

Bulldog High School Academic Tournament 2016 (XXV): "Pencil and paper ready..."

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Packet 12 Tossups

1. **This region, which is nowhere near Spain, was once home to a kingdom called Iberia, which bordered its kingdom of Colchis. Evaporation and irrigation projects have drained its Lake Sevan. This region is home to the Circassian people and the Kartvelian languages. It includes disputed regions like (*) Abkhazia and Nagorno-Karabakh, as well as the exclave of Nakhchivan. Mount Elbrus is in this region. It is home to capital cities like Tbilisi and Baku. For 10 points, name this mountainous region between the Black and Caspian seas, which also lies on the border between Europe and Asia.**

ANSWER: the Caucasus [or Caucasia] <JR>

2. **On the left of the *Pesaro Madonna*, a huge flag of this color "balances" the Virgin and Child on the right. Carpaccio was best-known for his use of this color. Van Eyck painted a self-portrait wearing a turban of this color. Mary wears this color in Titian's *Assumption*. This is the color of the bed curtains in the *Arnolfini Wedding* and God wears it in the *Ghent Altarpiece*. Jesus's robe is this color in Da (*) Vinci's *Last Supper*. Matisse's *The Dessert* is subtitled "Harmony in" this color, and is often called *The [this color] Room*. This color is made from pigments like carmine and vermilion. For 10 points, name this color used to depict blood.**

ANSWER: red <JR>

3. **A character in this play imagines that he shall couch in a cowslip's bell in the song "Where the bee sucks, there suck I." This is the Shakespeare play with the most songs and stage directions. After a masque within this play, one character delivers a speech that compares people to actors and ends "We are such (*) stuff as dreams are made on." One character in this play tells Ferdinand that "of [his father's] bones are coral made" in the song "Full fathom five." For 10 points, name this Shakespeare play in which Caliban and Ariel live on an island under the sorcerer Prospero, who conjures the title storm.**

ANSWER: *The* Tempest <JR>

4. **One of these structures attaches to a transition metal in agostic interactions. These structures are weakened by destructive, "out-of-phase" combinations of wavefunctions, which are marked with a star. Linus Pauling first became famous for his papers and book on these structures. These structures are strongest when they form from "head-on" (*) overlap of spherical or dumbbell-shaped zones. These structures form from hybridized orbitals like *sp*-3. They are classified as "sigma" or "pi," and are depicted as lines on Lewis diagrams. For 10 points, name these bonds in which atoms "share" electrons.**

ANSWER: covalent bonds [prompt on just "bonds"; accept bonding molecular orbitals; prompt on just "orbitals" or "molecular orbitals"; do not accept or prompt on "ionic bonds"] <JR>

5. **Forces loyal to this dynasty under Shi Kefa lost a bloody siege of Yangzhou to prince Dodo. Its emperor Jiajing's entrance through the southern gate of his capital led to the Great Rites controversy. This dynasty's emperor Chongzhen was overthrown by Li Zicheng, who lost at Shanhai pass to Wu Sangui. During this dynasty, the (*) Yongle emperor built the Forbidden City in Beijing. This dynasty came to power after the Red Turban rebellion. During it, the Muslim eunuch Zheng He went on seven voyages. For 10 points, name this Chinese dynasty that ruled from 1368 to 1644, which came after the Yuan and before the Qing.**

ANSWER: Ming Dynasty <LL>

6. [Note to moderator (do not read this out loud!): there are a number of long pronunciation guides in this question. You may want to look them over before you read it out loud.]

French horns seem to imply that this character is being cuckolded in his aria "Aprite un po' quegli occhi" ("ah-PREE-tayn poh kell-YAW-ckee"). **In another aria, he mocks an "amorous butterfly" that is going off to the army. This character measures out space for a bed while counting "five, ten, twenty, thirty, thirty-six, forty-three." He sings "Non più andrai"** ("nawn pyoo ahn-DRIE") to (*) Cherubino and mocks the aristocracy in "Se vuol ballare" ("say voo-OHL bah-LAH-ray"). In his aria "Largo al factotum," he sings about his "razors and combs" and quickly repeats his own name. This character tricks Count Almaviva with the help of his wife, Susanna. For 10 points, name this "Barber of Seville" whose marriage titles a Mozart opera.

