

Ladue Invitational Spring Tournament IV

Written and edited by Ben Zhang, Jialin Ding, Kisan Thakkar, Enze Chen, Michael Prablek, and Sam Crowder

Round 9

Tossups

1. One man with this last name accompanied Oliver Ellsworth to the Constitutional Convention, while another refused the presidency by stating “I will not accept if nominated and will not serve if elected”. An Ohio politician with this last name sponsored legislation that replaced the Bland-Allison Act and increased the amount of (*) silver the federal government was required to purchase. Another law named after that man was strengthened by a 1914 act that forbade interlocking directorates and price discrimination and was the first American antitrust act. For ten points, give this last name of a Civil War general who pursued a “scorched earth” policy during his March to the Sea.

ANSWER: Sherman [accept William Tecumseh Sherman or John Sherman]

<BZ>

2. One composer from this country included the movements, “With Drums and Pipes” and “The Night’s Music” in his work *Out of Doors*. A work dedicated to this nation included parts titled “The Carnival of Pest” and “Heroide-Elegiaque.” Another composer used (*) czardas as a base for his first movement in a collection of 21 compositions titled after this country. Judith discovers the ex-wives of the title character in the seventh door in *Duke Bluebeard’s Castle*, an opera from this country. Bela Bartok is from, for ten points, what country which names a set of dances by Johannes Brahms and a set of nineteen rhapsodies by Franz Liszt?

ANSWER: Hungary [accept Hungarian or Magyarország]

<MP>

3. This adjective describes “stragglers” that are found outside of a star cluster’s Hertzsprung-Russell diagram, and giants of these type include Rigel and Bellatrix, which typically lie above the main sequence. This color names a type corundum containing trace amounts of iron. Prior to reduction, the (*) copper[II] ions in Benedict’s solution are of this color. Objects moving towards a source exhibit this kind of shift according to the Doppler effect, and this color appears in the spectrum between green and violet. For ten points, identify this color of the ocean and daytime sky.

ANSWER: blue

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4. This poet notices “How lonely rings the echo of my feet!” in the poem, “A Summer Night.” In another work, this poet begins by describing “How changed is here each spot man makes or fills” to commemorate Arthur Hugh Clough. His most famous work observes “the grating roar/ Of pebbles which the (*) waves draw back” and how “Sophocles long ago” heard “the eternal note of sadness” on the Aegean. That work by this author of “Thyrsis” ends by noting that “here as on a darkling plain” “ignorant armies clash by night.” For ten points, identify this poet who wrote “Dover Beach.”

ANSWER: Matthew Arnold

<KT>

5. One photograph depicts this man switching uniforms with his first cousin Wilhelm II, and during a celebration of his coronation at Khodynka Field, rumors of insufficient food and drink led to stampede that killed over a thousand people. During his reign, Father Gapon led a group of petitioners who were gunned down during (*) Bloody Sunday. That event led Sergei Witte to persuade this man to protect civil liberties and strengthen the Duma in the October Manifesto. His losses in the Russo-Japanese War and World War I led to his abdication in 1917. For ten points, name this last Tsar of the Romanov dynasty, who was executed by Bolsheviks in 1918.

ANSWER: Nicholas II or Nikolay II [accept Nikolay Alexandrovich Romanov]

<BZ>

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6. The Vietnamese-born Philipp Roesler leads the Free Democratic Party in this country, which recently failed to achieve the 5% cutoff for parliamentary representation. In October 2013, Pope Francis ordered a “luxury bishop” to leave his diocese in this country after he spent \$43 million on his home. Barack Obama allegedly approved efforts to tap into the (*) cell phone of this country’s leader, who is currently planning talks with Greens and Social Democrats after her own Christian Democratic Union failed to gain an absolute majority. For ten points, name this country whose September 2013 elections resulted in a plurality for Angela Merkel’s party.

ANSWER: Federal Republic of Germany [or Bundesrepublik Deutschland]

<BZ>

7. This artist made several depictions of a rock formation called the “White Place” near the town of Abiquiu. Another painting by this artist shows a New York skyscraper during the night and is titled *Radiator Building*. This artist lined another work with columns of red on both sides and portrayed a (*) cow’s skull in the middle. She painted several landscapes in her home in New Mexico and was the subject of several photographs taken by her husband, Alfred Stieglitz. For ten points, identify this American artist known for her various depictions of flowers.

