TOSSUPS - RUTGERS A MOON PIE CLASSIC/PUBFEST 2002 - UTC \& PRINCETON
Questions by Ed DeGuzman, Dave Hayes, Erik Kennedy, and John McClain

1. He wrongly stated that all of his namesake numbers, of the form 2 to the 2 to the $n$, plus one, were prime. He stated without proof a theorem that a whole number n to the prime power p minus n is divisible by p . He left only a description of his method of "infinite descent" used to prove that every prime of the form $4 n+1$ is the sum of two squares. FTP, name this amateur mathematician whose most famous unproven statement was written in a margin too small to contain the proof.

Answer: $\quad$ Pierre de Fermat
2. Dedicated to Liszt, it starts with a violin harmonic sustained for 53 measures. Over this wafts, according to the program, "a peaceful Russian song" introduced by the clarinet and "the melancholy strains of Oriental melodies" introduced by the English horn; the final joining of the two melodies in counterpoint suggests peace in the empire of Tsar Alexander II, for whose jubilee it was written. Meant to evoke the journey of a caravan over the title geographical feature, FTP, name this orchestral sketch by Alexander Borodin.

Answer: $\quad$ From/In/On the Steppes of Central Asia or V Sredney Azii
3. Its constitution gave to the president, in Article 48, the power to make emergency decrees to protect the state from political crises. It survived nearly 400 assassinations in its early years, partly due to the reconciliation efforts of foreign minister Gustav Streseman. Taking its name from the city where it met to avoid Spartacist influence, its last president was Paul von Hindenberg. FTP, name this government that came to an end with the rise of Hitler.

Answer: Weimar republic or government
4. Many of this artist's landscapes depict the French port town of L'Estaque and his family's house at Jas de Bouffon. Exhibitions of his work after his 1906 death fueled Picasso's development of Cubism; the latter referenced one of his portraits of bathers in Les Demoiselles d'Avignon. He believed that all objects could be broken down into the geometric shapes of cube, sphere and pyramid, and so depicted Mont Sainte-Victoire and apples. FTP, what post-impressionist artist painted "The Card Players"?

## Answer: Paul Cézanne

5. "When you're drunk it's so much fun," this poet wrote in a poem from her wildly popular first book Vecher from 1912. Her second book, Rosary, was equally popular and At the Edge of the Sea, from 1915, assured her literary reputation, even through a forty-year hiatus in publishing that ended in the 1960s with Poem Without a Hero and Requiem. FTP, name this poet who was banned from publishing during Stalin's regime.

Answer: Anna Andreevna Akhmatova (or: Anna Andreevna Gorenko)
6. Christina Maslach, who is credited with stopping it, attributes her resistance to having joined it five days after its start. She described one of the participants as affecting a Southern accent, the source of his nickname "John Wayne." Half of the participants wore mirror sunglasses and khaki uniforms in imitation of Cool Hand Luke, enhancing their ability to coerce the others to clean toilets with their hands and sleep in tiny cells with three cots. FTP, name this experiment in which college students simulated being in a jail.

Answer: $\quad$ Stanford Prison Experiment (or: Zimbardo Prison Experiment)
7. A feature of this play is a steadily beating drum that increases in tempo as the play progresses. Pursued by a group led by Lem, the title character escapes into the forest and sees visions, including a slave auction and a witch doctor, before being caught and shot by the natives with silver bullets. FTP, name this play about a Pullman porter set up as ruler of a Caribbean island by Eugene O'Neill.

Answer: The Emperor Jones
8. Its central principle went thus: "the power of deciding upon a certain course of conduct in accordance with reason, without wavering; to die when it is right to die, to strike when it is right to strike." First systematized by Yamaga Soko and codified during the Tokugawa period, it demanded junshi, or following in death, upon the death of an adherent's lord. Its final code was the law of seppuku, or hara-kiri. FTP, name this code governing the behavior of samurai.

Answer: bushido (also accept: the way of the knight or the way of the warrior)
9. It shares Lake Memphrémagog with its neighbor to the north. Smuggler's Notch, a rugged gorge, is a popular location for hiking near its highest point, Mount Mansfield. The most rural of U.S. states, its "major" cities include White River Junction, St. Albans, Brattleboro, Barre, Rutland and Burlington, the largest. With a cow-to-person ratio of one to two, it is no surprise that Waterbury in, FTP, what New England state is the home of Ben and Jerry's Ice Cream.

