Bulldog High School Academic Tournament 2015 (XXIV): It's more than good...it's Grace!
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Packet 4 Tossups

1. **In a style of theater from this country, actors walk onstage via a "flower path" through the audience. Donald Keene has translated many plays from this country. In a form of theater from this country, the set is just a painting of a pine tree. This country is home to a puppet theater that often features "love suicides." In a style of theater mastered by Zeami in this country, the actors wear (*)** masks. A poet from this country wrote *Narrow Road to the Deep North* and, in a poem that features a "cutting word" and a seasonal reference, described the sound a frog makes jumping into an old pond. This country developed Noh and Kabuki plays. For 10 points, name this country home to Chikamatsu and Basho, master of the Haiku.
ANSWER: **Japan** [or **Nihon**; or **Nippon**] <JR>

2. **One of these organisms was the first eukaryote to have its entire genome sequenced. Some of these organisms reproduce with an ascus, or "sac," including *Neurospora crassa*. One of these organisms was studied by Beadle and Tatum to support the "one-gene, one enzyme" hypothesis. Subtypes of these organisms include boletes and agarics. They can form a symbiotic relationship with plant (*)** roots called mycorrhizae. Many of them possess "gills" for dispersing spores. Model ones of these organisms include *Saccharomyces cerevisiae*. Their cell walls contain chitin, and their hyphae make up their mycelia. For 10 points, name these organisms that include yeast and mushrooms.
ANSWER: **fungi** [if they answer with "yeast," "mold," or "mushrooms," prompt by saying "They want something more general."] <JR>

3. **This philosopher wrote that "in the beginning, all the world was America," since people could just enclose land to own it. He argued that the use of money that doesn't naturally depreciate destroyed natural limits on accumulating wealth. This philosopher called labor added to natural resources the basis for property. He noted that the state of nature is more or less free and equal, in contrast to the pessimist (*)** Hobbes. He argued that, when governments act against the interests of their citizens, revolution is justified, because the social contract has been broken. For 10 points, name this English philosopher who, in his *Two Treatises of Government*, wrote that people have the rights to life, liberty, and property.
ANSWER: John **Locke** <JR>

4. **This polity's young men were involved in a secret police force, the *Crypteia*. It was ruled by the Agiads and the Eurypontids in a dual monarchy. Forces from this place were largely responsible for the victory at Plataea, led by the general Pausanias. This polity lost prominence after its defeat by Thebes in the Battle of Leuctra. Freemen of this polity went through the grueling *agoge* (*)** educational system, which was created by Lycurgus. Most of the menial labor in this polity was done by helots. For 10 points, name this Greek city-state known for its serious militarism, demonstrated by a Leonidas-led force of three hundred men at the Battle of Thermopylae.
ANSWER: **Sparta** <JR>

5. **In a game named for this character, the evil Wizpig takes over Timber's Island. In the fourth Super Smash Brothers game, players often chant "Hoo-ha" when this character executes a down-throw to up-air combo. This animal character is the male protagonist of the second game in a Super Nintendo platformer trilogy,**

where this character must rescue the protagonist of the first game by fighting alongside his girlfriend (*) Dixie. In Smash Brothers, this character's up-B attack is a jetback, his neutral-B is a peanut pop-gun, and his down-B is a banana-peel. For 10 points, named this character who wears a red Nintendo baseball cap, a monkey who first appeared as a sidekick in *Donkey Kong Country*.
ANSWER: **Diddy** Kong [do not accept or prompt on "Donkey Kong"] <BS>

6. **It's not NaCl, but this compound is the primary product released by burning chlorate candles. Manganese precipitates out of a solution containing potassium iodide, determining the amount of this compound dissolved in water, in the Winkler Test. This compound is normally found in its triplet state, which makes it paramagnetic. A (*)** glowing splint is most often used to test for this gas. This is the most stable form of the first chalcogen, which has other allotropes like ozone. For 10 points, name this gas that burns with hydrogen to form water, and which we breathe for use in respiration.
ANSWER: diatomic **oxygen** [or **O2**; or **oxygen** gas] <JR>

