

MSQB Madness II

Packet 2

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This page is empty to help people who wish to read these questions to themselves.

Tossups

1. **The Riemann zeta function, given Apéry's theorem, produces an irrational output with *this value* as the input. A hexagon inside a polygon with this many sides is known as a Lemoine hexagon. The Collatz conjecture multiplies odd numbers by this value, which is also the smallest integer (*) power to not satisfy Fermat's Little Theorem. This value is the second triangular number and the first and smallest Mersenne prime. This many points are needed to define a circle and a plane. For 10 points, name this exponent of a cubic function and number of sides on a triangle.**

ANSWER: **three** [or **3**] <Science - Math, Guo>

2. **One route in this country, The Pass of the Moor's Sigh, is where its last Muslim ruler crossed into exile. After the fall of the Umayyad Caliphate, the Emirate of Cordoba was established in this modern-day country by Abd al-Rahman. An Umayyad army invading (*) Gaul through this country was halted at the Battle of Tours. Jews were expelled by the Alhambra Decree passed in this country. This country was the staging ground for Reconquista, and Christopher Columbus was sent by its rulers Ferdinand and Isabella. For 10 points, name this European country with capital at Madrid.**

ANSWER: **Spain** [or Kingdom of **Spain** or **España** or Reino de **España**] <History - European, Zhao> [Ed. Macchi]

3. **In a ballet by this composer, C major and F sharp major triads portray the title character, who is killed by the Moor. A mistranscribed D appears in a berceuse before the finale of another ballet by this composer. In that ballet by this composer of the *Dumbarton Oaks Concerto*, Prince Ivan smashes an (*) egg containing Kashchei's ("cash-chay'z") soul. This composer of *Petrushka* was a collaborator of Sergei Diaghilev ("DEE-ah-guh-lev") and the Ballet Russe (rhymes with "moose"). A high bassoon solo opens their most well-known ballet, which shows a virgin dancing herself to death and caused riots at its 1913 premiere. For 10 points, name this composer of *The Firebird* and *The Rite of Spring*.**

ANSWER: Igor **Stravinsky** [or Igor Fyodorovich **Stravinsky**] <Fine Arts - Auditory, Guo> [Ed. C. Gao]

4. **In February 2022, it was announced that a one-shot manga based on this game would be featured in the April edition of Japan's Corocoro Comics. At The Game Awards of 2021, the VR version of this game is set to be developed by Schell Games. Players may choose locations such as "Brig," "Records," or "Cargo Bay" to start in this game's map "The (*) Airship." Sabotages in this game require players to fix "O2" or the reactor. MIRA HQ, Polus, and The Skeld are maps in, for 10 points, what game that features crewmates and imposters?**

ANSWER: **Among Us** <Trash, Guo> [Ed. A. Gao]

5. **A novel by this author begins with the suicide of chess player Jerimiah de Saint-Amor. In that novel by this author, a character dies trying to grasp a parrot off a mango tree, allowing his widow to love Florentino Ariza. A character in another novel by this author goes crazy and only speaks Latin, resulting in them being chained to a (*) chestnut tree. A character who is devoured by ants is born with a pig's tail in a novel by this author. The Buendia family lives in Macondo in a novel by this author. For 10 points, name this Colombian author of *Love in the Time of Cholera* and *One Hundred Years of Solitude*.**

ANSWER: Gabriel **García Márquez** [prompt on **GGM**] <Literature - World, Zhao> [Ed. A. Gao/C. Gao]

6. **This scientist predicted that aperiodic crystals would contain DNA in their book *What is Life?*, which inspired Watson and Crick to research the structure of DNA. This scientist's equation can be solved with the self-consistent field method, and relates the time derivative of the wavefunction to its Hamiltonian. That equation's formula can be written as (*) "E psi ("sigh") equals H-hat psi ("sigh")."** This scientist formulated a concept that uses a box that dispels poison released by alpha particles. For 10 points, name this Austrian scientist, who is perhaps most famous for his thought experiment involving a simultaneously dead and alive cat.

ANSWER: Erwin **Schrödinger** [or Erwin Rudolf Josef Alexander **Schrödinger**; accept alternate spellings like **Schroedinger**; accept **Schrödinger**'s equation; accept **Schrödinger**'s cat] <Science - Physics, Guo>

7. **In this novel, two parents purposefully tell their daughter to punch a window and cut her hand. In this novel, the Patron-Minette is captured by a police officer at the Gorbeau House. A coin is stolen from Petit Gervais close to the beginning of this novel, after which Bishop Myriel gives the protagonist two silver (*) candlesticks.** Fantine sends money to the Thenardiers ("ten-ARE-dee-yayz") so they can take care of her daughter Cosette in this novel, but they make her perform manual labor instead. Inspector Javert pursues the convict Jean Valjean amidst a French revolution in, for 10 points, what novel by Victor Hugo?