ANSWER: Georgia Totto O’Keeffe

<KT>

8. For much of its history, this kingdom was ruled by the Argead Dynasty. This kingdom lost to a Roman army led by Titus Flamininus at the Battle of Cynoscephalae. It was bordered to the west by Epirus and to the east by Thrace. In the 5th century B.C.E., this kingdom’s capital was moved from Aigai to Pella, the birthplace of a man who would later cut the (*) Gordian knot. At Chaeronea, this kingdom’s phalanxes defeated the Sacred Band of Thebes. One leader of this kingdom built a causeway across the open ocean to besiege the city of Tyre and defeated Darius III at Issus. For ten points, name this Greek kingdom ruled by Philip II and Alexander the Great.

ANSWER: Macedon [accept Macedonia]

<SC>

9. This author wrote a work in which Bruce, an English professor in Manhattan, is offered the opportunity to be the first Jewish Secretary of State. This author of *Good as Gold* also wrote a work in which Giuseppe shouts that he sees everything twice and McWatt commits suicide after killing Kid Sampson. In that work, (*) Nately’s whore repeatedly tries to kill the protagonist, whose mentality changes after the death of Snowden. For ten points, identify this author of a work in which Milo Minderbinder creates a profitable syndicate and Yossarian serves as a B-25 bomber in the 256th squadron, *Catch-22*.

ANSWER: Joseph Heller

<KT>

10. Henry Sidgwick compares intuitional morality with this philosophy in his *Methods of Ethics*, and R. M. Hare created a “Two-level” form of it in an attempt to combine its “Act” and “Rule” theories. The founder of this philosophy formulated a felicific calculus and wrote *The (*) Principles of Morals and Legislation*. One proponent of this philosophy argued against the “tyranny of the majority” and formulated the “harm principle.” For ten points, identify this philosophy advocated for by John Stuart Mill, which seeks the “greatest happiness for the greatest number.”

ANSWER: utilitarianism

<KT>

11. The people of this empire were divided into organizational units called *calpulli*. Farming in the capital city of this empire was performed on floating gardens called *chinampas*. This empire fought the Flower Wars to gain captives, and some of its aspects were chronicled in the Florentine Codex. This empire was formed from the unification of three cities into the Triple Alliance but collapsed shortly after the events of (*) La Noche Triste. According to legend, its Nahuatl-speaking founders saw an eagle eat a snake at Lake Texcoco, where they built their capital Tenochtitlan. For ten points, name this empire ruled by Montezuma II, which was conquered by Hernan Cortez.

ANSWER: Aztec Empire

<JD>

12. In the human body, this compound's metabolites include theophylline and paraxanthine, the latter of which induces lipolysis. The citrate salt of this substance is sometimes used to treat infant sleep apnea. This trimethylxanthine has an effect similar to that of its derivative theobromine, and its action as a phosphodiesterase inhibitor slows the degradation of cAMP and results in increased norepinephrine and epinephrine production. Because of its similarity to a certain purine nucleoside, this compound can bind to, but not activate, receptors for (*) adenosine in the brain, which results in increased alertness. For ten points, name this stimulant drug found in tea and coffee.

ANSWER: caffeine

<BZ>

13. One of these entities helps Virginia Otis understand why Love is greater than Death and Life in a short story set in the Canterville Chase by Oscar Wilde. Helene Alving realizes that her son Oswald is infected with syphilis in a Henrik Ibsen play named after them. Miles dies in the arm of the governess after attempting to see one of these entities. In addition to their appearance in *The* (*) *Turn of the Screw*, they help convert the cold-hearted Ebenezer Scrooge to a loving man who respects Christmas. For ten points, name these spirits which are named Christmas Past, Christmas Present, and Christmas Yet-to-Come in *A Christmas Carol*.

ANSWER: ghosts [accept equivalents such as spectres, phantoms, and apparitions]

<KT>

14. The Pindus Mountains in this country are home to six monasteries built on sandstone rock pillars known collectively as the Meteora. "The Gates" is a four-meter wide passage in this country's Samaria Gorge, which lies on the same island as the city of Heraklion. Its Thracian city of (*) Thessaloniki is the capital of a region that shares its name with this country's northern neighbor. Corfu is among its islands in the Ionian Sea. The Propylaea, the Erechtheion, and the Parthenon are among the ancient structures atop the Acropolis in this country's capital. For ten points, identify this country at the tip of the Balkan Peninsula, with capital at Athens.