7.**The figure just left of center in this painting is viewed in almost perfect profile and has a butterfly-shaped pin in her hair. In the background of this painting, several paintings are too dark to see, but we can see a man in the corridor standing on two different steps and the artist's patrons in a mirror. In this painting, a kneeling girl gives the central figure a golden tray with a red glass on it, while a girl to her right (*)** curtsies and looks sidelong at the viewer. At the far left of this painting is a giant canvas and the artist himself; at its far right, there is a dog, and a dwarf with his foot on it. For 10 points, name this painting depicting the retinue of the young daughter of Philip IV, by Diego Velazquez.
ANSWER: Las ***Meninas**** [or The ***Maids of Honor****; or The ***Ladies-in-Waiting****] <JR>

8. **In this city, an arched fountain topped by the Roman goddess Flora sits in the historic Fort Precinct. Vihar Lake supplies some of the water for this city, which lies south of the suburb of Trombay. This city now sits on Salsette Island, but it was originally built on seven islands now connected by land reclamation. Raigad District lies across Thane Creek from this metropolis. When the Shiv Sena took power in this capital of (*)** Maharashtra, they replaced its Anglicized name with a Marathi one. Aside from Karachi, it is the largest city on the Arabian Sea. For 10 points, name this most populous city in India, home of the film industry Bollywood.
ANSWER: **Mumbai** [or **Bombay**; or **Mumbai** City District; or **Mumba'i** Jil'ha; or **Mumba'i** Sahara Jil'ha] <JW>

9. **This style introduced the use of liernes and tiercerons. As this style evolved, the tribune disappeared in favor of the triforium. Many works in this style were preserved by Eugène Viollet-le-Duc. It briefly experimented with sexpartite vaults. This style was pioneered at Saint Denis by Abbot (*)** Suger. It is often divided into periods including "Rayonnant" and "Flamboyant." It uses pointed arches, ribbed vaults, and flying buttresses to allow for huge stained glass windows. For 10 points, name this architectural style that succeeded the Romanesque and was used at Chartres and Notre Dame in Paris.
ANSWER: **Gothic** architecture <JR>

10. **In Perl, this kind of string can be denoted "q, left parenthesis, right parenthesis." For a matrix *A* and a vector *v*, the solutions to the equation "*A v* equals zero" constitutes the kernel, which is also called the [this] space. In C, strings are terminated with this character. Pointers in C with this value cannot be dereferenced, as they point (*)** nowhere. In ASCII, it has value 0. This kind of string is denoted by two quotation marks. In statistics, a hypothesis that can be rejected or not rejected, but never proven, is known by this name. For 10 points, what value in Java is equivalent to "None" in Python?
ANSWER: **null** [accept **empty**] <HX>

11. **An associate of this leader, Prasutagus, had surrendered to Claudius, and thus named both the Roman emperor and this ruler as co-heirs in his will. After the Romans rejected that will and annexed this ruler's lands, this ruler allied with the neighboring Trinovantes and defeated the 9th Spanish legion at the battle of Camulodunum. Gaius Suetonius Paulinus eventually defeated this ruler's numerically superior forces at the Battle of (*)** Watling Street, but not before this ruler of the Iceni had sacked Verulamium and Londinium. For 10 points, identify this British queen who revolted during Nero's reign.
ANSWER: **Boudica** [or **Boadicea**; or **Buddug**] <MW>

12. **Before these object are used, a prayer beginning "vyazor vyagein" is chanted. *Gabbais* direct their use, and people prepare for using them with a *tikkun*. They are held up and then covered in *hagba* and *gelilah*. The last component of their use is called *maftir*, and their use is bookended by prayers beginning (*)** "barchu et adonai hamvorach." These objects are danced around the synagogue the day after Sukkot. These objects are crowned and stored in the *aron*, or Ark. They are read from using a *yad* during *aliyot*. For 10 points, name these scrolls that contain the first five books of the Bible in Hebrew.
ANSWER: the **Torah** scroll [or **Sefer Torah**] <JR>

13. **In one poem, this author declares that he used to live in the North, but the winds were damaging to his health. A poem by this writer admires the Admiralty Needle and depicts Parasha's lover on a pair of marble lions after a flood. Another of this man's poems alternates masculine and feminine (*)** rhymes and features a man who tells a girl to "learn self control" after she sends him a love letter. In that work by this author, a duel over Olga Larin ends with the death of Lenski, and the title St. Petersburg dandy is rejected by Tatyana. For 10 points, name this Russian poet of *The Bronze Horseman* and *Eugene Onegin*.
ANSWER: Alexander [Sergeyvich] **Pushkin** <GL>

