

PARFAIT III Round 5

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1 Princeton University Tossups, Round 5

1. This work represents its main character in the octatonic scale with its namesake "chord," made of two arpeggios separated by tritones. That character's love interest plays a toy trumpet to entertain her love interest, and the character that sets events in motion is introduced by drums at the Shrovetide fair. The title character, brought to life by the Old Wizard, goes mad after the Ballerina spurns him for the Moor, who then kills him with an axe, revealing that he is in fact only a sawdust puppet. For 10 points—name this 1911 Igor Stravinsky ballet about a puppet theater, set at the St. Petersburg Shrovetide fair.

Answer: Petrushka or Pétrouchka

2. He recalled his former tutor, Frederic Laharpe, after taking the throne, as well as his boyhood military trainer, Aleksey Arakcheyev, who would dominate the latter part of his reign. His legal advisor, Mikhail Speransky, lost favor after Oldenburg, which violated of the treaty of Tilsit. After appointing Kutuzov, his armies got revenge against France, and he became King of Poland after the Congress of Vienna. The son of Paul I and grandson of Catherine the Great, for ten points, name this Tsar of Russia during the Napoleonic wars.

Answer: Alexander I (Aleksandr Pavlovich Romanov)

3. In 1999, living anthrax spores were found on the island of Vozrozhdenya within it, which was a testing site for biological weapons during the Cold War. To its west is the Ustyurt Plateau, and to the south is Karakalpakstan, an area whose people were hit hard by poor agricultural policies on and near this body of water. Due to the diversion of its two main sources, the Syr Darya and Amu Darya rivers, it has shrunk significantly since its heyday, when it was the world's fourth largest body of inland water. For ten points, name this now-shallow saltwater sea of Central Asia, lying between Kazakhstan and Uzbekistan.

Answer: Aral Sea or Orol Sea

4. He wrote that Epictetus, Diogenes, Phaedon, and Terence were slaves, but that while religion produced Phyllis Wheatly, her writing is below the dignity of criticism in his only published work. His second secretary of the Navy, Robert Smith, served as the secretary state of his successor. His second vice-president, George Clinton, was also the vice-president of his successor after replacing Aaron Burr. For ten points, name this president who had Lewis and Clark explore the Louisiana Purchase and served as the third U.S. president.

Answer: Thomas Jefferson

5. *Foe* is his reinterpretation of *Robinson Crusoe*, and the novella "The Vietnam Project" appears in his first book, 1974's *Dusklands*. An Australian author and lecturer is the subject of his fragmented novel *Elizabeth Costello*, while an illicit affair with a student by Professor David Lurie is the subject of *Disgrace*. An illicit relationship also occurs between a frontier magistrate and one of the title group in, for ten points, what author's *Waiting for the Barbarians*, a South African who also penned *Life and Times of Michael*

K.

Answer: John Maxwell Coetzee

6. It's likely a proper superset of Nick's Class. For this reason, completeness for this class is usually shown by a reduction using an efficiently parallelizable algorithm. The problem which takes inputs of a circuit, the inputs to the circuit, and a given gate and then provides the output of that circuit is the classic complete problem for it, the Circuit Value Problem. Other complete problems for it include Horn Satisfiability and Linear Programming, but not Integer Linear Programming, which, being NP-Complete, probably isn't even a member of it. Agrawal, Kayal, and Saxena famously showed that, for ten points, the problem of testing whether or not a number is prime is a member of what computational complexity class?

Answer: Polynomial Time

7. Chapter thirteen likens the conditions that cause bad weather to competition, diffidence, and glory which cause men to act against their fellow man for gain, safety, and reputation, respectively. In the author's *Rudiments*, he describes what happens when men don't forge a commonwealth to surrender their power to a supreme ruler and instead let the unbounded desire for power inherent in men run unchecked; this is called the "state of nature". Subtitled "The Matter, Forme and Power of a Common Wealth Ecclesiasticall and Civil," this 1651 book takes its title from the creature that appears in the 104th Psalm. For ten points, name this work of philosophy by Thomas Hobbes.