ANSWER: Greece [or the Hellenic Republic]

<JD>

15. One way of calculating this quantity is through hydration of quinhydrone crystals, while another method pioneered by Sorenson uses a glass electrode. The value of this quantity at which a molecule carries no net charge is called the isoelectric point. Extreme values for this quantity can be computed using the Hammett function, and the (*) Henderson-Hasselbach equation relates the pKa to this property. Buffers resist the change in this quantity, which can be found by taking the negative logarithm of the hydrogen ion concentration. For ten points, identify this value, measured on a scale from 0-14, that expresses the acidity of a substance.

ANSWER: pH [accept power of hydrogen]

<EC>

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16. This man killed his only son Connla because he refused to identify himself, even though he had told Aife to instruct their son to never reveal his name. This husband of Emer had a charioteer named Laeg, who is killed by the first of Lugaid's spears. This man trained with the warrior-woman Scathach, after which he received a (*) spear with 49 barbs, which he used to fight Queen Mebd's armies in the Cattle Raid of Cooley. As a youth, he killed a fierce guard dog and earned a new name after agreeing to replace it while a new one could be found. For ten points, name this wielder of the spear Gae Bolg, a hero who appears in Ireland's Ulster Cycle.

ANSWER: Cu Chulainn [or Hound of Culann or equivalents; accept Setanta]

<BZ>

17. This object is the medium for artists Robbie Mackinnon and Pete Fecteau. One of these is seen on the banker's desk in the music video for "Payphone," while another found on the dean's desk in *The Fresh Prince of Bel-Air* is taken by Will Smith to impress him. The ZZ, Roux, and Petrus methods are favored over the (*) Friedrich layer-by-layer method of solving this puzzle, which has over 43 quintillion different configurations. One challenge is to solve this blindfolded, as one can no longer differentiate between the six different colors. For ten points, identify this 3 x 3 x 3 puzzle whose faces each show one color when solved.

ANSWER: Rubik's cube

<EC>

18. In this work, after a priest reads a manuscript in which a newly-wed man asks Lothario to woo his wife Camilla, Ferdinand and Lucinda disguise themselves to meet Dorothea and Cardenio. Marcela shows up to the funeral of Grisostomo in this work, and the protagonist believes a bowl to be the (*) Helmet of Mambrino. The protagonist of this work loses a battle to a man who named himself The Knight of the White Moon, Samson Carrasco, and journeys to find Dulcinea. For ten points, name this work by Miguel de Cervantes about an adventurer who confuses windmills to be giants and travels with his companion, Sancho Panza.

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

<KT>

19. Researchers have recently used an array of SQUIDs to produce photons in this medium, and electron interaction with this medium accounts for the small energy difference between the 2s and 2p energy levels. Particle interactions between a pair of metal plates in this medium is described in the (*) Casimir effect, and evaporation into this medium is known as outgassing. This medium sets a benchmark for the speed of light, and it is where true freefall occurs. Often achieved in laboratories by using an air pump, this medium is approximated by outer space. For ten points, give this condition that describes a space devoid of matter.

ANSWER: vacuum [prompt on "free space"]

<EC>

20. This man defeated the Amalekites by holding his hands up through the duration of the battle. This figure mounted a brass serpent on a pole to save his followers from snakebites. After this figure struck rock with his staff to create water, he was forbidden from crossing the (*) Jordan River. While living as a shepherd in Midian, this figure married Zipporah and spoke to God through a burning bush. This leader, who was succeeded by Joshua, wrote the Torah and received the Ten Commandments on Mount Sinai. For ten points, identify this Biblical figure who parted the Red Sea when leading the Israelites on their exodus from Egypt.

ANSWER: Moses [or Moshe; or Musa]

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21. This value is squared to obtain the larger number in Catalan's conjecture. The Collatz problem multiplies odd inputs by this value, and the Cardano-Tartaglia formula solves equations of this degree. This is the smallest integer power that does not satisfy (*) Fermat's Last Theorem. It is the second triangular number, and the only positive integer to equal the sum of its preceding integers. These many points are necessary to determine a plane and a circle. It is the first odd prime, and it is equal to the square root of nine. For ten points, identify this value, the number of sides in a triangle.

