

Bulldog High School Academic Tournament 2020 (XXIX): scary vibes

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Packet 3 Tossups

1. **An apparatus containing a capillary tube full of an organic sample can be used to measure the range of this quantity to assess the purity of the sample. For most substances, this quantity increases with increasing pressure, though water is an exception because its coexistence curve has a negative slope. For binary mixtures, this quantity is minimized at the (*) eutectic composition, and an important change in this quantity is given by multiplying molality by the cryoscopic coefficient. Adding solute to a pure solvent decreases this quantity, and that “depression” of this point is why salt is added to roads after snow. For 10 points, name this quantity which for water is 0 degrees Celsius.**

ANSWER: **freezing point** [or **melting point**] <VS/HK>

2. **These people formed a military force whose name means “Those Who Face Death,” and they also fight in the YPG. Forces of these people rescued more than 40,000 besieged civilians from the Sinjar Mountains. These people were targeted by chemical weapons in the Anfal genocide, which was led by (*) Saddam Hussein. An autonomous region primarily inhabited by these people contains the cities of Kirkuk and Erbil. A militia of these people, the *Peshmerga*, fought against ISIL with U.S. backing. For 10 points, name this ethnic group with substantial populations in Turkey, Syria, Iran, and Iraq.**

ANSWER: **Kurds** [or **Kurdish** people; prompt on **Yazidis**] <JS>

3. **This story’s protagonist recalls reading that “grey eyes were keenest, and that all famous marksmen had them.” The wife of this story’s protagonist serves a drink of water “with her own white hands” to “a grey-clad soldier”; that soldier convinces the protagonist to try to burn down this story’s title structure. In this story’s third section, its protagonist avoids a volley of gunfire by (*) swimming down a river. The protagonist of this story feels a “stunning blow upon the back of [his] neck” as he is about to hug his wife, whereupon the reader learns he actually died by hanging. For 10 points, name this short story about Peyton Farquhar [far-kwer], written by Ambrose Bierce.**

ANSWER: “An **Occurrence at Owl Creek Bridge**” <MK>

4. **The S allele of the 5-HTTLPR polymorphism has been tenuously implicated in this condition via gene-environment interactions. Dramatically fluctuating estradiol levels resulting from dysregulation of the HPA and HPG axes are implicated in one form of this condition. Beck’s cognitive triad explains the schema about the future, the world, and the (*) self characteristic of people with this disorder. Medications called SSRIs including Lexapro are often prescribed to manage this condition, which has a “postpartum” variety. For 10 points, name this psychological condition characterized by anhedonia, intense sadness, and feelings of hopelessness.**

ANSWER: **depression** [accept **MDD**; accept major **depressive** disorder; accept postpartum **depression**; accept **PPD**; accept **serotonin** before “this condition,” do NOT accept “manic depression”] <HK>

5. **This painting's title figure is murdered by an Ethiopian soldier in a work displayed across from it. At the right of this painting, a barefoot figure gestures at two boys in feathered hats. The title saint's "martyrdom" and "inspiration" hang alongside this painting in the Contarelli Chapel. A faint (*) halo hints at the divinity of a figure in this painting, whose outstretched hand follows the same path as light entering from the top right. While two men at the far left obviously count money, the subject of this work points to himself incredulously. For 10 points, name this Caravaggio painting that depicts Christ beckoning to a tax collector.**

ANSWER: *The Calling of Saint Matthew* [accept *Vocazione di San Matteo*] <BY>

6. **In this election, a faithless elector voted for John Hospers, who ran for the newly-formed Libertarian Party. During this election, a vice presidential nominee was revealed to have undergone electric shock therapy to treat depression; that nominee was Thomas Eagleton. George Wallace was shot during this election's primaries. This election's incumbent was supported by the (*) Committee to Re-elect the President, whose members included G. Gordon Liddy and a young Roger Stone. During this election, five burglars broke into the DNC headquarters at the Watergate Complex. For 10 points, name this election where the incumbent, Richard Nixon, defeated George McGovern.**