Answer: Leviathan

8. In 698 AD, an Umayyad army under Hassan bin al-Numan defeated Christian forces here leading to the second and final destruction of this city. A 5th century BC manuscript recounts the journeys of an explorer from this city down the coast of Africa to the Gulf of Guinea, while Pliny the Elder writes that Himilco the Navigator made it all the way to Brittany at around the same time. A council known as the "Hundred and Four" oversaw its generals whose 241 BC defeat at the Battle of the Aegates Islands as well as the rise of Numidia led to its eventual decline. For ten points, identify this North African city-state, the archrival of Rome during the Punic Wars.

Answer: Carthage

9. The titular subject of this author's fictional biography dies in St. Damier after loving both Nina Toorovetz and Clare Bishop, who are, like Sebastian Knight, all named after chess pieces in various languages. Fyodor Godunov-Cherdyntsev is a chess-problem composer, and Luzhin, the protagonist of *The Defense* is a chess grandmaster. Less integral to the plot, John Shade plays games that end in draws against Sybil and Kinbote in *Pale Fire*. For ten points, name this chess-loving Russian novelist who has Gaston Godin face off against Humbert Humbert in *Lolita*.

Answer: Vladimir Nabokov

10. It produces a 30 kilodalton protein, the "movement protein", which enlarges the plasmodesmata and allows it to propagate to neighboring cells. It was first crystallized in 1935 by Wendell Meredith Stanley, and Rosalind Franklin, who worked for him, designed and built a model of this for the 1958 World's Fair at Brussels, in which she correctly

inferred that it was single-stranded. In 1889, it was determined that it was not a microbe, but rather what Martinus Beijerinck called a “contagium vivum fluidum.” Causing its namesake mottling in affected plants and originally discovered in 1883 by Adolf Mayer, for ten points, what is this first virus to be isolated and identified that affects plants used to make cigarettes?

***Answer:* tobacco mosaic virus or TMV**

11. A visitor is suprised to see a church after descending Hanson Toot and crossing a narrow bridge on all fours at the beginning of the section contributed by Charles Cotton. The first section begins with a man who is falconer and a huntsman meeting a man who professes to be a hater of otters. Vinator and Auceps learn that the hatred of otters stems from his love of Grayling, Umber, Luce, and Pike, which Piscator describes in detail how to catch. For ten points, name this work of Izaak Walton that is a liesurly, didactic consideration of fishing.

***Answer:* The Compleat Angler**

12. The solid support has two varieties. In the “packed” variety, they are only about 1.5 to 10 millimeters long and are filled with tightly-packed inert material. The “capillary” variety is much thinner, but can be up to 60 meters long, and is coated with the stationary phase. Hydrogen is the most efficient carrier and provides the best separation, but inert gases are less dangerous, so nitrogen and helium are more commonly used. For ten points, identify this method of separating mixtures whose carrier phase is a layer of liquid inside a support “column” and whose mobile phase is not a liquid.

***Answer:* gas-liquid chromatography**

13. Because he loves his country, he claims his “essential brother” with “old gray hands,” to destroy a man who, in spite of his trips to the moon, has killed so many here on earth in the poem “I Begin by Invoking Walt Whitman” in his collection that calls for the “Destruction of Nixon.” His love for America is also expressed by the lines “before the wig and the dress coat there were rivers . . . and the snow seemed immutable” in the poem “Amor America” in the collection *Canto General*. For ten points, “It is the hour of departure. Oh abandoned one!” ends a “Song of Despair” by what Chilean poet?

***Answer:* Pablo Neruda or Neftalí Ricardo Reyes Basoalto**

14. It presents the aumaga, the group that young men join when they reach adulthood, to be “the most enduring social factor in the village”. It considered the relative lack of fights between parents and children to be a result of the relatively free “relationship groups” which de-emphasize direct family relationships in favor of looser arrangements, allowing children to easily go live with other relatives if they choose. It was defended by Martin Orans against the claims of Derek Freeman, who believed that Fa’apua’a and Fofoa, the two teenage girls who provided the bulk of her evidence, had in fact made up a large number of their stories. For ten points, what is this landmark, but controversial, work of anthropology by Margaret Mead?