ANSWER: **Figaro** [accept *The Marriage of Figaro*; accept *Le Nozze di Figaro*] <JR>

7. **In the Bible, Eli believed Hannah was drunk because she was performing this action without making any sounds. Forms of this activity in Judaism include Maariv, Mincha, and Shacharit. This activity is often performed wearing tefillin. After performing this action, one figure asked "What, could you not (*) watch with me one hour?"** This action is preceded by the ablution *wudu*. Jesus did this action while his disciples slept in the Garden of Gethsemane. This action, or *salat*, is performed five times a day by Muslims. For 10 points, what religious action is exemplified by a passage beginning with the words, "Our Father, who art in Heaven."

ANSWER: **prayer** [accept **prayer service**; accept word forms; accept **Lord's Prayer**; prompt on "worship" or just "services"] <MK/JR>

8. **The title character of one work by this author falls in love with a fellow Zycronian who is a tongueless sacrificial virgin. In a historical novel, this author embedded newspaper articles and a fictional autobiography that includes a science fiction story by Alex Thomas and Iris Chase. Near the end of another novel by this author, members of "the (*) Eyes" turn out to be part of the Mayday resistance. In that novel by this author, the protagonist has an illicit affair with the chauffeur Nick and plays Scrabble with the Commander, from whom she gets her name, "Of-Fred."** For 10 points, name this Canadian woman who wrote *The Blind Assassin* and *The Handmaid's Tale*.

ANSWER: Margaret (Eleanor) **Atwood** [accept **Iris** Chase or **Alex** Thomas before the word "historical"] <JR>

9. **The most powerful one of these devices in the world is housed in a namesake national laboratory at Florida State University. The Large Hadron Collider was shut down for 14 months after one of these devices unexpectedly quenched. If one of these devices is dropped through a conducting tube, it will be slowed down by eddy currents. The ones found in headphones and (*) hard drives are often made of neodymium. Temporary ones can be created by passing an electrical current through a loop of wire, while permanent ones are commonly made of cobalt, nickel, or iron. For 10 points, name these objects whose field lines point from their north to their south poles.**

ANSWER: **magnets** [accept **electromagnets** before "headphones"] <SE>

10. **One ruler of this empire reduced its reliance on Mariyannu chariotry and pioneered year-long campaigning. Another ruler of this empire lost Egypt after the revolt of Psamtik I and defeated the Elamites at the battle of the Hulaya river. This empire fell to a Chaldean-Median coalition in 609 BC and was defeated at Carchemish. A ruler of this empire built a North Palace that unusually lacks reliefs of *lamassu*, or winged lion-men. It was reformed by (*) Essarhadon and Tiglath-Pileser. This empire collected a great library of cuneiform tablets under Ashurbanipal, who ruled from Nineveh. For 10 points, name this Mesopotamian empire north of Babylon.**

ANSWER: **Assyrian** Empire [accept **Neo-Assyrian** Empire] <LL>

11. **This musician recorded a famous live version of "Honeysuckle Rose" in 1951 in Pasadena with pianist "Fatha" Hines. He also recorded a duet version of "They Can't Take That Away From Me" with Ella Fitzgerald. For Okeh records, this man recorded songs like "Potato Head Blues" and "West End Blues" with his (*) Hot Five and Hot Seven. He is often credited with the "invention" of scat singing for the 1926 song "Heebie Jeebies." He popularized "When the Saints Go Marching In," strengthening the song's association with his native New Orleans. For 10 points, name this jazz trumpeter who recorded "What A Wonderful World" and was nicknamed "Satchmo."**

ANSWER: Louis Armstrong [accept Pops; accept Satchmo before mentioned] <JR>

12. **A prince of this polity named Androgeus was killed in Athens, prompting his father to declare war. After the Trojan War, the king of this polity promised to sacrifice the first living thing he saw upon his safe return, which ended up being his son; that king was Idomeneus. Another king of this island was named Asterion and adopted the sons of (*) Europa. Medea destroyed a bronze giant that guarded this island by removing a nail from his heel. On this island, Theseus defeated a monster born to Pasiphaë and a bull that was hidden beneath Knossos in a maze designed by Daedalus. For 10 points, name this Mediterranean island ruled by Minos, which was home to the Labyrinth and the Minotaur.**