ANSWER: United States presidential election of 1972 [prompt on '72]<JS>

7. **During a pre-season friendly, Abdelhak Nouri, a player for a club in this country, suffered a cardiac arrhythmia attack. In 2019, Lucas Moura scored a late hat-trick to help Tottenham Hotspur knock a club from this country out of the Champions League semi-finals. A defender from this country, who plays for (*) Liverpool, was the runner-up for the 2019 Ballon D'Or. In the 2014 World Cup, a player from this country scored a spectacular diving header during a 5-to-1 victory over Spain. The United States defeated this country in the final of the 2019 Women's World Cup. For 10 points, name this country with notable players like Virgil van Dijk and Robin van Persie.**

ANSWER: The Netherlands [accept Holland] <JS>

8. **In a novel by this author, Moses trades a horse for more than 100 pairs of copper spectacles that he believed were silver. In that novel by this author, the title character cannot pay rent after his house burns down, forcing him to go to debtors' prison. In a play by this author, Constance marries her longtime admirer, George Hastings; earlier in that work, her inheritance of jewels is stolen by (*) Tony Lumpkin. In a novel by this author, Olivia undergoes a mock marriage ceremony with Squire Thornhill; later in that novel, Arabella Wilmot marries George Primrose. For 10 points, name this Anglo-Irish author of *She Stoops to Conquer* and *The Vicar of Wakefield*.**

ANSWER: Oliver Goldsmith <MGS>

9. **This language's word for "pineapple," *abacaxi* [ah-bah-kah-SHEE], is one of its many loanwords from indigenous languages. A state of profound nostalgia or longing traditionally associated with speakers of this language is called *saudade* [sow-DAH-jee]. Speakers of this language, which contains vocabulary from Tupi, are known as (*) lusophones. This is the only major Romance language to use tildes over vowels, like the "ã" in the name João [zh-WOW]. A motto in this language appears in front of a starry sky and a yellow rhombus on the flag of a country whose cities include Fortaleza; that motto is *ordem e progresso*. For 10 points, name this official language of Brazil.**

ANSWER: Brazilian Portuguese [or português] <JW>

10. **The majority of neoplasms found in these organs in patients less than 20 years old are teratomas. CA-125 is a biomarker for tumors of these organs, though it's not often found in benign tumors, which tend to be quite large and cause abdominal distension. Hirsutism resulting from abnormal (*) androgen levels is a symptom of a misleadingly-named polycystic condition of these non-kidney organs. The "cysts" in that syndrome tend to be prematurely stunted follicles. Mature follicles of these organs eventually rupture to release an ovum into the Fallopian tube. For 10 points, name these female gonads, the site of egg cell formation.**

ANSWER: ovaries [or ovary] <HK>

11. **A desert region in this country called the Great Karoo is bordered to the south by the Great Escarpment. The Kgalagadi [kha-lah-gah-di] Transfrontier Park is located along this country's northern border, part of which is formed by the Limpopo River. A large flat-topped land feature overlooking a major city in this country is called (*) Table Mountain. This is the larger of the two countries that contain the Drakensberg mountain range, and most of the Orange River lies within its borders. The Transvaal is the northernmost province in this country, which also contains the Cape of Good Hope. For 10 points, identify this modern-day country which completely surrounds Lesotho.**

ANSWER: South Africa [or Republic of South Africa] <DR>

12. **The key corresponding to *this* numbered scale degree is traditionally used for the second theme in a minor key sonata movement. A term referring to this number of performers was used by classical-era composers for a section that alternates with a minuet or scherzo. The scale degree of this number is labelled the "mediant," and this is the *only* scale degree that differs between the major scale and the (*) melodic minor. Pieces by Beethoven for this number of instruments have nicknames like "Archduke" and "Ghost." This is the number of beats in a measure for dances like mazurkas, minuets, and waltzes. For 10 points, give this number of Beethoven's *Eroica* symphony.**