***Answer:* Coming of Age in Samoa**

15. The TV show based on it featured the evil leader Mezmeron. In the game, 19 is the last level when enemies can be killed, and level 17 just lets you to change their direction. But

all is not lost, for Toru Iwatani made the colored enemies attack and regroup in waves. Billy Mitchell achieved a high score of 3,333,360 by eating every blue ghost, power pill, and cherry. For ten points each, name this arcade game where a voracious yellow wedge avoids Blinky, Inky, Pinky, and Clyde.

Answer: Pac-Man

16. He wanted to title a picture with a pale man staring intently at a slip of paper while a buxom secretary files *Time and a Half for Over Time, Etc.*, but it got changed to *Office at Night*. Advertising features prominently in his *Drug Store*, which he originally wanted to title *Ex-Lax*, which is prominently advertised. His most famous work could have similarly been called *Phillies* after the cigar advertisement above the green building where a couple sit caddy-corner from a man with his back turned to us at a counter while they're being served by a bent attendant dressed in white. For ten points, name this artist who created *Nighthawks*.

Answer: Edward Hopper

17. Its tensor can be written as an integral of the scalar r^2 times the three by three identity matrix minus the outer product of the outer product of r with itself times the density over an object's volume. The *Horologium Oscillatorium* introduced the Huygens-Steiner theorem, even though Euler had not yet given this quantity a name. That theorem says that for a new axis parallel to the original axis, this value is given by the old value plus the mass times the distance squared. Dividing the torque by angular acceleration gives, for ten points, what analog of mass in rotational physics?

Answer: moment of inertia

18. DeMarzo, Kremer, and Mansour presented upper and lower bounds for estimating them. Early work on by Bachelier used Brownian motion with zero drift; a 2004 paper on the "rational pricing" of them by Robert C. Merton to argue that, without dividends, the American version will never be exercised before expiration and thus has the same value as the European one. The Black-Scholes model is the best known method of pricing – for ten points– what right to "put" or "call" a security when it reaches a specified strike price?

Answer: option price

19. Its last High Commissioner, Karl Burckhardt, replaced the less pliant Sean Lester. Then, for the next six years it was ruled by Albert Forster as Gauleiter. The port of Gdynia, built 10 miles to the north by Poland, further antagonized the Germans in the city granted autonomy by the League of Nations. Located on the mouth of the Vistula, for ten points, name this Polish city whose ownership helped trigger World War II now known as Gdansk.

Answer: Danzig (prompt on "Gdansk")

accept Danzig-West Prussia, Freistadt Danzig, or Free City of Danzig

20. In one of this author's works, the protagonist hopes to combine the American ability to flirt before marriage with the French ability to flirt after in her hometown of Springdale. Lillie Ellis' vapidty is soon the ruin of John Seymour in *Pink and White Tyranny*, but Eva Van Arsdel and Harry Henderson turn out better in *My Wife and I*, also published in

1871. The death of her son Henry helped shape *The Minister's Wooing* about the death of an unconverted soul, but she remains best known for a character who saves Evangeline St. Clair after leaving the farm of Arthur and Emily Shelby who is eventually sold to Simon Legree. For ten points, name this author of *Uncle Tom's Cabin*.

Answer: Harriet Beecher Stowe

21. The NP-hard problem of finding the largest subset with this property is equivalent to finding the Maximal Clique on the complementary graph. In a Bayes net, a node has this property if conditioned on its Markov blanket. In linear algebra, it's a set where no vector is a linear combination of others. For ten points, what probability property occurs when the probability of A and B is the probability of A times that of B ?

Answer: independent

2 Princeton University Bonuses, Round 5

1. Answer the following about biblical works considered apocrypha, for ten points each.

10 The first person to use the term “apocrypha” for some biblical writings was the translator of a famous Vulgate, though many works considered apocrypha made it into his Vulgate anyways.

Answer: St. Jerome

10 This book, declared canonical by the Council of Carthage in 397 but considered apocryphal by Protestants, tells the story of a good Jewish guy from Nineveh, as well as his son Tobiah’s marriage to Sarah.

