *both* quadrants, indicating which is the start and which is the end.

ANSWER: **start** in the **top left** [accept reasonable equivalents like **upper left**]

end in the **bottom right** [accept reasonable equivalents like **lower right**]

[10] Former main sequence dwarf stars that have lost the ability to fuse hydrogen are described with *this* color. Dwarfs of this color have lower mass than red dwarfs and can be distinguished by the presence of lithium.

ANSWER: **brown** dwarfs <BY/AF>

13. A player of this instrument became known for a 10-minute medley from *West Side Story* that his band premiered in 1966. For 10 points each:

[10] Name this instrument played by Buddy Rich.

ANSWER: **drums**

[10] Buddy Rich was, with Oscar Peterson, part of the backing band for this man's 1956 album with Ella Fitzgerald. This gravelly-voiced trumpeter later sang "What a Wonderful World."

ANSWER: Louis **Armstrong** [or **Satchmo**; prompt on **Pops**]

[10] A basic rudiment of jazz drumming is *this* pattern, in which you play "right left right right, left right left left." Jerry Allison plays this pattern for the entire duration of Buddy Holly's "Peggy Sue."

ANSWER: single **paradiddles** <JR>

14. This is probably the only school of philosophy named after a porch. For 10 points each:

[10] Name this Hellenistic school of philosophy, which aims to minimize destructive emotions by keeping the will in accordance with nature. Seneca used this philosophy to remain calm and emotionless while committing suicide.

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

[10] The Stoic philosopher Epictetus was fond of insulting his listeners and readers by calling them *this* derisive term, which is slightly ironic given Epictetus's own biography.

ANSWER: **slave**

[10] This Roman Stoic compiled his thoughts in a work called the *Meditations*, which focus heavily on self-improvement through developing a "cosmic perspective."

ANSWER: **Marcus Aurelius** Antoninus Augustus [accept either underlined part] <JW>

15. The second of two girls plans to "abash" the title character with cloth in this author's poem "The Plot Against the Giant." For 10 points each:

[10] Name this poet, whose debut collection *Harmonium* also includes "Le Monocle de Mon Oncle," "The Emperor of Ice-Cream," and "Thirteen Ways of Looking at a Blackbird."

ANSWER: Wallace **Stevens**

[10] Stevens' poem "Peter Quince at the Clavier" retells the story of Susanna, which is included in some versions of *this* book of the Bible. In this book the "writing on the wall" appears during Belshazzar's feast.

ANSWER: Book of **Daniel**

[10] Stevens's poem "Sunday Morning" calls *this* thing the "mother of beauty," claiming that "from [this thing] alone shall come fulfilment to our dreams / And our desires."

ANSWER: **death** <MK>

16. A 1549 document with this name organized the modern Low Countries into the "Seventeen Provinces." For 10 points each,

[10] Give this name used for a 1713 edict issued by Emperor Charles VI, who had no sons.

ANSWER: **Pragmatic Sanctions** [or **Sanctio Pragmatica**]

[10] This woman took power in 1740 following the 1713 Pragmatic Sanction. Her son Joseph II attempted reforms like abolishing serfdom, but died at the age of 39.

ANSWER: **Maria Theresa** Walburga Amalia Christina

[10] Maria Theresa was a queen from *this* ruling family, whose motto, abbreviated A.E.I.O.U., roughly meant "Austria will rule the world." Holy Roman Emperor Charles V was a member of this family.

ANSWER: **Habsburgs** [or **Hapsburgs**] <SPQR>

17. For 10 points each—answer the following about freshman congresswoman Alexandria Ocasio-Cortez:

[10] Ocasio-Cortez currently represents the fourteenth House district of *this* U.S. state. Its other politicians include representative Hakeem Jeffries and senior senator, Chuck Schumer.

ANSWER: **New York**

[10] Ocasio-Cortez is linked to the Sunrise Movement, an advocacy group for *this* set of environmentally-focused legislative goals. Its name alludes to a set of Great Depression-reversing programs enacted by FDR.

ANSWER: **Green New Deal** [do not accept or prompt on just “New Deal”]

[10] Ocasio-Cortez is a member of the House Banking Committee and *this* committee, whose chairmanship passed from Trey Gowdy to Elijah Cummings. Its chair can issue subpoenas without consulting the ranking member.

ANSWER: Committee on **Oversight** and Reform [or House **Oversight** Committee] <SCW>

18. These objects are called “primary” if they can only be used once, and “secondary” if they can be reused. For 10 points each:

[10] Identify these commercial galvanic cells that supply consumer products with a fixed voltage. Rechargeable ones are often made of nickel–cadmium or nickel–metal hydride.

ANSWER: **batteries** [accept nickel–cadmium **battery** or nickel-metal hydride **battery**]

[10] Most rechargeable car batteries contain a strong acid and *this* heavy metal, which is both reduced at the battery’s cathode and oxidized at the anode.

ANSWER: **lead** [or **Pb**]

[10] Some early electric vehicles, on the other hand, were powered by batteries that paired sodium with *this* element. This nonmetal is paired with lithium in a cutting-edge battery technology known for its very high energy density.

ANSWER: **sulfur** [or **S**] <SE>

19. This architect’s Phaeno Science Centre was inspired by the shape of fishing boats called *dhow*s. For 10 points each,

[10] Name this architect who was once mainly known for acclaimed but highly ambitious designs that were never built. This “Deconstructivist” architect was also called “parametricist” for creating designs full of undulating curves.

ANSWER: Zaha (Mohammad) **Hadid**

[10] Hadid spent almost a decade building one of *these* buildings in Guangzhou, China. One of these buildings in Paris is also called the Palais Garnier [pah-LEH gar-NYAY] and houses ceiling paintings by Marc Chagall.

ANSWER: **Opera** House [prompt on **theaters**]

[10] Hadid also designed an Aquatics Center in *this* capital city, which is home to Renzo Piano’s skyscraper The Shard, as well as to Christopher Wren’s St. Paul’s Cathedral.

ANSWER: **London** <HK>

20. For 10 points each—answer the following about sex changes...in Greek mythology:

[10] This man was transformed into a woman after striking a pair of copulating snakes. This blind seer reveals that Oedipus killed his own father.

ANSWER: **Tiresias**

[10] After *this* god abducted Caenis, he granted her one wish, transforming her into a man named Caeneus. Earthquakes were believed to be caused by this god of the sea.

ANSWER: **Poseidon**

[10] A figure with *this* name was a daughter of Galatea raised as a boy, and was changed to a man after their mother Galatea prayed to Leto. This name, which means “white horse,” was shared by the teacher of Democritus.

ANSWER: **Leucippus** <SPQR>

Tiebreaker

21. The Whitcomb area rule provides a prescription for minimizing *this* quantity for aircraft traveling near the speed of sound. For 10 points each:

[10] Name this force that acts to oppose thrust.

ANSWER: **drag** [or **air resistance** or **fluid resistance**; prompt on resistance]

[10] An object that begins falling from rest will attain *this* maximum velocity when the upward drag and buoyancy forces equal the downward gravity force. This velocity is often around 50 meters per second for skydivers.

ANSWER: **terminal** velocity

[10] A major source of aerodynamic drag is the formation of *these* swirling disturbances at the trailing edge of an airplane's wing. "Streets" of these phenomena are created in the atmosphere during a flow separation.

ANSWER: **vortices** [accept **vortex** streets] <SE>