ANSWER: three

<EC>

22. In his autobiography, this man described how he learned to read and write by watching ship workers and by tricking local boys into teaching him, and one of its chapters ends with a fight he had with Mr. Covey. This man was nominated for Vice President on the Equal Rights Party ticket as the running mate of Victoria Woodhull. He was taught the alphabet by (*) Hugh Auld, his master's wife, and later founded the newspaper *The North Star*. This man was the only African American in attendance at the Seneca Falls Convention. For ten points, name this abolitionist famous for his oratories and autobiographical narratives.

ANSWER: Frederick Douglass [or Frederick Augustus Washington Bailey]

<EC>

Bonuses

1. Bonus: Operation Husky was the beginning of the Allied invasion of this country. For ten points each:

[10] Name this European nation which invaded Albania in 1939 and was ruled by Victor Emmanuel III during World War II.

ANSWER: **Italy** [accept Kingdom of **Italy**]

[10] Under Mussolini's rule, Italy signed this agreement with Nazi Germany on May 22, 1939, which established a political and military bond between the two countries. It later became the Tripartite Pact after Japan joined it.

ANSWER: **Pact of Steel** [or **Stahlpakt**; or **Patto d'Acciaio**]

[10] In the March on Rome, Mussolini was aided by fascist militias wearing shirts of this color. This color also names an epidemic of bubonic plague in 14th century Europe and the Tuesday the American stock market crashed in 1929.

ANSWER: **black** [accept **Blackshirts**, **Black Death**, or **Black Tuesday**]

<BZ>

2. Bonus: Identify these writers who have committed suicide, for ten points each:

[10] This American poet and wife of Ted Hughes wrote about a "A man in black with a Meinkampf look" in her poem, "Daddy" and a novel in which Dr. Nolan helps Esther Greenwood regain sanity, *The Bell Jar*.

ANSWER: Sylvia **Plath**

[10] This author of the unfinished novel, *The Pale King*, examined the Incandenza family, who lives under a superstate known as the Organization of North American Nations, in his work, *Infinite Jest*.

ANSWER: David Foster **Wallace**

[10] This author created a character who complains of contemporary society's deficiency in "theology and geometry" named Ignatius Reilly, in his work *A Confederacy of Dunces*.

ANSWER: John Kennedy **Toole**

<KT>

3. Bonus: Objects found in this region are classified into carbonaceous, silicate, and metal-rich. For ten points each:

[10] Identify this region between Mars and Jupiter that contain many minor planets along with its namesake objects.

ANSWER: main **asteroid belt**

[10] This body, the only dwarf planet in the inner solar system, is the largest and first asteroid to be discovered. It may contain liquid water underneath its surface and is planned to be explored by the *Dawn* spacecraft.

ANSWER: 1 **Ceres**

[10] The Alinda family and Griqua family are objects that can be found in these regions in the asteroid belt created by the shared orbital resonances with Jupiter.

ANSWER: **Kirkwood gaps**

<EC>

4. Bonus: Its Kazan Cathedral lies on Nevsky Prospekt. For ten points each:

[10] Identify this city at the mouth of the Neva on the Gulf of Finland that was constructed by its namesake as the new capital of Imperial Russia.

ANSWER: St. **Petersburg**

[10] Bartolomeo Rastrelli designed this St. Petersburg palace and official residence of the tsars, which was ransacked during the Russian Revolution and has since been converted into the Hermitage Museum.

ANSWER: **Winter Palace**

[10] Outside the Winter Palace in Palace Square stands one of these monuments dedicated to Alexander I. Other ones of these monuments include one dedicated to Horatio Nelson in Trafalgar Square and one built by Trajan.

ANSWER: **columns** [prompt on synonyms like "pillar," "post," "support," "upright," "obelisk," "monolith," "stanchion," etc.]

<JD>

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5. Bonus: Answer some questions about the 18th dynasty of Egypt, for ten points each:

[10] Howard Carter discovered the tomb of this pharaoh, who was advised by Horemheb and Ay and died when he was only 18.