Answer: Book of Tobit

10 Some apocryphal writings, considered canonical by Roman Catholics, made it into the Vulgate as part of this book, most often read by Jews on Purim.

Answer: Book of Esther or Megillah

2. For ten points each, name the book based on one or more of its settings.

10 Kabuo Miyamoto is on trial for the murder of Carl Heine on the island of San Pedro, off the coast of Washington.

Answer: Snow Falling on Cedars

10 The title character teaches at Lowood School before moving into Thornfield Manor.

Answer: Jane Eyre

10 Christian sinks into the bog Slough of Despond in this 1678 work.

Answer: The Pilgrim’s Progress from This World to that Which Is to Come

3. Name these works of Frank Lloyd Wright, for ten points each.

10 The facade of this hotel now resides in a museum near Nagoya, the rest of it having been demolished in 1976. It is perhaps most famous for surviving a 1923 earthquake that leveled much of the rest of the Tokyo.

Answer: Imperial Hotel

10 This office building in Buffalo was notably modern at the time of its construction in 1904, and its iconic, skylit atrium is an architectural landmark, but it was demolished in 1950.

Answer: Larkin Administration Building

10 This Racine, Wisconsin, building still stands, and it is best known for its Great Workroom, with its downward-tapering columns extending up toward “lily pads” joined to the ceiling.

Answer: Johnson Wax Building

4. Identify these authors who couldn't separate themselves from the most important meal of the day for ten points each from descriptions, five if you need the title.

10 His titular alter ego tells his New England boarding house compatriots that there's only one man who ever lived who deserves to have a key to his house, namely some dude named Johann Georg Zimmermann.

5 The Autocrat of the Breakfast Table
Answer: Oliver Windell Holmes (Sr.)

10 Dwayne Hoover, a man who sells Pontiacs, becomes obsessed with this author's alter ego, Kilgore Trout.

5 Breakfast of Champions
Answer: Kurt Vonnegut, Jr.

10 The unnamed narrator, a stand-in for the author, falls for Holly Golightly, a young New York transplant.

5 Breakfast at Tiffany's
Answer: Truman Capote

5. Some of his works include *The Pit*, about wheat speculation, and *McTeague*, about a greedy dentist. For ten points each. . .

10 Name this American author.
Answer: Frank Norris

10 This Norris novel, set in California, was inspired by the Southern Pacific Railroad Mussel Slough Tragedy.

Answer: The Octopus

10 This novel was supposed to complete the "Epic of Wheat" trilogy, which was already comprised of *The Octopus* and *The Pit* but was never written.

Answer: Wolf

6. Identify these authors from their ladies for ten points each.

10 In his *Lady of the Lake*, published in 1810, Roderick marches troops upon the titular Loch Katrine to secure the hand of Ellen, the titular lady, but is defeated by the mysterious Fitz-James, who turns out to be the king.

Answer: Walter Scott

10 Turning away from her weaving to glimpse Lancelot, the subject of his 1842 *The Lady of Shalott* dies when she gazes directly on reality.

Answer: Alfred Tennyson

10 Thomas Mendip tries to have capital punishment end his life while Jennet Jourde-mayne tries to escape the titular punishment for witchcraft in this author's 1949 "This Lady's not for Burning."

Answer: Christopher Fry

7. Sometimes considered a forerunner of surrealism, his works often focused on the macabre and had dark religious themes, with images of sin and hell. For ten points each. . .

10 Name this fifteenth and sixteenth-century Dutch painter, favorite of Philip II of Spain, and painter of *The Crowning with Thorns* and *The Temptation of St. Anthony*.

Answer: Hieronymus Bosch

10 This early Bosch work pictured representations of those things described in its title inside circles on a tabletop. Inside the largest circle is the resurrected Christ with the words *Cave, cave, Dominus videt*, or “Beware, beware, God is watching.”

Answer: the Seven Deadly Sins and the Four Last Things

10 This Bosch triptych, one of his best-known works, shows on its shutters the creation of the world, then on each of its panels the Garden of Eden, man’s descent into sin, and finally the horrors of hell, which include being eaten by a giant bird and defecating coins.