## Answer: Vermont

10. Their outer membrane contains the protein porin and forms an aqueous channel through which proteins up to 10,000 daltons can pass. The inner membrane, however, contains cardiolipin, which renders it virtually impermeable. The location of oxidative phosphorylation, their inner membrane is convoluted, with foldings called cristae that enclose the matrix, which contains enzymes, including coenzyme A. FTP, name these organelles, the site of respiration.

## Answer: mitochondria

11. This author began publishing under the pseudonym John Sinjohn, but later withdrew those works, considering his first important work The Island Pharisees of 1904. His plays include The Silver Box, Strife, and Justice, which led to a reform of English prisons. His most famous work was a series of three novels: The Man of Property, In Chancery, and To Let. FTP name this English writer, winner of the Nobel Prize in 1932 and author of The Forsythe Saga.

Answer: John Galsworthy
12. The U.S. naval base at this territory's capital closed down in 1951, leaving subsistence agriculture and the exportation of canned tuna and handicrafts as the main occupations of its natives. A namesake national park includes Mount Lata, the highest point, and lies on three of its islands, including Tau and Ofa. It comprises two atolls and five volcanic islands the Manua group and the largest, Tutuila. (too - too - EE - la) FTP, name this territory with capital at Pago Pago [pon-GO pon-GO].

Answer: Territory of American Samoa (do not accept: "Samoa")
13. After he was forced to leave the Wallowa Valley in Oregon, an outbreak of violence caused his group to head first to Idaho, then to the Great Plains, then finally to Canada. The group eliminated troops sent in at the battle of White Bird Canyon, but soldiers under Colonel Nelson Miles surrounded them in the Bear Paw Mountains less than 40 miles from the Canadian border. He surrendered, allegedly saying, "Hear me, my chiefs; my heart is sick and sad. From where the Sun now stands, I will fight no more forever." FTP, name this leader of the Nez Percé.

Answer: $\quad$ Chief Joseph (also accept equivalents such as: In-mut-too-vah-lat-lat, Hin-mah-too-yah-latkekt and Thunder Rolling in the Mountains)
14. At the funeral of Baldur, he rode his horse Gulltop, and he dwelled in Himinbjörg (HIM - in - byerg). Some thought he was born of nine mothers, from whom perhaps he got his very, very white skin and golden teeth. The mortal enemy of Loki, he kept watch over Bifrost and kept the Gjallarhorn (GYAL - ar -horn). FTP, name this god who was to summon the gods with his horn when the giants draw near at Ragnarok.

Answer: $\quad \underline{\text { Heimdall (or: Heimdallr) }}$
15. It mentions Evenus of Paria, whom Callias says is the best teacher and who teaches for five minas. The speaker mentions his resistance to the Thirty Tyrants in refusing to arrest Leon of Salamis, while a longer section is a dialogue with Meletus. In a famous passage, the speaker compares himself to a gadfly, and in another he tries to disprove the oracle's statement that he was the wisest of men, only to find he was wisest because he knew nothing. FTP, name this speech given by Socrates at his trial.

Answer: $\quad$ Apology of Socrates (or: Apologia Sokratous)
16. This novel's protagonist picks up a booklet at the Magic Theater, which describes him as a demi-man who hates the bourgeois lifestyle but is incapable of surrendering himself to hedonism. Later the protagonist is introduced to a lover, Maria, and a jazz musician, Pablo. At the Fancy Dress Ball he chases himself through a surreal gallery of mirrors and kills Hermine, realizing that immortality is the ability to laugh at eternity. FTP, name this novel about Harry Haller, a 1927 work by Hermann Hesse.

Answer: $\quad$ Der Steppenwolf
17. The name's the same. In programming, this is the name for an area of memory reserved for data that is created at runtime. This term is also the name of a data structure used in a sorting algorithm of order $n \log n$ discovered by JWJ Williams that bears its name. FTP, give the common name, the latter definition describing a special type of binary tree in which the value of each node is greater than the values of its leaves.

## Answer: heap

18. The allegorical character of this 1862 poem ignores the kneeling emperor, whom critic Anthony Hecht believes may be one of the Magi, and the files of "chariots pausing / At her low gate." It's uncertain what is meant by her choosing ONE from "an ample nation"-is this one herself, or another? Whatever the case, she "shuts the door" and this chosen one and the allegorical character make up the "divine majority" in, FTP, what Emily Dickinson poem concerning the soul?