ANSWER: Crete [accept Knossos until "island" is read] <CX>

13. **Onetime British fort Castle William overlooks this city. One event in this city was depicted in an engraving by Henry Pelham. Another event in this city was carried out by William Molineux and organized at this city's Old South Meeting House. Thomas Hutchinson's manor in this city was ransacked in 1765. Robert Newman manned this city's (*) North Church to signal with one or two lanterns. John Adams defended the troops that shot Crispus Attucks in this city's "massacre." In 1773, disguised as Native Americans, the Sons of Liberty destroyed a shipment in this city's harbor. For 10 points, name this city, whose harbor was the site of a patriotic "Tea Party."**

ANSWER: Boston, Massachusetts <JR>

14. **The model organism *Platynereis dumerilii* in this phylum has a reproductive cycle linked to the lunar cycle. They're not gastropods, but one subgroup of this phylum possesses horizontal paddle-like protrusions called parapodia. Since 2011, this phylum has been divided into errantians and sedentarians. Those divisions replaced an earlier classification—based on the number of (*) bristles—into oligochaetes and polychaetes. The most famous member of this phylum is agriculturally useful because it aerates and tills the earth that it passes through. For 10 points, name this phylum of segmented worms, which includes leeches and earthworms.**

ANSWER: annelids [or Annelidae] <SE>

15. **In this discipline, an influential book on the construction of knowledge was written by Peter Berger and Thomas Luckmann. Neo-Kantian "forms" were used in this discipline to study money and cities by Georg Simmel. One founder of this field defined "charismatic," "traditional," and "legal-rational" forms of (*) authority. Another founder of this discipline identified "altruism," "egoism," "fatalism," and "anomie" as causes of a phenomenon more common among Protestants than Catholics. This field was pioneered in *Suicide* and *The Protestant Ethic and the Spirit of Capitalism*, by Émile Durkheim and Max Weber. For 10 points, name this social science that studies society.**

ANSWER: sociology <JR>

16. **This author's fiction was the source for the ideas of the "grotesque body" and the "carnavalesque" in the work of Mikhail Bakhtin. One of this author's characters throws a sheep overboard only to have the rest of the herd follow. This author created a character who climbs Notre-Dame and (*) urinates, drowning a crowd below, as well as the satirical Abbey of Thélème and the cowardly character Panurge. This author used a famously irreverent and raunchy style to write about two giants. For 10 points, name this sixteenth-century French author of the satirical novels *Gargantua* and *Pantagruel*.**

ANSWER: François Rabelais <JR>

17. **This Prime Minister received the "sexed-up" "Dodgy Dossier." The *Sun* once showed a picture of him with the headline "Is This the Most Dangerous Man In Britain?" This Prime Minister created a minimum wage law in Britain that is still current. He modified Clause (*) IV of his party's constitution to move towards a political "third way." This Prime Minister devolved the government of Northern Ireland with the Good Friday Agreement. Later, he sent British troops into Iraq and was succeeded by Gordon Brown. For 10 points, name this "New Labour" Prime Minister from 1997 to 2007.**

ANSWER: Tony Blair [Anthony Charles Lynton Blair] <JR>

18. **This band released one of the first rap songs recorded by a white group: "The Magnificent Seven," which opens their triple album *Sandinista!* A double album by this band ends with a hidden track, which begins with an iconic beat from drummer "Topper" Headon and is called "Train in Vain." One of this band's songs declares "Phony (*) Beatlemania has bitten the dust" and "[the title city] is drowning, and I, I live by the river." In this band's most famous song, Joe Strummer tells you to do the title action because "Shareef don't like it." For 10 points, name this English punk band who created "London Calling," "Should I Stay or Should I Go," and "Rock the Casbah."**

ANSWER: The Clash <JR>

19. **In Mexico, these events are linked with an increase in the magnitude of Tehuantepecer events. These events are signaled by a negative value of the SOI index, which is computed from observations made in Tahiti and Darwin, Australia. This phenomenon, whose period of recurrence ranges from two to seven years, is the half of the (*) Southern Oscillation during which the Walker circulation weakens or reverses. The strong 2013 typhoon season presaged one of these events that is still ongoing. For 10 points, name this periodic warming of the Pacific Ocean that gets its Spanish name from its usual timing around Christmas.**