14. **This party ran a non-Cory Booker former Mayor of Newark, Theodore Frelinghuysen, for higher office. Two members of this party later ran atop the Constitutional Union ticket. This party ran four different candidates for president in 1836. This party, which explicitly expelled a sitting president from party membership, later divided into (*)** "Cotton" and "Conscience" wings. Proponents of the American System, this party ran William Harrison, Zachary Taylor, and Henry Clay for president. Officially dissolved soon after the rise of the Republican Party, this is, for 10 points, what antebellum opposition party to the Democrats?
ANSWER: **Whig** Party [or the **Whig**s; or the **Whig**gery] <JW>

15. [*Note to moderator: please read the gray-highlighted text SLOWLY*]
In quantum position space, the operator corresponding to this quantity equals negative h-bar squared over two times the mass, all times the Laplacian. For a relativistic particle, this quantity is equal to: the Lorentz factor minus 1, times mass times the speed of light squared. This quantity is equal to the average of the Hamiltonian and the Lagrangian. It can be defined as one-half (*) momentum squared over mass. The rotational kind of it is given by one-half moment of inertia, times angular velocity squared, while its translational kind is one-half mass times velocity squared. For 10 points, potential energy is often converted to what type of energy possessed by moving objects?
ANSWER: **kinetic** energy <NW>

16. **This character is mistaken for Mary Ann after she becomes trapped in a house. In another episode, this character is awarded a thimble by a Dodo bird. Famously illustrated by John Tenniel, this character is asked why a raven is like a writing desk. This girl reads a poem about a "creature that came whiffling through the tulgey wood" and is told to "shun the (*)** frumious Bandersnatch." After following a "very late!" rabbit, this character encounters a caterpillar smoking on a mushroom and an animal that disappears except for its smile, the Cheshire Cat. For 10 points, identify this girl who goes *Through the Looking Glass* and adventures in Wonderland in

novels by Lewis Carroll.
ANSWER: **Alice** [or _**Alice**_ in Wonderland] <GL>

17. **One of these figures holds a globe and a compass and has a cloak full of stars. This group turned Pierus' daughters into magpies and blinded Thamyris; they defeated those boastful mortals in contests. Another one of their number married Oeagrus and bore Heracles' music tutor, Linus. These figures, who reside on Mount Helicon, were daughters of the Titaness of (*)** memory, Mnemosyne, and Homer asked them to sing of the rage of Achilles at the beginning of _The Iliad_. One of these deities was the mother of a musician who nearly brought his wife back from the dead, Orpheus. For 10 points, name this group of nine goddesses who represent inspiration in the arts.
ANSWER: **Muses** [or **Musae**; or **Mousai**] <FM>

18. **In a story by this author, a man characterizes God as "the Fat Lady" during a phone call from Buddy's old room. That character and his sister both appeared on a radio show called "It's a Wise Child," as did a man who sits next to Sharon Lipschutz, provoking Sybil's jealousy. Another character created by this author resents Stradlater's date with (*)** Jane and watches his sister ride a carousel. That former fencing team manager recalls a poem-covered baseball glove that belonged to his deceased brother, Allie, and he accuses the world of "phoniness" after leaving Pencey Prep. For 10 points, identify this author of the Glass family stories and _The Catcher in the Rye_.
ANSWER: J.D. **Salinger** [or Jerome David **Salinger**] <GL>

19. **A player of this instrument wrote "Minor Swing" and "Nuages." A kind of it was popularized in "Call It Stormy Monday." A player of it wrote "See That My Grave Is Kept Clean." Players of it use a "bottleneck" tube or its "lap" variety to play glissandos. Violinist Stéphane Grappelli worked with a player of it who had two paralyzed (*)** fingers on his left hand. Another player of this instrument wrote "Crossroads," supposedly about where he sold his soul to the Devil. This instrument was played by Blind Lemon Jefferson, Robert Johnson, and Django Reinhardt. For 10 points, Les Paul introduced what instrument's electric version, which was played by Jimi Hendrix?
ANSWER: **guitar**s <JR>

20. **These people may have had writing, as demonstrated by the Cascajal Block. These people created many jade face-masks, and Matthew Stirling is best-known for his studies of these people. The art of these people often depicts "transformation figures" like the were-jaguar. Their major capitals were Tres Zapotes, the non-Aztec San Lorenzo Tenochtitlan, and La Venta. After this civilization's decline, Monte Albán and (*)** Teotihuacan rose to prominence. This empire was the _first_ to use the ballgame and ritual bloodletting, and they created a lot of colossal stone heads. For 10 points, name this oldest major civilization of Mexico.
ANSWER: **Olmec** <JR>