ANSWER: **Les Misérables** ("LAY miz-ur-rab-lah") [do NOT accept or prompt on "Les Mis" or "Les Miz"] <Literature - European, Kanigicherla> [Ed.]

8. **Upon meeting with three couples of different social classes who served them with good hospitality, this deity fathered Karl, Jarl, and Thrall, who eventually became the progenitors of farmers, nobles, and serfs respectively. He's not Loki, but one battle fought by this deity occurred at Singasteinn, where they retrieved Brisingamen, a necklace, in the form of a (*) seal.** In the Thrymskvida, this deity offers up a plan which consists of cosplay to steal back Mjolnir. Known by the epithet Gullintanni, which means "golden-teethed," this god will blow the Gjallarhorn to signal the start of Ragnarok. For 10 points, name this guardian of the Bifrost.

ANSWER: **Heimdallr** [accept **Rigr**; accept **Gullintanni** until mentioned] <RMPSS - Myth, Kanigicherla> [Ed. Khambekar]

9. **A mortuary temple to this ruler contains the "Hall of the Litanies" and a pylon depicting the Festival of Min. This ruler led the conquest of the Sherden sea pirates, and later celebrated an unprecedented fourteen Sed festivals during their reign. The arrival of the Ptah division cemented this ruler's victory at a battle fought near the Orontes River, and they later signed the world's first recorded (*) peace treaty with the Hittites.** This victor at the Battle of Kadesh built the Temple of Abu Simbel for their wife, Nefertari. For 10 points, name this Egyptian pharaoh, known by the Greeks as Ozymandias.

ANSWER: **Ramses II** [or **Ramses** the **Great**; accept **Ozymandias** until mentioned; prompt on **Ramses** alone; accept **Ramesses** or **Rameses** in place of "Ramses"] (The first line refers to the Ramesseum.) <History - Ancient, Zhao> [Ed. A. Gao]

10. **A national park in this state features a giant limestone chamber called the “Big Room.” Virgin Galactic spacecraft is launched from Spaceport America in this state’s city of Truth or Consequences. White Sands National Park is located in this state, whose nearby missile range of the same name was the site of the first (*) nuclear test. Carlsbad Caverns National Park is located in this state. The towns of Gallup and Taos are located in this state, whose city of Roswell is the target of UFO conspiracy theories. For 10 points, name this state with cities such as Santa Fe and Albuquerque.**

ANSWER: **New Mexico** <Geography - US, A. Gao> [Ed.]

11. **After having a fistfight when they were younger, a character in this novel affectionately nicknames the protagonist “Handel.” In this novel, the protagonist is beaten by a cane called “The Tickler” by his sister, who draws the letter “T” to indicate Orlick beat her. The protagonist gives a meat pie to an escaped (*) convict in this novel, after which the convict becomes his benefactor. After getting jilted on her wedding day, clocks at the Satis House in this novel are stopped by Miss Havisham, the adopted mother of Estella. For 10 points, name this novel about Pip by Charles Dickens.**

ANSWER: **Great Expectations** <Literature - British, Kanigicherla> [Ed. A. Gao/C. Gao]

12. **The symbol “Z” has been used to show support for this person. A journalist flashed a sign against one action undertaken by this person on live TV. When meeting with this person, Emmanuel Macron declined a COVID test for fear of others getting ahold of his DNA. As a result, the two people had to talk over a 13-foot-long conference table. This person was allowed to stay in (*) office following the passage of a 2020 constitution amendment. This leader justified one event by claiming they were going to “denazify” another country in a “special military operation.” For 10 points, name this current president of Russia.**

ANSWER: Vladimir **Putin** [or Vladimir Vladimirovich **Putin**] <Current Events, Guo> [Ed. A. Gao]

13. **At the start of this holiday, the gates of Hell become closed and the devils are chained up. During the last part of this holiday, adherents may enter a period of seclusion to not miss a key event. Daybreak starts on this holiday when a white thread is distinguishable from a black one. A key practice during this holiday is broken by (*) iftar, the sunset meal, and Laylat-al Qadr occurs during the last ten days of this holiday. The sighting of a new moon signifies the beginning of, for 10 points, what holy Islamic month where adherents fast from dawn to dusk?**

ANSWER: **Ramadan** [anti-prompt on Eid al-Fitr; anti-prompt on Laylat-al Qadr until mentioned] <RMPSS - Religion, Kanigicherla>