ANSWER: El Niño ("neen-yo") [accept El Niño–Southern Oscillation or ENSO before "Southern Oscillation" is mentioned] <SE>

20. **One character in this play declares "People are meant to go through life two by two", and another asks "Why can't I stay for a while just like I am?" In this play, George decides not to attend agriculture school and later falls in love over ice-cream sodas. Minor characters in this play include the milkman (*) Howie Newsome and the lonely, drunken choir director Simon Stimson. This play's first and second acts are titled "Daily Life" and "Love and Marriage." In its third act, Emily Webb revisits her twelfth birthday with the help of the Stage Manager. For 10 points, name this play about the town of Grover's Corners, by Thornton Wilder.**

ANSWER: Our Town <LL>

Tiebreaker

21. **This structure was built after interference in the Thousand Days' War. It was built after the Clayton-Bulwer Treaty was annulled in a treaty signed by Lord Pauncefote. This structure was started with the Gaillard Cut, built under Ferdinand de Lesseps. The land used for it was leased in treaties signed by Herrán and (*)** Bunau-Varilla with John Hay. The building of this structure was made possible by Walter Reed's work controlling Yellow Fever. This structure has three sets of doubled locks. U.S. control over this structure was relinquished in 1977 by Jimmy Carter. For 10 points, name this waterway that connects the Caribbean to the Pacific via a Central American isthmus.

ANSWER: the **Panama Canal** <JR>

Packet 12 Bonuses

1. This substance is blessed with a prayer ending "*borei p'ree ha-gafen*." For 10 points each:

[10] Name this alcoholic beverage central to Jewish rituals.

ANSWER: **wine** [accept **grape juice**]

[10] Four cups of wine structure this meal in Judaism, during which participants narrate the Exodus story and eat *matzah*.

ANSWER: Passover **seder**

[10] A braided candle is extinguished into a cup of wine during this Jewish ceremony, which marks the end of Shabbat.

ANSWER: **havdalah** <JR>

2. In one of this author's poems, the speaker says to "Find me, and turn thy back on Heaven." For 10 points each:

[10] Name this author who included the line "I am the doubter and the doubt" in his poem "Brahma." He also wrote "The Rhodora" and the essay "The Poet."

ANSWER: Ralph Waldo **Emerson**

[10] Emerson's poems and essays were major texts of this nineteenth-century American literary and philosophical movement, an offshoot of German Idealism and English Romanticism.

ANSWER: **Transcendentalism** [accept word forms like "**transcendentalist**"]

[10] Probably the most famous Transcendentalist text is this book about living simply in the woods. It was written by Henry David Thoreau.

ANSWER: **Walden**; or, *Life in the Woods* <JR>

3. Answer some questions about East Asian visual arts, for 10 points each.

[10] Japanese artist Hokusai created an iconic depiction of a "Great" one of *these* phenomena "off Kanagawa."

ANSWER: a **wave** [accept *The Great Wave off Kanagawa*]

[10] *The Great Wave off Kanagawa* and other *ukiyo-e* artworks were made using *this* technique. It was used to produce books in China for over a thousand years.

ANSWER: **woodblock** printing [accept **woodcut**; or **moku-hanga**; prompt on just "print"]

[10] Many of the best-known works of Chinese painting were produced on *these* objects, which often depict panoramas. Examples of these objects include *Along the River During the Qingming* ("**ching-ming**") *Festival*.

ANSWER: **handscroll** [prompt on "scroll"] <JR>

4. One of these events began at Clunes and spurred the growth of the city of Ballarat. For 10 points each:

[10] Name these events that also prompted a major wave of Chinese immigration, setting off the Eureka Rebellion.

ANSWER: **Australian gold rushes** [accept clear equivalents ("**gold rushes** in **Australia**"), but the location and event is needed; accept **Victorian gold rushes**; prompt on just "gold rushes" by asking "Where?"]

[10] The Australian gold rushes were at first suppressed by the government of New South Wales, and only really started after Victoria became a separate colony. Thus, they created a boom in *this* city, the capital of Victoria.

ANSWER: **Melbourne**

[10] Smaller-scale gold rushes also affected this island just south of the Australian mainland. Thirty years earlier, British settlers of this island carried out a brutal genocide of Aborigines known as the Black War.

