

Detroit Country Day Academic Regular Tournament

Packet 5

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1. **Georg Kopprasch wrote two sets of 60 etudes for Heinrich Stölzel’s design for this instrument. This instrument introduces the D major main theme in the second movement of Tchaikovsky’s 5th symphony. With Herbert von Karajan and the Philharmonia Orchestra, Dennis Brain recorded the definitive recordings of Mozart’s four concerti for this instrument. Three of this instrument represent the (*) Wolf in *Peter and the Wolf*. A thumb key allows players of this instrument’s “double” variety to switch between the keys of B flat and F. Hand-stopping can be used to change the pitch of the sound emitted by this instrument. For 10 points, name this coiled brass instrument named for a certain European country.**

ANSWER: French horn <Auditory Fine Arts, Sun>

The unpopularity of these laws contributed to Thomas Jefferson’s win in 1800. For 10 points each,
[10] Name these laws that were passed amid fear of a war with France. One of these laws, the Naturalization Act, increased the residency requirement for citizenship from 5 years to 14 years.

ANSWER: Alien and Sedition Acts

[10] The Alien and Sedition Acts were passed during the tenure of this Federalist President. This man had previously served as the 1st Vice President of the United States.

ANSWER: John Adams [do NOT accept or prompt on “John Quincy Adams”]

[10] *Two answers required.* In response to the Alien and Sedition Acts, Thomas Jefferson and James Madison wrote these two resolutions, which declared that a state can nullify laws deemed to be unconstitutional.

ANSWER: Kentucky and Virginia Resolutions <US History, Gayden, Ed.>

2. **During this century, the Plague of Cyprian devastated one city. Queen Zenobia led a breakaway state during this century known as the Palmyrene Empire, which was conquered by Aurelian. A ruler who lived during this century introduced the Edict of Maximum Prices and won the Battle of Margus. That ruler created the (*) Tetrarchy. A “Crisis” of this century began with the assassination of Severus Alexander. This century saw the rise of “barrack emperors” and political corruption. Diocletian ruled for two years during this century. For 10 points, name this century that succeeded the second.**

ANSWER: Third Century [or 200s; accept Crisis of the Third Century] <Ancient/Other/Mixed History, Pavlou, Ed.>

In December 2020, the leader of this region, Debretsion Gebremichael, confirmed firing missiles at Asmara International Airport. For 10 points each,

[10] Name this mountainous region, the site of an ongoing war. The TPLF controls this region from Mekelle.

ANSWER: Tigray Region [prompt on Ethiopia with “which specific region of Ethiopia?” but DO NOT otherwise reveal Ethiopia]

[10] Many refugees have fled from this country’s region of Tigray to neighboring Sudan. This country is south of Eritrea, and its capital is Addis Ababa.

ANSWER: Federal Democratic Republic of Ethiopia

[10] This Prime Minister of Ethiopia has been praised for his handling of the Tigray crisis. This man won the 2019 Nobel Peace Prize for initiating peace talks with Eritrea, ending a long standing border dispute.

ANSWER: Abiy **Ahmed** Ali [prompt on Ali] <Current Events, Gayden, Ed.>

3. **Zvi Galil proposed a rule improving the Boyer-Moore algorithm, which operates on these objects. The Rabin-Karp algorithm inputs these objects into a rolling hash, and the Levenshtein distance measures the dissimilarity of these objects. These objects are null-terminated in C, and regular expressions can be used to (*) search these objects. Two of these objects can be joined via concatenation, and these objects are usually defined by double quotes. For 10 points, name this data type made up of a series of characters, which can be used to store text.**

ANSWER: **strings** <Computer Science, Sun>

In one work, if one of these beings pressed the speaker “against his heart”, he “would be consumed.” For 10 points each,

[10] Name these beings. The speaker of one poem asks “Who if I cried out would hear me among” these beings’ Orders.

ANSWER: **angels**

[10] This author described angels as “terrifying” in his poetry collection *Duino Elegies*.

ANSWER: Rainer Maria **Rilke**

[10] In this poem by Rilke, the speaker claims the title body part “is still suffused with brilliance from inside” after saying “We cannot know his legendary head with eyes like ripening fruit”.