ANSWER: three [or third; accept trios; accept mediant until it's mentioned] <JW>

13. **This man issued the Six Articles in response to demonstrations at the Hambach Festival. The beginning of Karl Marx's *Communist Manifesto* joins this man with François Guizot. This man banned *Burschenschaften* after Karl Sand murdered August von Kotzebue. This man organized a conference which created the force that ended the Hundred Days, ensured the (*) neutrality of Switzerland, and was attended by Castlereagh and Talleyrand. This man proposed the Carlsbad Decrees. The Revolutions of 1848 forced this man to resign as chancellor of the Austrian Empire. For 10 points, name this conservative who chaired the Congress of Vienna.**

ANSWER: Klemens von Metternich <MK>

14. **The speaker of one sonnet does *not* love his paramour as if she were topaz or one of [these objects] made of salt. Dorothy Parker wrote about "one perfect" one of these things. An "invisible worm" has infected the "bed of crimson joy" of a "sick" one of these things in a poem by William Blake. In the poem "Sacred Emily," Gertrude (*) Stein wrote that "[one of these things] is [one of these things] is [one of these things]." Robert Herrick entreats the virgins to gather the buds of these flowers "while ye may," and Robert Burns compared his love to a "red, red" one of these. For 10 points, name these flowers which "by any other name would smell as sweet."**

ANSWER: roses [or rosebuds; prompt on flowers] <HK>

15. **The heat capacity of these particles is proportional to temperature in the Drude–Sommerfeld model, which is also named for “free” examples of them. These particles recombine with a less common partner in a process that balances absorption in the Shockley–Queisser efficiency limit. At zero temperature, these particles fill all energy states up to the (*) Fermi level.** The absence of one of these particles is treated as a “hole” in semiconductors, which gain more of them through n-type doping. In metals, these particles move against the direction of an applied electric field. For 10 points, name these negatively charged particles whose flow produces electric current.

ANSWER: **electrons** <SE>

16. **In Genesis 18:8, Abraham first gives food from this food group to the “three visitors.” To honor Judith, some Jews consume this food group on Hanukkah, as Judith gave Holofernes wine to slake his thirst after offering him food of this type. Food from this group is only considered kosher if it is made with (*) rennet derived from kosher animals.** The land of Israel was compared to a place “flowing with honey” and a food from this group. In Judaism, meat cannot be consumed with this food group, because Exodus forbids boiling a kid in its mother’s milk. For 10 points, name this food group that includes milk and cheese.

ANSWER: **dairy** [prompt on milk or cheese with “to what general food group does that belong?”] <AY>

17. **The Bamileke culture in Cameroon used beads and cowrie shells to make the “elephant” types of these objects. The Arlecchino variant of these objects features diamond patterns of red, green, and blue, while the Colombina kind is typically adorned with feathers and jewels and held up by a (*) ribbon or a stick.** The Olmecs created these objects from solid jadeite. Blocks of cypress are used to make the Noh variant of these objects. African examples of these objects inspired the heads of two prostitutes in Pablo Picasso’s *Les Femmes d’Alger*. For 10 points, what objects are typically worn over the face to convey a different emotion or identity?

ANSWER: **masks** [accept death **masks**] <SL>

18. **A type of data structure that uses a hash function to assign keys to buckets is designed to speed up this task. This task can be completed on strings using the Rabin–Karp algorithm. One form of this operation runs in Big O of log N time by repeatedly dividing the data into two equally sized parts; that is its (*) binary form.** Algorithms for completing this task include breadth-first and depth-first models, and the web variety of this operation begins with the user inputting a query. For 10 points, name this task of finding a specific element of data, which is performed on the Internet by “engines” like Bing and Google.