ANSWER: Tutankhamun [or Tutankhaten]

[10] This father of Tutankhamun and husband of Nefertiti controversially moved the capital to Amarna and began a monotheistic worship of the sun god Aten.

ANSWER: Akhenaten [or Amenhotep IV; prompt on “Amenhotep”]

[10] Both Tutankhamun and Akhenaten were buried in this complex, which also served as the resting place of Ramses the Great and lies opposite the Nile from Luxor.

ANSWER: Valley of the Kings [prompt on “KV”]

<JD>

6. Bonus: In one of his works, the son of Philip Quarles and Elinor dies of meningitis. For ten points each:

[10] Name this English author of *Point Counter Point* who also wrote about the death-fearing Hollywood millionaire, Jo Stoyte, in his novel *After Many a Summer Dies the Swan*.

ANSWER: Aldous Leonard Huxley

[10] This famous work by Huxley features characters such as an Alpha male named Bernard Marx, a young Beta called Lenina Crowne. At the end of this novel, John the Savage commits suicide.

ANSWER: Brave New World

[10] *Brave New World* is set in 632 Year of this industrialist, who is revered in the World State along with Sigmund Freud.

ANSWER: Henry Ford

<KT>

7. Bonus: Its standard form has a mean of 0 and a standard deviation of 1, and its two inflection points are each located one standard deviation away from the mean. For ten points each:

[10] Name this symmetrical probability distribution that follows the 68-95-99.7 rule and is commonly used to model the distribution of standardized test scores.

ANSWER: normal distribution [accept Gaussian distribution]

[10] This theorem states that the sum of a large number of random variables will tend towards a normal distribution, making it a good approximation for many other types of distributions.

ANSWER: central limit theorem

[10] Another common distribution is this one, which maps the discrete probabilities of success in a given number of independent trials with only “yes” or “no” as possible outcomes.

ANSWER: binomial distribution

<EC>

8. Bonus: One way of achieving this state is through the four yogas. For ten points each:

[10] Identify this state of liberation in Hinduism, in which one breaks from from *samsara*, or the cycle of rebirth.

ANSWER: moksha [or mukti; do not accept “nirvana”]

[10] This entity, which can be described as a soul, must acquire *gnana* in order to attain *moksha*. This essence of the true self is often considered the same as Brahman.

ANSWER: atman

[10] This Hindu principle that causes the cycle of *samsara* states that one’s actions may influence one’s fate. According to this principle, good behavior leads to good consequences and bad actions are punished.

ANSWER: karma

<BZ>

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9. Bonus: An unauthorized mobile phone video was leaked from this man's 2006 execution. For ten points each:

[10] Identify this member of the Ba'ath Party and former president of Iraq, whose regime was toppled after a US invasion in 2003.

ANSWER: Saddam Hussein [Abd al-Majid al-Tikriti]

[10] Hussein had earlier instigated this war by invading Kuwait in 1990. In response, an international coalition launched Operation Desert Storm, which liberated Kuwait and defeated Hussein within the first hundred hours.

ANSWER: Persian Gulf War [or First Iraq War; do not accept Iraq War]

[10] Many Iraqi forces in the Gulf War retreated from Kuwait using this road. It was so heavily bombed by coalition planes that it became littered with wrecked and abandoned vehicles, leading to its ominous name.

ANSWER: Highway of Death [or Highway 80]

<JD>

10. Bonus: A pet crow and jackdaw guide two men who are looking for King Tereus in the beginning of this work. For ten points each:

[10] Name this play in which Pisthetaerus convinces the title creatures to build the city of Cloud Cuckooland, thereby controlling the connection between the gods and men.

ANSWER: *The Birds* [or Ornithes]

[10] In this comedy written by the author of *The Birds*, Strepsiades enrolls his son in The Thoughtery, a school run by Socrates, and witnesses the defeat of Superior Logic by Inferior Logic.

ANSWER: *The Clouds* [or Nephelai]

[10] This ancient Greek comic playwright wrote *The Birds* and *The Clouds*.

ANSWER: Aristophanes

<KT>

11. Bonus: They regulate gene expression for prokaryotes, and are absent in eukaryotes. For ten points each:

[10] Name these clusters of genes that regulate transcriptional activity, and can include regions like the promoter and operator. An oft-studied one controls the expression of enzymes that break down lactose.