ANSWER: “**Archaic Torso of Apollo**” <European Literature, Siddiqui>

4. **In this story, a grey cat walking by a grey fence in a grey backyard can be seen through the windows of an “\$8 flat.” This story’s protagonist heats a frying pan to cook chops for her husband, who is never late. After spending 20 dollars given to her by Madame Sofronie, this story’s protagonist is left with (*) 87 cents. This story’s last paragraph compares a tradition started by the title figures to the actions of “two children who were not wise” who ironically sell their hair and watch to buy a comb and watch chain respectively. Jim and Della are the main characters of, for 10 points, what short story by O. Henry?**

ANSWER: “The **Gift of the Magi**” <US Literature, Gayden>

For 10 points each, answer the following about *The Office*.

[10] The original version of *The Office* was set in this non-American country. The shows *Doctor Who*, *Sherlock*, and *Downton Abbey* are all set in this island country.

ANSWER: United **Kingdom** (or Great **Britain**; accept **England**)

[10] The British version of *The Office* was created by this comedian. He is famous for his monologue at the Golden Globes and directing the comedy show *After Life*.

ANSWER: Ricky **Gervais**

[10] Jim and Dwight celebrate this character with a sign that says “IT IS YOUR BIRTHDAY”. This character slapped Michael in “Diversity Day” and she is a customer service representative.

ANSWER: **Kelly Kapoor** (Accept either underlined portion)

<Trash, Pavlou>

5. **This philosopher coined the term “sortal” to describe the essences linking countable objects. This thinker used the example of a man gathering acorns to argue that “mixing” labor with nature creates property. Despite arguing in one work that people cannot willingly sell themselves and their family into slavery, he legalized it in the (*) Fundamental Constitutions of Carolina. This thinker excluded atheists and Catholics from the title subject of his *A Letter Concerning Toleration*, and argued against “innate ideas” in favor of the mind as *tabula***

rasa in *An Essay Concerning Human Understanding*. For 10 points, name this English thinker, who refuted absolutism in his *Two Treatises of Government*.

ANSWER: John **Locke** <Philosophy, Golfinos>

The Eyring equation is an alternative to this equation. For 10 points each,

[10] Name this equation named after a Swedish chemist. This equation can be used to derive a certain “rate” given a temperature and activation energy.

ANSWER: **Arrhenius** equation

[10] The Arrhenius Equation is commonly used in chemical kinetics, which focuses on these processes. These processes result in the conversion of reagents into products.

ANSWER: chemical **reactions**

[10] The pre-exponential factor in the Arrhenius Equation is equal to this quantity times the collision density. Denoted rho, this quantity can be interpreted as the probability that molecules will collide in the right orientation.

ANSWER: **steric factor** [prompt on partial, do not accept or prompt on steric number] <Chemistry, Sun>

6. **One character in this novel gives a riddle in which a fox buries his grandmother under a bush. After attending Patrick Dignam’s funeral, a character in this novel drops off an article written by the school headmaster, Mr. Deasy. A character stares intently at a woman named Gerty while fireworks explode above in this novel’s section** (*) “Nausicaa.” The phrase “Yes I said yes I will yes” is remembered by a character who has an affair with Blazes Boylan at the end of this novel. Molly cheats on her husband Leopold Bloom in, For 10 points, what stream-of-consciousness novel by James Joyce.

ANSWER: **Ulysses** <British Literature, Siddiqui>

In his 1966 article “Success Story,” William Petersen argued that some groups overcome “self-defeating apathy” while others “react negatively” to opportunity, which explains inequality. For 10 points each:

[10] In that article, Petersen introduced this concept, which tries to explain racial disparities in America. Historians like Ellen D. Wu have criticized this alliterative idea as a tool of anti-black oppression.

ANSWER: **Model Minority** Myth

[10] Peterson pointed to some of this broad racial group as the “model minority.” This group, the name for which was popularized by the activist Yuji Ichioka, is the wealthiest minority in the United States.

ANSWER: **Asian**-Americans (anti prompt on any specific Asian group; Petersen’s article particularly focused on Japanese-Americans)

[10] Scholars like Wu argue that selectivity in immigration better explains Asian-American success than cultural stereotypes like this parental figure extolled in an Amy Chua book titled for their *Battle Hymn*.