ANSWER: **searching** <BY>

19. **This work’s protagonist laments “what a demanding job I’ve chosen! Day in, day out on the road ... temporary and constantly changing human relationships which never come from the heart.” In this work, three bearded lodgers refuse to pay rent when they learn about the protagonist’s situation. After the furniture is removed from his room, this work’s protagonist tries to protect a (*) photo of a woman in a fur hat and a boa.** This story’s protagonist eats only moldy cheese and rotten vegetables, is injured when his father lodges an apple in his back, and dies after losing the support of his sister Grete. For 10 points, Gregor Samsa transforms into a giant bug in what story by Franz Kafka?

ANSWER: *The **Metamorphosis*** [accept *Die **Verwandlung***; do not accept or prompt on “Metamorphoses”] <MP>

20. In one speech, this man shared his hope that two nations would “for the good of all walk together in majesty, in justice, and in peace.” In another speech, this man alluded to a quotation from Edward Grey by declaring that the “lights are going out.” This man described an ally as a “riddle, wrapped in a mystery, inside an enigma.” He stated that “without (*) victory, there is no survival” in a speech where he pronounced to have “nothing to offer but blood, toil, tears, and sweat.” After the evacuation of Dunkirk, this man delivered the “We shall fight on the beaches” speech to the House of Commons. For 10 points, name this Prime Minister of the United Kingdom for most of World War II.

ANSWER: Winston **Churchill** <MK>

Tiebreaker

At one of these events in Mark Twain’s *Pudd’nhead Wilson*, it is revealed that Tom Driscoll and Chambers were switched at birth. In another novel, Miss Maudie refuses to attend one of these events, describing it as “morbid” and comparing it to a “Roman carnival.” In the same novel, three characters who are unable to find seats at one of these events are invited to watch from the (*) “colored balcony” by Reverend Sykes; at that one of these events, another character proves that Bob Ewell is lying. In Harper Lee’s *To Kill a Mockingbird*, Atticus Finch tries to exonerate Tom Robinson in—for 10 points—what kind of legal proceeding?

ANSWER: **trial** [or **courtroom** scene; accept obvious equivalents] <JW>

Bonuses

1. For 10 points each, answer the following questions about money in Islam:

[10] This Pillar of Islam requires that financially able Muslims annually pay 2.5% of their wealth as charity. This pillar follows *shahada* and *salat* in importance.

ANSWER: **zakat**

[10] In Surah al-Imran, Allah explicitly forbids Muslims from “consuming *riba*, doubled and multiplied.” *Riba* is generally understood to be this practice, which can be avoided through *murabaha* agreements.

ANSWER: charging **interest** [or lending on **interest**, or **usury**]

[10] Under *shari'a* law, either a husband or a wife can demand this action; however, the husband may not make claims to the *mahr* payment that he paid his wife upon the occasion of their marriage.

ANSWER: **divorce** [accept **talaq** or **khula**] <HK>

2. This author’s second essay collection begins with the sentence “we tell ourselves stories in order to live.” For 10 points each:

[10] Name this author who depicted the Haight-Ashbury district of San Francisco in one essay, critiquing the era’s counterculture by depicting such grim scenes as a five-year-old girl fed LSD by her parents.

ANSWER: Joan **Didion**

[10] Tom Wolfe offered a more cheerful picture of counterculture in his *The Electric Kool-Aid Acid Test*, whose protagonist is this author. In one of this author’s novels, Randle McMurphy rebels against Nurse Ratched.

ANSWER: Ken **Kese**

[10] Joan Didion’s “Slouching Towards Bethlehem” and *The Electric Kool-Aid Acid Test* were both written in this decade, towards the end of which counterculture and the hippie movement were at their height.

ANSWER: the **1960s** <JW>

3. This value is deduced by measuring the distance between two nuclei of bonded identical atoms and dividing by two. For 10 points each:

[10] Name this property of an atom which describes its size, a measure often given in picometers.