ANSWER: **Tasmania** <JR>

5. English writers like to write "Tales from" other people. Answer some questions about them, for 10 points each.

[10] A popular children's adaptation of *Tales From Shakespeare* was written by two siblings with this surname, Charles and Mary. Charles is more famous for his prose collection *Essays of Elia*.

ANSWER: **Lamb**

[10] A set of *Tales From Ovid* was written by Ted Hughes before he accepted this royally-appointed official position. Previous holders of this position included William Wordsworth and Alfred, Lord Tennyson.

ANSWER: **Poet Laureate** of the United Kingdom

[10] This earlier novelist wrote a series of *Tales of My Landlord* as part of his *Waverley* novels, which also include *Rob Roy*. In his most famous novel, the title character falls in love with Lady Rowena.

ANSWER: Sir Walter **Scott** <JR>

6. This actor starred alongside Robert Redford as journalist Carl Bernstein in *All the President's Men*. For 10 points each:

[10] Name this actor, whose character Benjamin Braddock asks "Mrs. Robinson, are you trying to seduce me?"

ANSWER: Dustin (Lee) **Hoffman** (he asks that in *The Graduate*)

[10] Dustin Hoffman has won the Oscar for Best Actor twice, including for *Rain Man*. The other award was for this movie, in which he and Meryl Streep star as a couple undergoing a difficult divorce.

ANSWER: **Kramer vs. Kramer**

[10] In an iconic scene from *Kramer vs. Kramer*, Hoffman's character, Ted, struggles to perform *this* action with his son, Billy. Ted messes up this action by trying to make French toast in a coffee mug.

ANSWER: **making breakfast** [accept obvious equivalents like "**cooking breakfast**"; prompt on just "cooking" by asking "What meal is he cooking?"] <JR>

7. Answer some questions about the Gordon Riots, for 10 points each.

[10] The anti-Catholic Gordon Riots occurred during this war, in which General Cornwallis was defeated at Yorktown. This war began in 1776.

ANSWER: American **Revolutionary** War [accept "**American** War of **Independence**"]

[10] The Gordon Riots wrecked the reputation of this radical, who led troops against the rioters. He was jailed for supposedly printing libel in his newspaper *The North Briton*.

ANSWER: John **Wilkes** [do **not** accept or prompt on "John Wilkes Booth"]

[10] The Gordon Riots occurred during the ministry of this man. This Prime Minister from 1770 to 1782 angered many American colonists.

ANSWER: Lord **North** [Frederick North, 2nd Earl of Guilford] <LL>

8. Name some things in economics related to the letters "ISL," for 10 points each.

[10] The name ISL refers to the Aberdeen Israel Fund, which is traded on this city's stock exchange. It is also home to the headquarters of the NASDAQ stock exchange.

ANSWER: **New York**, New York [or **New York City**; or **NYC**]

[10] The IS-LM model plots *this* quantity against the interest rate. According to John Maynard Keynes, this quantity is equal to consumption, plus investment, plus government spending.

ANSWER: **GDP** [**Gross Domestic Product**]

[10] This economist names a group of hypothetical ISLands from a thought experiment that concludes that inflation affects output in the short-run but not the long-run.

ANSWER: Robert (Emerson) **Lucas**, Jr. [accept "**Lucas** Islands model"] <AF>

9. For an object on a ramp sloped at an angle "theta," the magnitude of this force is " $m \cdot g \cdot \cos(\theta)$." For 10 points each:

[10] Identify this force, usually denoted N . It pushes perpendicularly to the surface between a pair of objects.

ANSWER: **normal** force

[10] This other force is proportionally related to the normal force by a namesake constant. Since this force acts to oppose the relative motion of two surfaces, idealized mechanics problems often assume that this force does not exist.

ANSWER: **friction** [or **frictional** force]

[10] Both the normal and friction forces belong to this class of forces, which act at the point where two bodies touch. Gravity and electromagnetism are *not* forces of this type, since they work via action at a distance.

ANSWER: **contact** forces <SE>

10. In this opera, the title character compares love to a rebellious bird and a gypsy's child in an aria usually called "Habañera." For 10 points each:

[10] Name this opera by Georges Bizet, in which Don José is seduced by the title gypsy.

ANSWER: ***Carmen***

[10] Carmen leaves José for the flamboyant Escamillo, who has this profession. In Act Two, Escamillo sings an aria often called "[This profession] song."