14. **Following the passage of a law named for this good, the *Peggy Stewart* was burnt in Annapolis. A monopoly on this good ended when it was found that it could be manufactured cheaper at Assam. The use of this good was popularized by Catherine of Braganza, the wife of King Charles II. Most of the (*) Chinese trade of this good occurred in the port of Canton. A namesake act passed by Parliament in 1773 granted the British East India company a monopoly on this good in the Thirteen Colonies, which caused 46 tons of it to be dumped into Boston Harbor. For 10 points, name this drink, which comes in varieties like jasmine and green.**

ANSWER: **tea** [or **cha**; accept specific types of tea] <History - Other, Zhao> [Ed. A. Gao]

15. In the Birch reduction, an aqueous form of this substance dissolves sodium, lithium, and alcohol in order to convert aromatic compounds into 1,4-cyclohexadiene. A reagent composed of silver nitrate and this molecule is used to characterize aldehydes and ketones, commonly known as (*) Tollens' reagent. Bubbling carbon dioxide through brines containing this compound produces sodium carbonate in the Solvay process. This compound reacts with oxygen to create nitric acid in the Ostwald process, and undergoes artificial nitrogen fixation in the Haber-Bosch process. For 10 points, name this compound with formula NH_3 .

ANSWER: ammonia [accept NH_3 before mention] <Science - Chemistry, Guo>

16. In this play, two characters call their home a "rat trap." A character in this play complains about how women tell their husbands to eat their eggs, eventually yelling "DAMN MY EGGS!" This play opens with a character saying "You're not the only person in the world got to use a bathroom" to his son Travis. In this play, Joseph (*) Asagai says Beneatha is "mutilating" her hair by cutting it. In this play, Willy Harris steals part of a \$10,000 life insurance check that Walter wants to use to open a liquor store. The Younger family moves into the all-white Clybourne Park neighborhood in, for 10 points, what play by Lorraine Hansberry?

ANSWER: A Raisin in the Sun <Literature - American, Kanigicherla> [Ed. A. Gao]

17. Nearly every figure is splattered with blood in a painting based on this painting, Faith Ringgold's *The American People Series 20: Die*. Near the right of this painting, a woman's head appears elongated as it hangs out the window of a burning house. The words "KILL LIES ALL" were spray-painted on this painting in response to the (*) My Lai ("MEE LIE") massacre. In this painting, the sun is represented by a light bulb in an eye. This painting depicts a bull with its tail on fire, tongues as daggers, and a flower growing out of a sword held by a dead man. For 10 points, name this painting inspired by the bombing of a Basque village, by Pablo Picasso.

ANSWER: Guernica <Fine Arts - Visual, Guo> [Ed. A. Gao]

18. In this city, drugs have been openly sold in the Freetown Christiania neighborhood. This city is said to be the "palm" of a "Finger Plan" of urbanization. René Redzepi runs the Noma restaurant in this city. The Amalienborg Palace in this city serves as the primary residence for a royal family. It's not Rome, but a famous amusement park is located in this city's (*) Tivoli Gardens. This city, which is connected by the Øresund Bridge to Malmö, lies on the islands of Amager and Zealand. A statue of a Little Mermaid is located in, for 10 points, what capital of Denmark?

ANSWER: Copenhagen, Denmark <Geography - World, Zhao> [Ed. A. Gao]

19. In these organisms, zinc finger proteins are coded by Ken and Barbie genes. These organisms' salivary glands contain polytene chromosomes, which can form namesake "puffs." The bicoid and hunchback genes affect the early development of this organism's syncytium ("sin-syti-uhm"). Sex-linked genes were researched for the (*) white-eyed mutant of this model organism by Thomas Hunt Morgan. Mutations where legs are switched antennae are experienced in, for 10 points, what model organism with scientific name *Drosophila melanogaster* ("dro-SAW-fuh-luh muh-lan-uh-gas-ter")?

ANSWER: fruit fly [accept *Drosophila* melanogaster until mentioned; prompt on fly] <Science - Biology, Kanigicherla>

20. **During this battle, Joseph Mansfield died after trying to attack one side's left flank. Troops attacking through the West Woods and the Miller Cornfield tried to take the Dunker Church during this battle. During the last engagement of this battle, reinforcements led by A. P. Hill repulsed Union forces crossing the Burnside Bridge. Vicious fighting occurred at a sunken road named the (*) Bloody Lane during this battle.** Special Order 191 was discovered by Union troops before this battle, which pitted Robert E. Lee and George McClellan in Maryland. Abraham Lincoln issued the Emancipation Proclamation after, for 10 points, what bloodiest Civil War battle?

ANSWER: Battle of **Antietam** [or Battle of **Sharpsburg**] <History - American, Zhao> [Ed. A. Gao]