Answer: The Garden of Earthly Delights

8. It is the most important enzyme because it provides an effective pickup line for biologists. For ten points each. . .

10 Name that class of enzymes that shears two nucleic acid strands and that I wish I were so I could unzip your genes.

Answer: helicase

10 The power for helicase often comes from the hydrolysis of this molecule with a adenine ring and three phosphate groups.

Answer: adenosine triphosphate

10 A defect in helicase’s gene on the eighth chromosome results in this disease where people age normally until teenage years and then age rapidly, usually dying around forty.

Answer: Werner’s syndrom; prompt “progeroid,” but do not accept “progeria,” which is something else

9. Given someone whose biography appear in Plutarch’s Parallel Lives, name the person he’s paired with for ten points each.

10 Dion, who was a friend and advisor to Dionysos until banished, was paired with this friend of Caesar who plotted to kill Caesar but got his comeuppance at Phillipi.

Answer: Marchus Junius Brutus

10 Demosthenes was extolled as “the perfect orator” by this man who was elected consul in 63 BCE and who defused the Catiline conspiracy.

Answer: Marcus Tullius Cicero

10 Romulus was paired with this king of Athens who was the son of Aegeus and Poseidon.

Answer: Theseus

10. Identify these pioneers in the field of photography for ten points each.

10 This astronomer, whose planet-discovering father William built Observatory House, devised a method of using sodium thiosulfate to wash out unexposed silver salts and coined the terms “photograph” and “negative.”

Answer: John Herschel

10 He simplified Niépice’s heliographs and created a technique named for him that takes a copper plate coated with silver, places it in a box of iodine vapor, developed with mercury vapor, and then fixed with a hypo solution.

Answer: Louis Daguerre

10 His acquittal for the murder of his wife’s lover, Harry Larkyns, barely slowed this man’s investigation through stop-motion photographs of boxers, racehorses, and elephants.

Answer: Eadweard Muybridge

11. He offered elephants to James Buchanan in order to help develop the west, and his ascension was managed by Suriyawong, who became his prime minister. For ten points each. . .

10 Name this king who ruled from 1851 to 1858 and kept his nation independent while also bringing in foreign influences.

Answer: Rama IV or Mongkut or Phrachomklao

10 Rama IV was the king of what southeast Asian nation?

Answer: Siam or Thailand

10 Rama IV founded the Thammayut Nikaya, a sect of what school of Buddhism popular in Thailand literally meaning “way of the elders?”

Answer: Theravada

12. Jean Van Heijenoort was murdered by his fourth wife in Mexico City forty-six years after the man for whom he was a secretary died there. For ten points each. . .

10 Name his former boss, who was killed by Ramón Mercader in 1940.

Answer: Leon Trotsky or Lev Davidovitch Bronstein

10 While in Mexico City, Heijenoort also had an affair with this woman, who allegedly also had affairs with Trotsky, her sister Cristina, and Diego Rivera.

Answer: Frida Kahlo

10 After getting a PhD, Heijenoort edited the collected works of this mathematician who proved that the axiom of choice and the generalized continuum hypothesis are independent of Zermelo-Frankel axioms of set theory.

Answer: Kurt Gödel

13. Though he first gained fame as a historian, he was also an economist and is best remembered today as a philosopher. For ten points each. . .

10 Name this man who influenced Adam Smith's writings and is said to have awakened Immanuel Kant from his "dogmatic slumber" with his attacks on rationalism.

Answer: David Hume

10 In *A Treatise of Human Nature*, Hume discusses this problem, the dilemma of not being able to infer how the world should be from its present state, also known as Hume's Guillotine.

Answer: is-ought problem

10 In this work, a simplification of *A Treatise of Human Nature*, Hume explores the "missing blue shade" problem and asserts that ideas are associated via resemblance, contiguity, and causality.

Answer: An Enquiry concerning Human Understanding

14. It literally means "way of the Kami" and its shrines are scattered through Japan. For ten points each. . .

10 Name this religion.

Answer: Shinto

10 Despite having a name which translates to "peaceful nation" controversy erupts whenever Japanese leaders visit this shrine, in part because it commemorates such people as Tojo and Seishiro.