ANSWER: **toréador** [prompt on "bull-fighter," "torero," "matador," etc.]

[10] Like later composer Franz Waxman, this Spanish violinist and composer wrote a famous virtuoso *Carmen Fantasy*. He also used "gypsy airs" in his *Zigeunerweisen* ("tsee-GOY-nuh-vye-zun").

ANSWER: Pablo de **Sarasate** <CX>

11. Name some things associated with the twelve labors of Heracles, for 10 points each.

[10] Heracles' ninth labor required him to obtain the girdle of Hippolyta, who was the queen of this group of warrior women.

ANSWER: **Amazons**

[10] In order to safely enter the Underworld for his final labor, Heracles was initiated into the cult of this goddess. She lived in Eleusis under the name Doso and tried to make Demophon immortal.

ANSWER: **Demeter** [or **Ceres**]

[10] Heracles' fourth labor was to subdue one of these animals dwelling on Mount Erymanthos. Another of these animals was the subject of a famous hunt in Calydonia in which Meleager awarded the skin to Atalanta.

ANSWER: wild **boar** [accept **Erymanthian boar** or **Calydonian boar**] <CX>

12. You're a geologist trying to figure out how old something is. Name some techniques you might use, for 10 points each.

[10] Organic samples that are less than 60,000 years old can be dated by measuring the abundance of *this* radioactive isotope of carbon. It decays into nitrogen with a half-life of five thousand-seven hundred years.

ANSWER: carbon-**14** [accept **C-14**; prompt on "carbon" or "radiocarbon"]

[10] Dendrochronology is the science of observing *these* patterns to infer geological history. They give information about both the age of a sample and climatic conditions, which can change their size.

ANSWER: **tree rings** [prompt on "trees" or "rings"]

[10] This branch of geology analyzes the formation of rock layers, using excitingly-named postulates like the "law of superposition" and the "principle of original horizontality" to determine their relative ages.

ANSWER: **stratigraphy** <SE>

13. This law states that American Indians need schools to learn "religion, morality, and knowledge." For 10 points each:

[10] Name this law that established the procedure for expanding the territory of the U.S.

ANSWER: **Northwest Ordinance** [or An **Ordinance for the Government of the Territory of the United States, North-West of the River Ohio**; or **Freedom Ordinance**; or **Ordinance of 1787**]

[10] The Northwest Ordinance was passed while this document was the supreme law of the U.S. This document established the government that led the U.S. through the Revolution and the first decade of independence.

ANSWER: **Articles of Confederation** [or **Articles of Confederation and Perpetual Union**]

[10] The Articles of Confederation were replaced in 1788 by this current supreme law of the U.S. According to its preamble, it was established in order to "form a more perfect union."

ANSWER: United States **Constitution** <JR>

14. This period's most eminent poets were Francisco Quevedo and Luis de Góngora. For 10 points each:

[10] Name this period of Spanish literature dominated by the plays of Lope de Vega and Pedro Calderón de la Barca.

ANSWER: Spanish **Golden Age** [or the **siglo d'oro**; accept **Golden Century**]

[10] The Golden Age in *New Spain* was represented by this nun and poet, who is generally regarded as the first major literary figure of Mexico. Her mystical poems include "First Dream."

ANSWER: Sor **Juana** Inés de la Cruz

[10] Another major poem of the Golden Age, *La Galatea*, was the first work of Miguel de Cervantes. Cervantes is best-known for this novel about an insane knight who, with Sancho Panza, tries to fight some windmills.

ANSWER: **Don Quixote** [or *The Ingenious Gentleman **Don Quixote** of La Mancha*; or *El ingenioso hidalgo **don Quijote** de la Mancha*] <JR>

15. These organisms have body walls filled with spiny ossicles. For 10 points each:

[10] Name this phylum that includes sand dollars, sea urchins, and starfish.

ANSWER: **echinoderms** [or **Echinodermata**]

[10] Echinoderms, like vertebrates, are members of this large superphylum of animals. During embryonic development of organisms from this clade, the blastopore becomes the anus, not the mouth.

ANSWER: **deuterostomes** [or **Deuterostomia**]

[10] Deuterostomes are among the animals that exhibit the "bilateral" version of *this* property. Since humans also have the bilateral form of this property, our right sides look like a mirror image of our left sides.