ANSWER: atomic **radius** [accept covalent **radius**, van der Waals **radius**, or **covalent** radius]

[10] This is the name given to the phenomenon of the lower-than-expected atomic radius among elements of a namesake group. It results from 4f electrons’ poor shielding of nuclear charge.

ANSWER: **lanthanide contraction**

[10] Atoms with higher values for atomic radius tend to have lower values for this quantity. Helium has the highest value for this quantity as it has a full valence shell and exhibits poor electron shielding.

ANSWER: first **ionization** energy [accept **ionization** enthalpy or **ionization** potential] <HK>

4. The United Nations recently called for \$76 million in aid to combat these insects in East Africa. For 10 points each:

[10] Identify these insects that can form swarms numbering in the hundreds of millions and destroy miles of crops. The current attack of these insects in East Africa has been called “biblical,” as they were the 8th plague in Exodus.

ANSWER: **locusts**

[10] The current locust upsurge likely entered Kenya from Ethiopia and this other country to its east. This country is located on the Horn of Africa and, until 2012, it was under the control of the Transitional Federal Government.

ANSWER: **Somalia**

[10] Somalia is currently involved in fighting this al-Qaeda affiliated rebel group, which killed three Americans in a January 2020 attack on an airstrip in Kenya.

ANSWER: Harakat **al-Shabaab** al-Mujahideen <DR>

5. Edward Melillo's recent book *Strangers on Familiar Soil* studies the interactions between California and this country, including how it introduced the potato to the state. For 10 points each:

[10] Name this country where the "Caravan of Death" killed political opponents after a 1973 coup. This country won a three-way war fought over deposits of guano and saltpeter.

ANSWER: Republic of **Chile**

[10] In Chile, the center of this industry is Chuquibambilla in the Atacama Desert. In 2010, an earthquake trapped 33 workers in this industry underground for more than two months.

ANSWER: **mining** [accept copper **mining**; accept gold **mining**]

[10] In the 1980s, a group known as this city's "boys" directed the economic policies of Chile after studying in the United States.

ANSWER: "**Chicago** Boys" <JS>

6. The French-Venezuelan sculptor Marisol created a figure of one artist from this movement using wooden boxes and table legs. For 10 points each:

[10] Name this movement, of which Marisol may or may not have been a member. She certainly did incorporate this movement's characteristic usage of commercial objects in her work, similarly to Andy Warhol.

ANSWER: **Pop art**

[10] Marisol depicted this "possession" of hers on all 15 figures of *The Party*, which depicts an uncomfortable social gathering. Michelangelo placed this thing in the flayed skin of St. Bartholomew in his *Last Judgement*.

ANSWER: the **artist's** own **face** [accept **her** or **his** face; accept obvious equivalents; prompt on **self-portrait** or **face**]

[10] The peak of Marisol's popularity slightly preceded this 1970s movement. It is exemplified by works like Judy Chicago's *Dinner Party*, which sets plates with vulva motifs for Virginia Woolf, Empress Theodora, and company.

ANSWER: **feminist** art [accept word forms like **feminism**] <AY>

7. Dividing an object's velocity by this value gives a dimensionless parameter often symbolized "beta." For 10 points each:

[10] Name this universal speed limit, equal to about 3 times 10 to the eighth meters per second.

ANSWER: **speed of light** [prompt on **c**]

[10] Objects moving near the speed of light appear to have their length shortened by the namesake "factor" of this Dutch physicist, which he proposed alongside George FitzGerald to explain the Michelson–Morley experiment.

ANSWER: Hendrik Antoon **Lorentz** [accept **Lorentz** factor or **Lorentz** transformation]

[10] Annoyed by this bonus, you grab the nearest meter stick and fling it like a javelin. As it flies away from you at 80% of the speed of light, what is its contracted length in your own reference frame, in meters? You have 10 seconds.