Tiebreaker
21. **This word describes the glow emitted after d-Luciferin is oxidized to oxyluciferin in a reaction commonly used in high-throughput reporter assays. Supercritical carbon dioxide and solvent-free synthesis are key to a type of chemistry described by this adjective. In a flame test, boron and (*)** barium both produce this color. A macromolecule with this color contains a magnesium ion at the center of a porphyrin ring. That compound with this color serves as the reaction center in its "a" form, starting off the light-dependent reactions. Chlorine gas is this color. After oxidizing, copper turns this color. For 10 points, identify this color of chlorophyll.
ANSWER: **green** [accept answers like "blue-**green**" or "yellow-**green**"] <GL>

Packet 4 Bonuses

1. This is the only basic kind of reaction to require two reactants and two products. For 10 points each:
[10] Name this kind of chemical reaction, in which both molecules "switch partners"; that is, AB and CD yield AD and CB.
ANSWER: **double displacement** reactions [or **double replacement**; or salt **metathesis**; or **double decomposition**; do NOT accept just "displacement" nor "replacement"]
[10] Many double displacement reactions form precipitates. For instance, if you put aqueous barium chloride and potassium sulfate together, what precipitate will you get?
ANSWER: **barium sulfate** [or **BaSO4**; the other "product," potassium chloride, is soluble in water]
[10] Another kind of double displacement reaction is neutralization of acids and bases. That reaction is complete at *this* point on a titration curve.
ANSWER: **equivalence** point <JR>

2. In a recent episode from this show, Jess mentions how she believes Rooney is the real hero of "Ferris Bueller" because she has to stick up for vice principals. For 10 points each:
[10] Name this show that features the characters Jess, Schmidt, Nick, Coach, and Winston living and loving in an apartment in Los Angeles. It was originally marketed as "adorkable."
ANSWER: *New Girl*
[10] Jess is played by this actress, who sang several songs for "Winnie the Pooh," acted in *(500) Days of Summer*, and personifies the "Manic Pixie Dream Girl."
ANSWER: Zooey [Claire] **Deschanel**
[10] Edgar also has conflicting opinions about Ferris Bueller in this FX comedy. He believes Cameron is the true hero, while Jimmy sees Cameron as a "Dickensian villain." This show follows Jimmy and Gretchen's attempt to not be awful, unpleasant people.
ANSWER: *You're the Worst* <IKD>

3. This work includes a long, mysterious transition between its third and fourth movements. For 10 points each:
[10] Name this dramatic symphony that begins with a "short-short-short-long" motive that has been described as "Fate knocking at the door."
ANSWER: **Beethoven**'s Symphony No. **5** in C minor [or word forms like **Beethoven's Fifth**; accept Beethoven's **Opus 67**; prompt on just "Symphony No. 5" or "Fifth Symphony"]
[10] When the opening section of the scherzo of Beethoven's fifth comes back, part of the "spooky" atmosphere is created by the strings using *this* technique. This is the alternative to "arco," or bowed sound.
ANSWER: **pizzicato** [accept **plucking** or similar answers]
[10] After the pizzicato passage, a solo for this instrument begins the transition to the last movement, including 30-odd measures of repeated quarter-note Cs. Somewhat unusually for this instrument, the whole passage is very quiet.
ANSWER: **timpani** [accept **kettledrums**; prompt on just "drums" or "percussion"] <JR>

4. The narrator of this novel is writing a tract on the Marquis de Rollebon. For 10 points each:
[10] Identify this novel in which the "Self-Taught Man" is barred from the library for his advances on a boy. In this novel set in Bouville, Anny's former lover, Roquentin, is appalled by the root of a chestnut tree.
ANSWER: *Nausea* [or La *Nausée*]
[10] *Nausea* has a basis in this philosophical movement espoused by its author, Jean-Paul Sartre. This philosophical movement asserts that we should focus on our own "being" in the face of the absurdity of the world.
ANSWER: **existentialism**
[10] This novel about Tomas and his chronic infidelity to Tereza wrestles with existentialism and nihilism, especially after Czech Communist authorities force Tomas to become a window-washer.