ANSWER: **tiger mothers** [accept any answer that combines a term for a female parent with tiger, prompt on any female parent term, like mother] <Social Science, Liu>

7. **This only mosquito-free country is also the world’s northernmost producer of bananas. Tourists to this country may visit its highest point of Skaftafell, and travel on the Ring Road. This country contains the cities of Vik, as well as the Dettifoss Waterfall. In 1963 near this country’s Westman Islands, a (*) volcanic eruption created the island of Surtsey. The geothermal Blue Lagoon Spa is in this country, which uses 100% renewable energy. This country’s Althing is the world’s oldest legislative body. For 10 points, name this Nordic island country governed from Reykjavik.**

ANSWER: **Iceland** <Geography, Gayden> [Ed.]

For 10 points each, answer the following about the Weimar Republic.

[10] The capital of the Weimar Republic was this city. This city’s Brandenburg Gate is also home to Germany’s parliament, the Bundestag.

ANSWER: **Berlin**

[10] This former general served as the second President of the Weimar Republic and he appointed Adolf Hitler to the position of Chancellor. During World War I, this man gained fame for winning the Battle of Tannenberg alongside his subordinate, Erich Ludendorff.

ANSWER: Paul von **Hindenburg** [or Paul Ludwig Hans Anton von Beneckendorff und von **Hindenburg**]

[10] This post World War I Communist organization was led by Rosa Luxembourg and often feuded with the anti-Communist Freikorps. This organization led a namesake uprising against the government of Friedrich Ebert.

ANSWER: **Spartacus** League [accept **Spartacist** League] <European History, Pavlou> [Ed.]

8. **Mutations on the PSEN-1 or PSEN-2 genes can change the behavior of gamma-secretase in the familial version of this disease. The early onset development of this disease among Down syndrome patients is caused by an extra copy of a gene on chromosome 21. This disease's pathogenesis involves fragments of the APP protein. Hyperphosphorylated (*) Tau protein "tangles" and beta-amyloid plaques are possible causes of this disease. Memory loss is a common symptom of, for 10 points, what neurodegenerative disease that is the most common form of dementia?**

ANSWER: **Alzheimer's** Disease [prompt on Dementia with "Caused by what disease?" until mentioned] <Biology, Gayden> [Ed.]

An aria from this opera describes a time when "the livin's easy, fish are jumpin' an' the cotton is high." For 10 points each,

[10] Name this George Gershwin opera, which contains the songs "It Ain't Necessarily So", and *Summertime*. This George Gershwin opera follows the two title lovers in Catfish Row.

ANSWER: ***Porgy and Bess***

[10] This drug dealer who sells "happy dust" sings the aria "It Ain't Necessarily So" in *Porgy and Bess*. He takes Bess to New York while Porgy is in Jail.

ANSWER: ***Sportin' Life***

[10] Along with Louis Armstrong, this jazz scat singer covered the aria "Summertime" on the album *Porgy and Bess*. This "First Lady of Song" covered Cole Porter and Duke Ellington in her "songbook" albums.

ANSWER: Ella **Fitzgerald** [prompt on Ella] <Other Fine Arts, Gayden>

9. **Edoardo Chiossone painted a portrait of this ruler so accurate that it was said to resemble a photograph. This ruler's forces won the battle of the Yalu River, forcing the troops of Mikhail Zasluch to retreat. This ruler was opposed by the Ezo Republic, which was defeated at the battle of Hakodate, ending the (*) Boshin War. This ruler's navy scored a stunning victory at Tsushima, which completely annihilated the Russian fleet. This ruler faced a rebellion from Saigo Takamori in the Satsuma domain. This ruler signed the Charter Oath, beginning the modernization of his country. For 10 points, name this emperor, the namesake of a Japanese restoration.**

ANSWER: Emperor **Meiji** [or **Mutsuhito**] <World History, Pavlou, Ed.>

Israel Hands helps beach this schooner on the northern bay of the title island in an adventure novel. For 10 points each,

[10] Name this ship captained by the strict Alexander Smollett. Much of its crew formerly served the infamous Captain Flint.