ANSWER: **0.6 meters** [or **3/5 meter**; or **60% of a meter**] <SE>

8. Answer some questions about "kings" in British poetry, for 10 points each:

[10] The narrator of this Tennyson poem declares how "it little profits that an idle king ... I mete and dole / unequal laws unto a savage race." This poem ends with the narrator's desire "to strive, to seek, to find, and not to yield."

ANSWER: "**Ulysses**"

[10] "Old King Cole," that "merry old soul," was a prominent figure in this traditional genre of British poetry and song. Many of these poems are credited to Mother Goose.

ANSWER: **nursery rhymes** [prompt on **rhymes**]

[10] This pastoral elegy by John Milton was dedicated to Edward "King." This poem tells "laurels" and "myrtles" that "I come to pluck your berries harsh and crude," and christens its title figure "the genius of the shore."

ANSWER: "**Lycidas**" <MK>

9. Some authors record that these monsters inhabited Anthemoëssa, or “the flowery isle.” For 10 points each:

[10] Name these female monsters whose singing caused passing ships to wreck as crews sought to be closer to their voices. In the *Odyssey*, Odysseus prevents his crew from hearing these monsters by stuffing their ears with wax.

ANSWER: **Sirens** [or **Seirenes**]

[10] This ruler of the island of Aeaëa suggested the wax trick to Odysseus. Odysseus spends one year with this person, whose house is surrounded by docile wolves and lions.

ANSWER: **Circe** [or **Kirke**]

[10] Circe transforms Odysseus’s men into pigs on their arrival, but Odysseus is not transformed because he has eaten this herb. Given to Odysseus by Hermes, it is described as “black-rooted” and “white-flowered” by Homer.

ANSWER: **moly** <MK>

10. This game was “solved” in 1988, meaning that its outcome can be predicted from any position. With perfect play, the first player can win by beginning in the central column. For 10 points each:

[10] Name this game in which players attempt to achieve the title goal. While it can be played with pencil and paper, it is more often played by dropping colored pieces into a plastic grid.

ANSWER: **Connect Four** [or **Connect 4**]

[10] The solution of this game involves a namesake “sum” that is equivalent to the XOR operation. In this game with a three-letter name, players take turns removing any number of items from a series of collections or “piles.”

ANSWER: **Nim**

[10] One of the easiest solved games is this one often played with children, which with perfect play will always result in a “cat’s game.” The objective is to get three X’s or O’s in a row.

ANSWER: **tic-tac-toe** [or **noughts and crosses**] <JW>

11. Answer some questions about Portuguese participation in the “Age of Discovery,” for 10 points each:

[10] This Portuguese prince from the House of Aviz inaugurated the “Age of Discovery” by sponsoring many voyages to the West African coast.

ANSWER: Prince **Henry** the **Navigator** [accept **Henry**, Duke of **Viseu**; prompt on partial answer]

[10] Caravel ships and lateen sails allowed Portuguese explorers to perform this nautical maneuver, where a ship indirectly progresses by turning diagonally into a headwind. A series of these maneuvers creates a zig-zag course.

ANSWER: **tacking** [or **coming about**; do not accept “beating,” which is the combination of these maneuvers]

[10] In 1488, Portuguese explorer Bartolomeu Dias sailed around the Cape of Good Hope in modern-day South Africa, proving this ocean was connected to the Atlantic.

ANSWER: **Indian** Ocean <MK>

12. For 10 points each, answer some questions about the “superfluous man,” a Russian character archetype of a bored, idle aristocrat:

[10] The term “superfluous man” was popularized by this author’s *Diary of a Superfluous Man*. This Russian author also described a superfluous nobleman in his short story “Hamlet of the Shchigrovsky District.”

ANSWER: Ivan **Turgenev**

[10] The original superfluous man was the protagonist of this Russian verse novel. The title man, described as wasting his life away, kills his best friend Vladimir Lensky in a duel.