ANSWER: operons

[10] Another well-studied operon regulates the production of this amino acid, which is coded for by the UGG codon. It is claimed that its eventual conversion into melatonin is responsible for post-turkey drowsiness.

ANSWER: tryptophan [accept trp operon; prompt on "W"]

[10] Unlike the repressible *trp* operon, the *lac* operon is described by this term because while it is normally "off", it can be turned "on" again via the presence of certain molecules.

ANSWER: inducible [accept inducer]

<BZ>

12. Bonus: He stated "to be" means "to be perceived" in *A Treatise Concerning the Principles of Human Knowledge*. For ten points each:

[10] Name this Irish immaterialist philosopher who wrote *De Motu*, a work describing motion, and *Three Dialogues between Hylas and Philonous*.

ANSWER: George Berkeley [BARK-lee]

[10] In Berkeley's *Three Dialogues between Hylas and Philonous*, Hylas represents this philosopher, who postulated the concept of a "tabula rasa" and wrote *An Essay Concerning Human Understanding*.

ANSWER: John Locke

[10] Berkeley's *The Analyst* is thought to be a direct attack on this English scientist's conception of fluxions and infinitesimality. This scientist also wrote *Opticks*.

ANSWER: Sir Isaac Newton

<KT>

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13. Bonus: This woman is “the best singer in Tasmania with teeth” and has “wrestled crocodiles and dingoes simultaneously.” For ten points each:

[10] Name this character portrayed by Rebel Wilson who screams, “I’ve been shot” after getting hit by flying Mexican food. She also specializes in “mermaid dancing” and “horizontal running.”

ANSWER: Amy “Fat Amy” Patricia [accept any part]

[10] Fat Amy is a character from this movie featuring an a cappella competition between the Treblemakers and the Barden Bellas, who are trying to regain popularity after senior member Aubrey Posen vomited on stage.

ANSWER: Pitch Perfect

[10] Beca Mitchell, the protagonist, is portrayed by this actor, who also starred in the *Twilight* sagas and *Scott Pilgrim vs. The World*. Her rendition of the song “Cups” in *Pitch Perfect* gained nationwide acclaim.

ANSWER: Anna Kendrick

<EC>

14. Bonus: Vermont Congressman Matthew Lyon was convicted of violating one of these laws. For ten points each:

[10] Name this set of Federalist-backed laws that stifled criticism of the government and made it more difficult for new immigrants to gain citizenship. They were created in an attempt to silence the Democratic-Republicans.

ANSWER: Alien and Sedition Acts [prompt on a partial answer]

[10] The Alien and Sedition Acts were passed during the presidency of this only Federalist president, who succeeded George Washington.

ANSWER: John Adams [prompt on “Adams”; do not accept “John Quincy Adams”]

[10] During John Adams’ presidency, this diplomat was blamed for the failure of the negotiations that led to the XYZ Affair, along with fellow negotiators Charles Cotesworth Pinckney and John Marshall.

ANSWER: Elbridge Thomas Gerry

<BZ>

15. Bonus: This element’s largest use is in uranium enrichment. For ten points each:

[10] Identify this diatomic gas, the lightest halogen, which is found in compounds such as Teflon and CFCs.

ANSWER: fluorine [accept F]

[10] Henri Moissan used this technique to isolate fluorine by passing a current through a solution of potassium hydrogen difluoride and hydrogen fluoride.

ANSWER: electrolysis

[10] This man’s first law of electrolysis states that the mass altered at an electrode is directly proportional to the quantity of electric charge. His mentor, Sir Humphrey Davy, also used electrolysis to discover many new elements.

ANSWER: Michael Faraday

<EC>

16. Bonus: In this work, Hindley starts drinking after Frances dies from giving birth to Hareton. For ten points each:

[10] Name this novel narrated by Mr. Lockwood and set in Thrushcross Grange, in which Heathcliff marries Isabella to avenge Edgar Linton’s marriage to Catherine Earnshaw.

ANSWER: Wuthering Heights

[10] *Wuthering Heights* was written by Emily, a member of this literary English family whose other members include the author of *Jane Eyre*, Charlotte.

ANSWER: the Brontë sisters [or the Brontë family]

[10] In this Anne Brontë novel, Gilbert Markham marries Helen Graham after reading her diary, in which she explains how she ran away from her alcoholic husband, Arthur Huntingdon, to save their child from corruption.