ANSWER: The *Unbearable Lightness of Being* [or *Nesnesitelna lekhost byti*] <GL>

This quantity is equal to voltage divided by current by Ohm's law, For 10 points each
[10] Name this opposition to the flow of current that is absent in superconductors.
ANSWER: electrical **resistance** [do NOT accept or prompt on "resistivity"]
[10] This is the AC analog of resistance. Its real part is the resistance and its imaginary part is the reactance.
ANSWER: electrical **impedance**
[10] For an inductor with zero resistance, the reactance is this many degrees out of phase with the current. That's because this many degrees are added to change a cosine into a sine.
ANSWER: negative **90** degrees [or negative **pi over 2 radians**; accept "minus" instead of "negative"] <NW>

6. In one of this man's novels, a man stays with Nur and plots revenge against Ilish, who is married to his former wife. For 10 points each:
[10] Identify this author who traced al-Sayyid Ahmad's family and wrote *Midaq Alley* and *The Thief and the Dogs*.
ANSWER: Naguib **Mahfouz**
[10] Mahfouz hails from this Middle Eastern country, which is also the setting of his Cairo trilogy.
ANSWER: **Egypt** [or **Misr**; or **Masr**]
[10] South of Egypt, you can find immortal white sorceress queens who step into pillars of fire and fabulous treasure rooms inside mountains, according to this author of Victorian adventure novels like *She* and *King Solomon's Mines*.
ANSWER: H. Rider **Haggard** [or Henry Rider **Haggard**] <GL>

7. While under British control, this country experienced a violent struggle between Kikuyu rebels and the colonial government between 1952 and 1960. For 10 points each:
[10] Identify this East African country, the site of the Mau Mau uprising. This country formally gained independence in 1963 and maintained its colonial capital, Nairobi.
ANSWER: Republic of **Kenya** [or Jamhuri ya **Kenya**]
[10] This first president of Kenya had been held in prison during the uprising under suspicion of being a Mau Mau member.
ANSWER: Jomo **Kenyatta** [or **Kamau** wa Ngengi]
[10] This man succeeded Jomo Kenyatta as President of Kenya, serving from 1978 to 2002. Under his leadership, Kenya lost 10% of its GDP in the Goldenberg scandal.
ANSWER: Daniel arap **Moi** <MW>

8. One character from this play thinks that he's the Archangel Gabriel after receiving a head injury in World War II. For 10 points each:
[10] Name this play in which Troy, a garbage truck driver, kicks his son Cory out of the house. It was written by August Wilson.
ANSWER: *Fences*
[10] *Fences* is part of August Wilson's ten-play *Pittsburgh Cycle*, which is set in this state.
ANSWER: Commonwealth of **Pennsylvania**
[10] In *Fences*, Troy quit this profession because he could not make good money as an African-American. Troy later assaults his son with an object used in this profession.
ANSWER: **baseball** player [accept **baseball bat**; accept answers involving the **Negro League**s; prompt on anything that mentions being an "athlete" or similar] <LL>

9. Sismondi's use of macro-economic lag analysis led to the theory that this pattern existed, and Joseph Schumpeter argued that it has four phases. For 10 points each.
[10] Give this term used to describe the long term patterns of periods of growth, periods of stagnation, and periods

of contraction in the economy.
ANSWER: the **business cycle**
[10] This economist argued that government should act to stabilize the business cycle through deficit spending in his *General Theory of Employment, Interest, and Money*.
ANSWER: John Maynard **Keynes**
[10] Downturns in the business cycle are generally linked to inwards shifts in *this* curve which shows the trade-offs resulting from producing more or less of one good. A common example uses guns and butter.
ANSWER: **production possibility frontier** [or **production possibility** curve; or **production possibility boundary**; or **product transformation** curve; accept **ppf**] <NW>

10. This group participated in the Round Table Talks. For 10 points each:
[10] Name this trade union formed at Lenin Shipyard in Gdansk in 1980. It opposed the Soviets and Communism and supported workers through social activism and civil resistance.
ANSWER: **Solidarity** Movement [or **Solidarnosc**]
[10] This electrician was a co-founder of the Solidarity Movement, winning the 1983 Nobel Peace Prize for his efforts. He later became the first post-Communist president of his country.
ANSWER: Lech **Walesa**
[10] Lech Walesa and Solidarity were from this Central European country. A bishop from its city of Krakow became Pope John Paul II.
ANSWER: Republic of **Poland** [or **Polska**] <JM>