ANSWER: ***Hispaniola*** [prompt on the ship from *Treasure Island* but DO NOT REVEAL *Treasure Island*]

[10] The *Hispaniola* appears in this novel by Robert Louis Stevenson. Long John Silver takes Jim Hawkins hostage as he tries to find the title reward in this novel.

ANSWER: ***Treasure Island***

[10] A 1911 J. M. Barrie novel states that this villain was the only man Long John Silver ever feared. This man's hand was eaten by a crocodile, and he is the captain of the *Jolly Roger*.

ANSWER: Captain James **Hook** <British Literature, Liu>

10. **In December 2020, an officer in this state’s capital threatened to shoot Mayor Kate Gallego if she defunded the police. Allegations of voter fraud in this state’s Pinal County were denied by Secretary of State Katie Hobbs. This state’s junior senator is married to gun control advocate Gabby Giffords and, along with his twin brother Scott, is a former (*) astronaut.** After Maricopa County finished counting votes, this state’s governor Doug Ducey accepted Joe Biden’s narrow victory. In this state’s 2020 election, Mark Kelly defeated Martha McSally, who held John McCain’s old seat. For 10 points, name this sun belt state with its capital at Phoenix.

ANSWER: Arizona [or AZ] <Current Events, Gayden, Ed.>

Answer the following about artistic depictions of St. Anthony, for 10 points each,

[10] St. Anthony is depicted being tormented by demons in this work commissioned for the Monastery of St. Anthony. Nikolaus Hagenauer and Matthias Grünewald collaborated on this altarpiece.

ANSWER: Isenheim Altarpiece

[10] A *Temptation of St. Anthony* where St. Anthony lies down in orange pajamas next to plant-like animals was painted by Max Ernst, an artist from this country. Hagenauer and Grünewald also hail from this country.

ANSWER: Germany

[10] A parade of elephants with spindly legs carry various objects representing temptation in this artist’s painting of *The Temptation of St. Anthony*. A flower hatches out of an egg in this artist’s *The Metamorphosis of Narcissus*.

ANSWER: Salvador Dali <Visual Fine Arts, Sun>

11. **This ruler's prefect Liberius intervened in a civil war, helping Athanagil to topple Agila I. This ruler fought a conflict with his eastern neighbor for the control of Georgia during the Iberian war. After his forces won the Battle of Dara, this ruler signed an “Eternal Peace.” A general of this ruler defeated Vitiges and (*) Gelimer, helping him reconquer Italy and North Africa. That general was Belisarius. This ruler faced large riots in his capital after Hypatius was proclaimed emperor, known as the Nika Riots. For 10 points, name this "Great" Byzantine emperor who married Theodora.**

ANSWER: Justinian I [accept Justinian the Great; prompt on Justinian] <European History, Pavlou, Ed.>

An anthology containing poems of this form and their respective criticisms is named the *Seashell Game*. For 10 points each,

[10] Name this poetic form which consists of three lines, the first having five syllables, the second having seven syllables, and the last having five syllables.

ANSWER: haikus

[10] The Japanese poet Matsuo Basho wrote many haikus, including one describing the sound of one of these creatures jumping into a pond.

ANSWER: frogs

[10] Basho wrote a haiku in which one of these animals wishes for a raincoat while taking a cold shower. Haruki Murakami published a novel in 2020 titled for the *Confessions of a Shinagawa* one of these animals.

ANSWER: monkeys <World Literature, Siddiqui>

12. **This actor plays the journalist Paul Avery in the 2007 film *Zodiac*. This actor used the word “discombobulate” during a boxing match in a 2009 movie in which he starred alongside Jude Law. Recently, this actor portrayed an animal doctor in a film that was a box office bomb. In another role, this actor played a character who is captured by the Ten Rings in (*) Afghanistan and fights Obadiah Stane. That character portrayed by this actor has a bodyguard named Happy Hogan and rivals Justin Hammer. This actor plays the husband of Pepper Potts and leader of the Avengers. For 10 points, name this actor who plays Iron Man in the Marvel Cinematic Universe.**

ANSWER: Robert Downey Jr. [accept RDJ; prompt on Downey] <Popular Culture, Pavlou> [Ed.]

For 10 points each, answer the following questions about matrix operations.