ANSWER: *The* Tenant of Wildfell Hall

<KT>

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17. Bonus: This god gave Midas the golden touch. For ten points each:

[10] Name this Greek god of wine, whose female followers were known as maenads.

ANSWER: Dionysus [accept Bacchus]

[10] This mother of Dionysus was killed when she persuaded Zeus to show himself in his full glory. Dionysus later retrieved her from Hades, after which she became a goddess on Olympus.

ANSWER: Semele

[10] In his youth, Dionysus turned some pirates into these animals after they kidnapped him and attempted to sell him into slavery. These animals also saved the life of the legendary musician Arion after he jumped from his ship.

ANSWER: dolphins

<BZ>

18. Bonus: Animals are a popular subject of musical composition. For ten points each:

[10] Name this bird which Odette transforms into in a four-act ballet by Tchaikovsky. Jean Sibelius wrote a tone poem depicting Lemminkainen chasing this creature in Tuonela.

ANSWER: swan

[10] Claude Debussy used harp glissandos to represent nymphs in a work based on a Stephane Mallarme poem, his *Prelude to the Afternoon* of this creature.

ANSWER: a faun

[10] This fictional animal titles a Rimsky-Korsakov three-act opera, which is based on an Alexander Pushkin work in which King Dodon believes the neighboring state Shemakha is threatening his rule.

ANSWER: the golden cockerel [prompt on partial answer or equivalents to “chicken” or “rooster”]

<MP>

19. Bonus: By Newton’s third law, this force is paired with the centrifugal force. For ten points each:

[10] Identify this inward-pointing force that makes an object follow a circular path, such as a rider on the Wall of Death.

ANSWER: centripetal force

[10] Centripetal force equals mass times radius times this quantity squared. This value, symbolized omega, is also equal to 2 pi times the frequency and measured in radians per second.

ANSWER: angular velocity [do NOT prompt or accept “velocity”]

[10] Angular velocity is proportional to the cross product of radius and velocity, and thus has this relationship with the plane of rotation. Tangent velocity vectors in circular motion also have this relationship with respect to radius.

ANSWER: perpendicular

<EC>

20. Bonus: Answer the following about statewide elections, for ten points each:

[10] This Republican senatorial candidate and former representative from Missouri once claimed that women would rarely get pregnant in cases of “legitimate rape”, leading to his defeat by Claire McCaskill.

ANSWER: William Todd Akin

[10] This state’s 2013 gubernatorial election saw the Republican candidate Ken Cuccinelli lose to Terry McAuliffe by a margin of 2.5 percentage points.

ANSWER: Virginia

[10] A candidate in this state, Richard Mourdock, faced electoral woes after making comments about life and pregnancy. This state contains a prison facility in Terre Haute and hosts an annual 500-mile car race.

ANSWER: Indiana

<BZ>

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21. Bonus: Answer some questions about Paris. For ten points each:

[10] This palace, located next to the Tuileries, used to be the seat of French kings, but has since been converted into an art museum that houses the *Mona Lisa*.

ANSWER: the **Louvre** [or Musée du **Louvre**; or **Louvre** Museum; or **Louvre** Palace]

[10] A relief colloquially called *La Marseillaise* is a prominent feature of this Parisian structure, which lies at the western end of the Champs-Élysées and commemorates those who died during the Napoleonic Wars.

ANSWER: **Arc de Triomphe** [or **Arch of Triumph**; or **Triumphal Arch**]

[10] The Basilica of the Sacred Heart is located at the top of this hill, which shares its name with the surrounding neighborhood. This home of the Moulin Rouge drew together many painters of the late 19th century.

ANSWER: **Montmartre**

<JD>

22. Bonus: They constitute 90% of cosmic rays and are collided in the Large Hadron Collider. For ten points each:

[10]: Identify this subatomic particle with a positive charge that is found in the atomic nucleus.

ANSWER: **proton**

[10]: Protons and neutrons are baryons, meaning they are made up of three of these fundamental particles.

ANSWER: **quarks**

[10]: This type of quark, the lightest out of the six, carries a positive two-thirds charge and is found in the atomic nucleus.

ANSWER: **up** quark [accept **u**]

<EC>