11. Several players for the Rams took flak for making the gesture associated with this phrase. For 10 points each:
[10] Name this phrase derived from the shooting of Michael Brown in Ferguson, Missouri.
ANSWER: "**Hands up**, Don't Shoot!" [prompt on "Don't Shoot!"]
[10] Brown's death catalyzed this protest movement and hashtag that seeks to draw attention to the police killings of African-American men such as Brown, Eric Garner, Tamir Rice and Akai Gurley.
ANSWER: #**BlackLivesMatter** [the "#" is pronounced "hashtag"]
[10] Police anger at Bill DeBlasio provoked a group of police to turn their backs on him at a memorial service and to engage in a "slowdown" of arrests. Both of those actions were condemned by *this* Police Commissioner of NYC.
ANSWER: "Bill" **Bratton** [or William Joseph **Bratton**] <IKD>

12. This movement's paintings *Celebes* and *Ubu Imperator* were created by Max Ernst. For 10 points each:
[10] Name this 20th-century movement, members of which included Man Ray and Jean Arp.
ANSWER: **Surrealism** [accept **Dada**ism]
[10] The Surrealist René Magritte might be most famous for his painting *The Treachery of Images*, which is just a depiction of one of *these* objects, below which is written a sentence meaning "This is not a [one of these]."
ANSWER: **pipe** [accept **This is not a pipe**; accept **Ceci n'est pas une pipe**]
[10] This Catalan Surrealist made many sculptures of birds and painted *The Tilled Field*, *Harlequin's Carnival*, and *Dog Barking at the Moon*.
ANSWER: Joan **Miró** [i Ferrà] <JR>

13. [*Note to moderator: please read the gray-highlighted text SLOWLY*]
The Minkowski-Bouligand, or box-counting dimension is used on these objects. For 10 points each
[10] Name these objects that are the same no matter how far you zoom in or out. Examples of them include the Koch snowflake and the Sierpinski triangle.
ANSWER: **fractal**
[10] Another famous class of fractals is given by plotting the recursion "z sub n equals quantity: "z sub n minus 1" squared; plus c," which is this Yale mathematician's set. He coined the word "fractal."

ANSWER: Benoit B. **Mandelbrot** [the "B," of course, stands for "Benoit B. Mandelbrot"]
[10] In one of the first papers on fractals, Mandelbrot noted a paradox in measuring *this* aspect of Britain.
ANSWER: the length of its **coast**line [accept any answer involving the **coast** of Britain—the paper is titled "How Long is the Coast of Britain? Statistical Self-Similarity and Fractal Dimension"] <NW>

14. This month breeds "lilacs out of the dead land, mixing memory and desire." For 10 points each:
[10] Identify this month that begins "The Burial of the Dead," the first section of T.S. Eliot's "The Waste Land." The pilgrims in the Canterbury Tales also set out to visit St. Thomas Becket's relics in this month.
ANSWER: **April**
[10] Another Eliot poem is the "Love Song" of this man, who "shall wear the bottoms of [his] trousers rolled" and who wonders, "Do I dare to eat a peach?"
ANSWER: J. Alfred **Prufrock** [accept "The Love Song of **J. Alfred Prufrock**"]
[10] The speaker of "Prufrock" claims that he has measured his life with these objects, right before he hears voices dying "with a dying fall beneath the music from a farther room."
ANSWER: **coffee spoon**s [prompt on "spoons"] <GL>

15. This ruler's nastier advisors included John the Cappadocian. For 10 points each:
[10] Name this husband of Theodora, whose colorful reign was documented in the *Secret History* of Procopius.
ANSWER: **Justinian I** [accept **Justinian the Great**]
[10] John the Cappadocian helped Justinian devise the *Corpus Juris Civilis*, a massively influential one of these documents. Hammurabi issued one of these documents that advocated "eye for an eye"-type punishment.
ANSWER: **law** code [accept any reasonable equivalent]
[10] Justinian's generals Belisarius and Narses conquered this kingdom. The works of this kingdom's scholars Cassiodorus and Boethius were critical for the transmission of Classical learning to the Middle Ages.
ANSWER: **Ostrogoth**ic Kingdom [accept rough equivalents like **Ostrogoth**s] <JR>