[10] This operation reflects the matrix across the main diagonal, converting rows into columns and vice versa. Symmetric matrices remain unchanged when this operation is applied.

ANSWER: **transpose**

[10] The product of a matrix when multiplied by its inverse matrix yields this type of matrix with ones on the diagonal and zeroes elsewhere. Multiplying this type of matrix with another matrix leaves that matrix unchanged.

ANSWER: **identity** matrix

[10] This is the set of all vectors such that when multiplied by the matrix it returns 0. The sum of the number of vectors in this set and the number of linearly independent column vectors in a matrix is equal to the total number of columns within the matrix.

ANSWER: **null space** [or **nullity** or **kernel**] <Math, Shi>

13. **This book's third chapter warns certain people in Laodicea that they will be spit out like lukewarm water. One figure in this book defeats his enemies with a sword protruding from his mouth. The antagonist of this book is to be jailed in a bottomless pit for 1,000 years. In this book, only one figure is worthy to open a (*) scroll secured by seven seals. "The number of the beast" described in this book is often understood to be 666. According to this book, a great battle will occur at Armageddon at the end of time. For 10 points, name this last book of the New Testament attributed to John of Patmos.**

ANSWER: Book of **Revelation** [or **Apocalypse of John** until "John"; do NOT accept or prompt on "Book of Revelations"] <Religion, Cheriyan>

This man led his country's liberals to victory in the War of Reform. For 10 points each,

[10] Name this man who fought against Maximilian's forces, driving the French out of Mexico. A city adjacent to El Paso is named after him, as well as a Mexican statutory holiday.

ANSWER: Benito Pablo **Juárez** Garcia [accept Ciudad **Juárez**]

[10] Juárez's heavily outnumbered forces were led to victory at this battle by Ignacio Zaragoza. This battle served as a morale booster for the Mexicans.

ANSWER: Battle of **Puebla**

[10] The battle of Puebla occurred on this date in 1862. An annual American holiday named after this date celebrates Mexican-American culture.

ANSWER: **May 5** [accept obvious equivalents such as **Fifth of May**; accept **Cinco de Mayo**]

<World History, Gayden, Ed.>

14. **Ethylene diurea can protect plants from the effects of this compound. Its reaction with eugenol converts a terminal alkene into an aldehyde, and PPDs can prevent it from causing rubber to crack. This compound is produced via the cold plasma method, and a double prism monochromator was used by Gordon (*) Dobson to measure its concentration. This is the main component of photochemical smog, and CFCs break up this pale blue gas in a light-catalyzed reaction in the atmosphere. For 10 points, name this allotrope of oxygen that absorbs UV radiation in the stratosphere.**

ANSWER: **ozone** [or **trioxygen**; or **O3**] <Chemistry, Sun>

Langston Hughes wrote "What happens to a dream deferred?" in a poem from this movement. For 10 points each,

[10] Name this African American literary movement in a New York City neighborhood in the 1920s.

ANSWER: **Harlem Renaissance**

[10] This Harlem Renaissance author wrote about the deserter Jake Brown in *Home to Harlem*. He wrote about facing "the murderous, cowardly pack" in "If We Must Die."

ANSWER: Claude **McKay**

[10] In a *Ms.* article, Alice Walker described her search for this other Harlem Renaissance author. This author wrote a novel in which Janie Crawford shoots Tea Cake after he gets rabies.

ANSWER: Zora Neale **Hurston** <US literature, Gayden>

15. **While staying with Mabel Dodge Luhan at the Taos art colony, this artist painted *The Lawrence Tree*. This artist depicted glaring light shining off the title building in the painting *The Shelton with Sunspots*. This painter frequently depicted the Plaza Blanca cliffs and badlands, which she commonly referred to as the (*) “White Place”.** This artist played on the concept of “Great American Painting” in her work *Cow’s Skull: Red, White, and Blue*, and this artist was the subject of many photographs by her husband, Alfred Stieglitz. For 10 points, name this American artist known for her depictions of skulls and flowers.

ANSWER: Georgia O’Keeffe <Visual Fine Arts, Sun>

This figure and his father push up the sky to allow people, plants, and trees to grow tall. For 10 points each:

[10] Name this trickster figure who owned a fish hook named Manaiaikalani.