ANSWER: **Eugene Onegin**

[10] In contrast to the superfluous man, the “great man” is a hero who creates and shapes history. This Russian author criticized great man theory in many digressions in his novel *War and Peace*.

ANSWER: Leo **Tolstoy** <MGS>

13. Peter Schickele created a fictional twenty-first son of one member of this family, whose real brothers included Carl Philipp Emmanuel and Johann Christian. For 10 points each:

[10] Name this musical family, whose most famous member wrote the *Orgelbüchlein* and *The Well-Tempered Clavier*.

ANSWER: **Bach**

[10] In his *1712 Overture*, “Pretty Damn Quick” or “PDQ” Bach spoofed Tchaikovsky’s 1812 Overture by replacing *this* national anthem with “Pop goes the weasel.” It begins by proclaiming “Arise, children of the Fatherland!”

ANSWER: *La Marseillaise*

[10] Several PDQ Bach works call for the use of a fictional hybrid between a trombone and *this* musical instrument. Mozart’s only surviving concerto for this instrument is in B-flat major.

ANSWER: **bassoon** <AY>

14. The dialect of West !Xoon [koh] probably holds the record for the most of these things, clocking in at 164 according to some analyses. For 10 points each:

[10] Name this kind of sound, characterized by the partial or total closure of the vocal tract. The English alphabet has 21 letters representing these sounds, which are contrasted with vowels.

ANSWER: **consonant**

[10] This system catalogues consonants by such factors as manner and place of articulation. This notational system is by far the most commonly used among linguists for transcribing spoken languages.

ANSWER: **I**nternational **P**honic **A**lphabet

[10] Many of the most common consonants in English, including T, D, N, and S, are classified as this kind of consonant by their place of articulation, farther forward in the mouth than palatals but farther back than dentals.

ANSWER: **alveolar** consonants <JW>

15. Angiopoietin [AN-gee-oh-POH-eh-tin] ligands bind to Tie-2 receptors to stimulate this process. For 10 points each:

[10] Name this process by which new blood vessels form from pre-existing ones. This process comes in splitting and intussusceptive types, is vital in wound healing, and plays a role in the pathology of some diseases.

ANSWER: **angiogenesis** [prompt on *vasculogenesis*]

[10] The ability to induce angiogenesis is one of the hallmarks of *this* type of disease laid out by Hanahan and Weinberg. This type of disease is characterized by uncontrolled cell growth and often results in tumor formation.

ANSWER: **cancers**

[10] *Description acceptable*. Solid tumors induce angiogenesis because they lack internal blood supply, leading to this condition. This state leads to the Warburg effect, wherein tumors revert mainly to glycolysis for metabolism.

ANSWER: **hypoxia** [or **anoxia**; accept any answer indicating **lack** of **oxygen** or **low oxygen**] <HK>

16. This document records a survey that assessed “what or how much each ... landholder here in England had in land or live-stock, and how much money it was worth.” For 10 points each:

[10] Name this book commissioned in 1086 by the victor of the Battle of Hastings. This book’s name refers to the Last Judgment.

ANSWER: **Domesday** Book [do not accept or prompt on “Doom Book”]

[10] This ruler of England commissioned the Domesday Book. The Norman French spoken in this ruler’s court strongly influenced the development of modern English.

ANSWER: **William the Conqueror** [or **William I**; or **William the Bastard**; or **William II of Normandy**; prompt on “**William**” or “**William** of Normandy”]

[10] William the Conqueror’s wife, who came from Flanders, had this name. A ruler of this name became heir to Henry I after the *White Ship* disaster.

ANSWER: **Matilda** [or **Maude**; accept **Matilda of Flanders**; accept Empress **Matilda**] <MK>

17. This complex's Great Temple features a frieze of baboons worshipping the rising sun, and its axis was oriented so that the sun would illuminate the sculptures within, except for Ptah's, twice a year. For 10 points each:

[10] Name this temple complex, cut from rock, that was constructed by Ramses II to commemorate his victory at the Battle of Kadesh.