16. Show your knowledge of the sacred rites of Roman Catholicism. For 10 points each:
[10] At several points in special liturgies, a "thurible" on a chain is swung back and forth. Thuribles contain *this* substance, which is burned.
ANSWER: **incense**
[10] In this sacrament, congregants take the body and blood of Jesus Christ. It is a more or less symbolic reenactment of the Last Supper, and is thus sometimes called the "Lord's Supper."
ANSWER: Holy **Communion** [or the **Eucharist**]
[10] This device is used to reverently display the consecrated and transfigured Eucharist to the congregation. It is often made of gold and ornately decorated.
ANSWER: **monstrance** [or **ostensorium**; or **ostensory**] <FM/JR>

17. Dozens of them were created as gifts for Alexander III and Nikolai II. For 10 points each:
[10] Name these jewel-encrusted decorative objects that were made by the firm Fabergé.
ANSWER: Fabergé **egg**s [actually accept "Easter **egg**s," because that's what most of them were]
[10] Fabergé eggs were coated with this hard, shiny material, which is more or less a glaze made from powdered glass applied to metal.
ANSWER: vitreous **enamel**
[10] Many Fabergé eggs were encrusted with these incredibly hard gemstones. A blue one of them was named for Thomas Hope, and one in the British Royal scepter is called the Great Star of Africa.
ANSWER: **diamond**s <JR>

18. [*Note to moderator: please read the gray-highlighted text SLOWLY. Also, please pay attention to the note after the second bonus part*]

One example of this kind of curve is given by the function "one over one plus *e* to the minus *t*." For 10 points each:

[10] Name this type of curve, which approaches two different horizontal asymptotes, one going to the right and one going to the left.

ANSWER: the **logistic** function [or **sigmoid** curve; prompt on anything mentioning an "S" shape]

[10] Logistic functions are an important way to model population growth. The higher of the two asymptotes then represents this quantity, the maximum population that the environment can support.

ANSWER: **carrying capacity** [*note (do NOT read this note out loud!):* if they say "**K**," accept it, but DO NOT mention that letter otherwise!]

[10] Two variables in the logistic population function lend their names to types of reproductive strategies. Name either letter. One stands for selection involving many low-cost offspring, while the other focuses on a few high-cost offspring.

ANSWER: **r** or **K** [accept **r/K selection**; "r" stands for "growth rate" and "k" for "carrying capacity"] <JR>

19. Anu created the four winds to please this god, who used them to battle Tiamat before killing her by piercing her belly with an arrow. For 10 points each:

[10] Identify this god, the son of Ea and Damkina, who slays Kingu and the aforementioned Tiamat en route to becoming the top dog among gods, as detailed in the *Enuma Elish*.

ANSWER: **Marduk**

[10] Marduk is the chief god of this Mesopotamian city's pantheon. Esagila, a ziggurat that served as the temple of Marduk, was constructed by the other gods as the first building of this city.

ANSWER: **Babylon**

[10] By defeating Kingu, Marduk gained control over this object inscribed with cuneiform writing. It embodies ultimate power over the universe and had been given by Tiamat to Kingu.

ANSWER: **Tablet of Destinies** [or **Tablet of Destiny**] <MW>

20. He ran his last campaign from a prison cell. For 10 points each:

[10] Name this American socialist, who ran for president in 1900, 1904, 1908, 1912 and 1920.

ANSWER: Eugene V. **Debs** [his middle name is "Victor"]

[10] In 1912 and 1920, Debs recorded some of his highest support in this state's Iron Range. Its capital, St. Paul, remains strongly Democratic.

ANSWER: State of **Minnesota**

[10] Debs was not a fan of the "Sewer Socialism" developed in this Midwestern city. This city had a Socialist mayor until 1960, partly because its Socialists de-emphasized dogma and focused on improving public works.

ANSWER: **Milwaukee** <IKD/JR>

Tiebreaker

21. During a flashback in this play, a high school football star sees his father with The Woman, who repossesses a pair of silk stockings originally meant for Linda. For 10 points each:

[10] Identify this play, which depicts the "nerd" Bernard as a successful lawyer while Willy's son, Biff, fails a math exam and steals Bill Oliver's fountain pen.

ANSWER: *Death of a Salesman*

[10] This author of *Death of a Salesman* and *The Crucible* used his marriage to Marilyn Monroe as a basis for his play *After the Fall*.

ANSWER: Arthur [Asher] **Miller**

[10] In *Death of a Salesman*, Willy regrets his decision not to follow this character, his older brother, to Alaska. This character struck it rich in the African jungle, and he appears in a hallucination during Willy's card game.

ANSWER: Uncle **Ben** <GL>