Answer: Yasukuni Shrine

10 The holiest shrine in the Shinto religion, it is torn down and rebuilt every 20 years. It reputedly holds the sacred mirror of the Japanese imperial family.

Answer: Ise Shrine

15. He was a senator from Missouri, ambassador to Spain, and secretary of the interior under Hayes; he also delivered Lincoln the German vote. For ten points each. . .

10 Name this first German-born senator, who helped begin the Kindergarten movement.

Answer: Carl Schurz

10 As major general in the IX Corps, Schurz was partially responsible for a humiliating defeat when "Stonewall" Jackson flanked the Union right flank at this May 1863 battle in Virginia.

Answer: Chancellorsville

10 Schurz vehemently opposed this president's plan to allow Santo Domingo to enter the union, which was discussed in his 1873 second inaugural address.

Answer: Ulysses Grant

16. Because my school spirit is fictional, name the following works that feature fictional universities.

- 10 Adam Gellin is a newspaper writer and Jo-Jo Johanssen is a star basketball player at DuPont University who both get romantically involved with the title character of this Tom Wolfe novel.
Answer: I am Charlotte Simmons
- 10 Oedipa Maas looks for a scholar of the Jacobean revenge play, *The Courier's Tragedy*, who was at Berkeley but is now teaching at San Narcisso in this work.
Answer: The Crying of Lot 49
- 10 The title character, whose first name is Martin, enrolls at the University of Win-nemac, where he idolizes immunology professor Max Gottlieb and is mentored by Edward Edwards.
Answer: Arrowsmith
17. Because I had so much fun writing that last bonus of fictional schools, name these other works featuring fictional schools for ten points each.
- 10 Donald Sutherland is a disaffected professor and Vernon Wormer is the easily angered dean of Faber College, where "knowledge is good," in this National Lampoon film.
Answer: Animal House
- 10 In this series, "Knowledge Brings Fear" is the motto of Mars University where Pro-fessor Farnsworth teaches about "Wonton Burrito Fields" or something like that.
Answer: Futurama
- 10 In this series, Vash is offered a position at the Daystrom Institute after getting back from her travels with a member of the continuum, and Dr. Leah Brahms, one of the main character's love interest, was a graduate of the Daystrom Institute of Technology.
Answer: Star Trek: The Next Generation
18. Her children were the Queen of Spain, the King of Poland, and the husband of Mary, Queen of Scots. For ten points each. . .
- 10 Name this queen from an Italian family who married Henry II in 1533.
Answer: Catherine de Medici
- 10 Catherine also served as regent for this king, who preceeded Henry IV.
Answer: Charles IX
- 10 Catherine is believed to have instigated this incident of mob violence against French Huguenots in 1572.
Answer: St. Bartholomew's Day Massacre or Massacre de la Saint-Barthlemy
19. Answer the following questions on everyone's favorite uncertainty principle, the Heisen-berg uncertainty principle, for ten points each.

- 10 The Heisenberg uncertainty principle is most commonly written with the uncertainties in position and momentum, but it can also be written as the product of the uncertainty in time and of this quantity.

Answer: energy

- 10 The generalized uncertainty principle can be used to show that a conserved quantity must commute with this operator.

Answer: Hamiltonian

- 10 Although the momentum is subject to the uncertainty principle, its expectation value still is equal to the negative partial derivative of the potential, a result known as this theorem.

Answer: Ehrenfest's theorem

20. Name these double things, for ten points each.

- 10 The *pschent*, comprising the red *deshret* and the white *hedjet*, was a double one of these, symbolizing the pharaoh's rule over both Upper and Lower Egypt.

Answer: Crown (accept reasonable equivalents)

- 10 This double-headed animal appears on the state flag of Serbia and the flags of Albania, Montenegro, and the Greek Orthodox Church.

Answer: Eagle (prompt on "bird")

- 10 William Congreve wrote a play called *The Double* this; the 1920s American literary magazine of the same name was supported by H.L. Mencken and Sherwood Anderson and was the first to publish fiction by Ernest Hemingway.

Answer: Dealer (accept The Double Dealer)