ANSWER: **Abu Simbel**

[10] This country's oldest rock-cut architecture can be found at the Barabar Caves, whose Sudama Cave was dedicated by Ashoka Maurya. This country's largest rock-cut temple, Kailasa, is dedicated to Shiva.

ANSWER: Republic of **India**

[10] This country is the home of Lalibela, where 11 churches were cut from single pieces of red volcanic tuff in an attempt to recreate Jerusalem. In 1959, its church broke from its northern neighbor, the Coptic Church.

ANSWER: Federal Democratic Republic of **Ethiopia** [or **Ethiopian** Orthodox Tewahedo Church] <AY>

18. During this period, vineyards sold slabs of concentrated grape juice called "wine bricks," with explicit instructions on how to *avoid* making alcohol from the product. For 10 points each:

[10] Name this period where it was illegal to produce and sell alcohol in the United States. This period began with the passage of the Eighteenth Amendment.

ANSWER: **Prohibition**

[10] This act was passed in 1919 to enforce the Eighteenth Amendment. As a result, gangs took over production and distribution of alcoholic beverages.

ANSWER: **Volstead** Act

[10] This woman, a member of the temperance movement before Prohibition, was known for destroying saloons with a hatchet. She started a chapter of the Women's Christian Temperance Union in Medicine Lodge, Kansas.

ANSWER: Carrie **Nation** [or Carry **Nation**] <MGS>

19. Answer some questions about the only dinosaurs left in the world, birds. For 10 points each:

[10] Name this transitional genus of bird-like dinosaurs sometimes mistakenly called the "first birds." While scientists believe that members of this genus could fly, it's unclear whether they flew like modern birds or glided.

ANSWER: **Archaeopteryx**

[10] *Archaeopteryx* lived during the later part of this period, approximately 150 million years ago. With the Triassic Period before it and Cretaceous Period after it, this period comprises part of the Age of Reptiles.

ANSWER: **Jurassic** Period

[10] *Archaeopteryx* and other basal birds possess this feature in common with reptiles that modern birds lack. Some evolutionary biologists have suggested that modern birds' beaks evolved from these structures.

ANSWER: **teeth** <HK>

20. Discoveries made by this institution include a unit of measurement for determining how far a flea jumps and a method for stealing cloaks from a gymnasium using a pair of compasses. For 10 points each:

[10] Name this fictional academic institution run by Socrates. In the work in which it appears, Strepsiades sends his son Pheidippides to this institution to learn oratory.

ANSWER: The **Thinkery**

[10] The Thinkery appears in this play by Aristophanes. In it, the title entities are called "great goddesses for the lazy" who support frauds, liars, and deceivers.

ANSWER: *The* **Clouds** [or **Nephelai**]

[10] *The Clouds* is an example of Old Comedy, a Greek precursor to this literary genre. This genre, whose Roman exemplars include Horace and Juvenal, consists of ironic critique and ridicule of individuals or society.

ANSWER: **satire** <MGS>

Tiebreaker

The best-studied SNARE proteins mediate exocytosis into these structures. For 10 points each:

[10] Name these structures *between* axons and dendrites. The molecules released into them diffuse across their namesake “cleft” to produce their downstream signalling effects.

ANSWER: **synapses** [do not accept or prompt on “neurons”]

[10] Neurons were first visualized using Camilo Golgi’s namesake stain, which uses this element’s nitrate to yield Golgi’s so-called “black reaction.” This metal, symbolized Ag, can also visualize trace amounts of protein in gels.

ANSWER: **silver**

[10] Using Golgi’s stain but contradicting his ideas, this man determined that synapses must exist between discrete neurons. This neuroscientist also names bodies found in neurons which are the main sites of snRNP assembly.

ANSWER: Santiago Ramón y **Cajal** [accept **Cajal** bodies] <HK>