ANSWER: **symmetry** [accept **bilateral symmetry**] <JR>

16. Answer some questions about Numidia, for 10 points each.

[10] The Numidian king Massinissa switched allegiances to Rome, which helped the Roman Republic defeat *this* North African city-state in the Second Punic War.

ANSWER: **Carthage**

[10] This king of Numidia, Massinissa's grandson, was defeated by Rome and paraded through the city by Marius. Sallust wrote a history titled for his namesake war.

ANSWER: **Jugurtha**

[10] After the defeat of Jugurtha and the end of the Punic Wars, Numidia and Carthage were absorbed into *this* Roman province, which lies on the coast of modern Libya and Algeria.

ANSWER: **Africa** [accept more specific answers like "**Africa nova**"] <CW>

17. This region is home to the balsamic vinegar capital of the world, Modena. For 10 points each:

[10] Name this region in Northern Italy. Cities in it include Parma, Ferrara, and Bologna.

ANSWER: **Emilia-Romagna**

[10] Bologna is home to Europe's oldest one of these institutions. The Sorbonne was one of these institutions.

ANSWER: **universities**

[10] Emilia-Romagna is also a hub for the production of these items, since it is home to the manufacturers Ferrari and Lamborghini.

ANSWER: **cars** [accept obvious equivalents like **automobiles**] <JR>

18. Bertolt Brecht's *Mother Courage* uses a Bible to wrap these plants in Altotting. For 10 points each:

[10] Name this plant. Sandwiches named for this ingredient are prepared for Lady Bracknell in an Oscar Wilde play, but those sandwiches are devoured by Algernon Moncrieff.

ANSWER: **cucumbers**

[10] Algernon's consumption of cucumber sandwiches begins this Oscar Wilde play, in which Jack Worthing and Algernon both pretend to have a different name to woo Gwendolyn and Cecily.

ANSWER: *The **Importance of Being Earnest***

[10] A cucumber also features in the suicide tableau of Mitsusaburo's friend in *The Silent Cry*, a novel by this Japanese author.

ANSWER: Kenzaburo **Oe** [or **Oe** Kenzaburo] <GL>

19. Early pieces using this technique include Schoenberg's second string quartet and his three piano pieces, Opus 11. For 10 points each:

[10] Give this term for music that is not in any key.

ANSWER: **atonality** [accept "**panatality**"]

[10] Before he "broke with tonality" and "emancipated the dissonance," Schoenberg wrote pieces heavily influenced by *this* opera. The last section of this opera begins with the words "Mild und Leise" ("**milt oont LYE-zuh**")

ANSWER: ***Tristan and Isolde*** [or ***Tristan und Isolde***]

[10] The rise of atonality occurred at the beginning of *this* century; it has thus sometimes been linked to contemporaneous innovations like the Einstein's relativity, Planck's quantum physics, and Freud's psychoanalysis.

ANSWER: the **twentieth** century [or **1900s**] <JR>

20. Answer some questions about colligative properties, for 10 points each.

[10] Colligative properties of a solution depend only on the number of molecules of *this* substance in a solution. This is the name for the substance that is dissolved in the solvent.

ANSWER: **solute**

[10] In a highly practical colligative property, increasing solute concentration makes *this* change to the freezing point of the solution.

ANSWER: **lowers** it [accept equivalents like "goes **down**," "**depresses** it," etc.]

[10] According to the formula for freezing point depression, the temperature difference is given by: a constant times the Van 't Hoff factor, times *this* quantity.

ANSWER: **molarity** of the solution [prompt on "*m*"; do **not** accept or prompt on "capital *M*" if they decide to specify; do **not** accept or prompt on "molarity" or "concentration"] <JR>

Tiebreaker

21. Name some things related to theories proposed by Hideki Yukawa, for 10 points each.

[10] Yukawa predicted the existence of these particles, which are composed of up and down quarks and their antiquarks. The first "true" meson to be discovered was a charged example of *this* lightest meson.

ANSWER: **pions**

[10] The Yukawa interaction described *this* force as mediated by pions. As it turns out, this force between quarks is mediated by gluons.

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

[10] Yukawa also further developed Gian-Carlo Wick's theory of L-capture, in which *this* part of an atom absorbs an electron. This central part of the atom is made of protons and neutrons.

ANSWER: **nucleus** <AF>