ANSWER: Maui-tikitiki

[10] In one story, Maui uses a lasso to restrain this object and beat it, forcing this object to move slower. In Norse mythology, the wolf Skoll chases this object while Hati chases the moon.

ANSWER: sun

[10] After Maui’s premature birth, he was wrapped in this material belonging to his mother Taranga. Loki steals this body part from the goddess Sif, after which the sons of Ivaldi use gold to recreate this.

ANSWER: hair <Mythology, Siddiqui>

16. **After being arrested during this event, Stormé DeLarverie cried to bystanders, “why don’t you guys do something!” This event took place 3 years after a similar event in San Francisco’s Compton Cafeteria. It was peacefully described as the “Hairpin Drop Heard Round the World” by the (*) Mattachine Society, leading to a decrease in membership. The Genovese crime family owned the central setting of this event, where they blackmailed high-profile homosexuals. For 10 points, name these 1969 riots in response to a police raid on a namesake New York inn that catalyzed the gay liberation movement.**

ANSWER: Stonewall Riots [or Stonewall Uprising or Stonewall Rebellion or Stonewall Raids] <US History, Gayden, Ed.>

The 1972 Nobel Prize in Physics was awarded to Bardeen, Cooper, and Schrieffer, who jointly developed BCS theory. For 10 points each:

[10] BCS theory dictates that this phenomenon is caused by the condensation of Cooper pairs. Materials exhibiting this property expel magnetic fields in the Meissner effect.

ANSWER: superconductivity

[10] Cooper pairs form due to the interaction of electrons and these quasiparticles. These quasiparticles are the quanta of energy for lattice vibrations.

ANSWER: phonons [do NOT accept or prompt on “photons” or “protons”]

[10] Cooper pairs typically form near this point. This temperature equal to about negative 273.15 degrees Celsius is the coldest possible temperature.

ANSWER: absolute zero [or zero kelvin] <Physics, Sun>

17. **After accidentally killing a patient, a doctor in a play by this man gets drunk and smashes a porcelain clock to demonstrate the difference between seeing and reality. In another of this man’s plays, the sound of a string snapping is heard after a servant lies on a couch preparing to die. This playwright also wrote of Solyony killing (*) Tuzenbach in a duel, which prevents him from marrying the youngest of the title *Three Sisters*. In another play by this man the servant Firs is accidentally locked inside the title estate, which Madame Ranevskaya sells to Lopakhin. For 10 points, name this Russian playwright of *The Cherry Orchard*.**

ANSWER Anton Chekhov <European Literature, Siddiqui>

For 10 points each, answer the following about micronations, very tiny countries that are mostly made up.

[10] The Dominion of Melchizedek, founded by the British bank fraudster Mark Pedley, attempted to foment a secessionist revolt in the Rotuma islands against this country with capital at Suva.

ANSWER: **Fiji**

[10] The most famous micronation, Sealand, was founded by Paddy Bates on a radio platform off the East coast of Britain in this body of water. This body of water separates Britain from Germany.

ANSWER: **North Sea**

[10] Another micronation, the Kingdom of Humanity, was established in 1963 in this island chain in the South China Sea. Along with the neighboring Paracel Islands, these islands are disputed between China and its neighbors.

ANSWER: **Spratly Islands** <Geography, Myers>

18. **A man with this surname developed a namesake progressive matrices test to measure the eductive component of Spearman's g. Wolves, eagles, and these animals make up the beasts of battle, a poetic trope in Old English literature. A superstition holds that Britain will fall if these animals leave the Tower of London. Two of these animals travel around Midgard to report information to (*) Odin; those animals are Hugin and Munin. Hempel's paradox mainly concerns whether these animals are black. In a poem, one of these animals perches on a pallid bust of Pallas. For 10 points, name these birds, one of which repeats the word "nevermore" in a poem by Edgar Allan Poe.**

ANSWER: **ravens** [accept John C. **Raven** or "The **Raven**", prompt on birds; do NOT accept or prompt on "crows"] <Mixed Academic, Sun>

Wendy Carlos won three Grammy awards for her album *Switched-On Bach*, which was played on one of these instruments. For 10 points each:

[10] Name this electronic musical instrument which can generate sounds that are shaped or modulated by filters, envelopes, and oscillators.

ANSWER: **synthesizers** [accept, but do NOT reveal, **Moog synthesizer**]

[10] Carlos performed on a synthesizer designed by this man in *Switched-On Bach*. Fundamental synthesizer concepts such as modularity and envelope generation were invented by this man, who created the first commercial synthesizer.

ANSWER: Robert **Moog**

[10] The "Minimoog" synthesizer was the first to include a wheel used for adjusting this aspect of sound. In general, this word is used to describe how high or low a note sounds.

ANSWER: **pitch** [accept **pitch** wheel]<Auditory Fine Arts, Sun>

19. **The Mooney–Rivlin model can be applied when the Poisson ratio nears 0.5, where this law is not applicable. A fourth-order compliance tensor appears in Cauchy's three dimensional generalization of this law. This law no longer applies at the yield point, and this law explains the linear relationship between (*) stress and strain. A notable exception to this law is rubber, as it is an incompressible material. This law's namesake constant has units of newtons per meter, and this law states that force equals the product of negative k and x. For 10 points, name this law governing the force output of springs.**

ANSWER: **Hooke's Law** <Physics, Sun>

George Crook was defeated at the Battle of the Rosebud 8 days before this battle. For 10 points each,

[10] Name this battle, where the Lakota, Cheyenne, and Arapaho tribes combined forces to defeat the 7th Cavalry. This battle was known as "Custer's last stand."

ANSWER: Battle of the **Little Bighorn** [or Battle of the **Greasy Grass**]

[10] The much earlier defeat of this general has been called "the most decisive defeat in the history of the US military." This general shares his surname with a body of water between two larger lakes east of Michigan.

ANSWER: Arthur **St. Clair** [accept Lake **St. Clair** or **St. Clair's Defeat**]

[10] This Apache leader repeatedly escaped the US military prior to his 1886 capture at Skeleton Canyon by “Long Nose.” The use of his name by paratroopers likely stems from a 1939 film about him.

ANSWER: **Geronimo** [or **Goyaałé**] <US History, Gayden> [Ed.]

20. **In one work by this man, one character avoids paying his debts by questioning the Creditor on the gender of nouns. In another work by this man, the protagonist switches clothes with his slave three times. That protagonist ends a debate between two poets by balancing the “weight” of their lines on a balance. This man also wrote about (*) Strepsiades enrolling in the Thinkery, where he learns from Socrates. The title characters chant “Brekekekex koax koax” in one of his plays. For 10 points, name this Greek playwright of *The Clouds*, *The Frogs*, and *Lysistrata*.**

ANSWER: **Aristophanes** <Ancient/Epic/Other Literature, Siddiqui>

Members of this phylum have either an asconoid, leuconoid, or syconoid body type. For 10 points each:

[10] Name this most primitive animal phylum. These sessile invertebrates make up the diets of chromodorid sea slugs, and their choanocytes create currents that help them filter feed.

ANSWER: **Porifera** [accept **sponges**]

[10] The exoskeletons of sponges are composed of spongin and these structural elements. Sclerocytes mainly serve to produce these needle-like structures.

ANSWER: **spicules**

[10] The spicules of sponges are either composed of silica or the carbonate of this element. Skeletal fragments of coral and other invertebrates make up limestone, which mainly consists of this element’s carbonate.

ANSWER: **calcium** [or **Ca**] <Biology, Sun>

Tiebreaker: **Banksy added Mickey Mouse to a photograph taken during this event depicting a girl who has torn off her burning clothes. Malcolm Brown won a Pulitzer Prize for photographing a self-immolating monk during this event. Richard Wagner’s *Ride of the Valkyries* plays during a helicopter attack scene from a (*) Francis Ford Coppola film set during this conflict. Frederick Hart’s *Three Soldiers* stands near the two long black gabbro walls of Maya Lin’s memorial to this war in Washington D.C. The movie *Apocalypse Now* is set during, for 10 points, what Southeast Asian War that ended with the fall of Saigon?**

ANSWER: **Vietnam** War [or **Second Indochina** War] <Other Fine Arts, Gayden>