Answer: $\quad$ The soul selects her own society (or: \#303)
19. His early appearances include at the far right in the Pressman Hotel video, standing in front of a copy machine, and riding an escalator down as the narrator rides it up. He starts off as a part-time projectionist, banquet waiter and soap manufacturer, but becomes the leader of Project Mayhem, taking on a number of disciples who complete destructive homework assignments for him. FTP, name this character played by Brad Pitt, the cofounder of Fight Club.

Answer: $\quad$ Tyler Durden
20. Much like Napoleon, he crowned himself, and imprisoned a clergyman who suggested it was unwise to give so much power to a 15 -year-old. The main conflict of his reign was caused by Johann van Potkul, who created a coalition against him. After winning a victory at Narva, he won the support of Ivan Mazeppa and led his soldiers inland, but the brutal winter weakened his army, which was defeated by the Russians at Poltava. FTP, name this Swedish king best known for fighting the Great Northern War.

Answer: $\quad$ Charles XII
21. Now named after the discoverer of Pallas and Vesta, it was stated by Jean Philippe Leys de Cheseaux in 1744, who incorrectly claimed that a slight loss of luminosity would solve it. Its namesake reformulated it by arguing that the number of stars in a spherical shell of stars is proportional to the radius squared, while the intensity of light is inversely proportional. FTP, name this paradox which states that in an infinite universe the sky would be infinitely bright.

Answer:
Olbers paradox
22. Originally named Island Trees, it was initially marketed to veterans, using simplified, no-down-payment mortgages. Constructed assembly-line style on concrete slabs with no basements, the first was in Hempstead, New York; a later one was built in a namesake town in Pennsylvania, and one in New Jersey that provided three designs and several color schemes. FTP, name this housing development famous for containing thousands of nearly identical houses.

## Answer: Levittowns

23. The author included as an example Omar Bradley, who left the army to become chairman of Bulova Research Laboratories; modern examples of this class include Dick Cheney and Colin Powell, included because of their influence in several spheres of life. Not simply a ruling class, it includes celebrities, the very rich, chief executives, warlords and the political directorate in a set of interlocking cliques that decide the course of the nation. FTP, name this title class of a 1956 work by C. Wright Mills

Answer: The Power Elite

1. For 10 points each, name the following about the Wars of the Roses.
2. The ineffectualness and insanity of this king led to the Duke of York's claim to the throne and the start of the wars.

Answer: Henry VI
2. The war came to an end when Richard III was defeated at this 1485 battle.

Answer: Bosworth Field
3. Edward IV's forces defeated the Lancastrians at this 1471 battle, starting a 14-year York dynasty.

Answer: Tewkesbury
2. Answer the following about input/output (I/O) in a general-purpose computer system for 10 points each.

1. A much more advanced interface than its chief competitor, IDE/ATA, this I/O device controller can have seven or more devices attached to it whereas IDE/ATA is limited to one.

Answer: $\quad$ Small Computer Systems Interface (pronounced: "skuzzy")
2. Give the name of the type of I/O occurring if control is returned to the user program without waiting for the I/O request to complete.

Answer: Asynchronous input/output
3. To keep track of many I/O requests at the same time, an operating system maintains this data structure. Each entry indicates the source's address and the state of each request.

Answer: Device-Status table
3. 30-20-10, name the poetic subject.
30. Midway through the poem, it is compared to "a poet hidden in the light of thought," a maiden in a palace tower, a glow-worm in a dewy dell, and "a rose embowered in its own green leaves."
20. The poet envies it for its ignorance of pain, saying that humans' "sweetest songs are those that tell of saddest thought."
10. This subject of a Shelley poem is called "blithe spirit" in the first line.

Answer:
To A Skylark
4. For the stated number of points, name these things relating to the Mercury space program.

1. $(5,5)$ On Mercury 4, the capsule sank to the bottom of the ocean after its hatch blew before recovery. For five points each, name the astronaut and the capsule involved.

Answer: $\quad$ Virgil "Gus" Grissom and Liberty Bell 7
2. (10) "Mercury" referred to the capsule. For ten points, name either of the rockets used to propel the capsule into space. Answer: $\quad$ Redstone or Atlas
3. (10) On the last Mercury flight this astronaut made 22 orbits, studying the effects of a day in space on human functioning.

Answer: Leroy Gordon Cooper
5. Answer these questions relating to an elementary particle, 5-10-15.

1. (5) Many experiments, including that at Super-Kamiokande, are being conducted to find evidence of oscillations between the three flavors of this type of neutral particle and therefore that these particles have mass.

## Answer: neutrinos

2. (10) One reason that neutrino oscillations are suspected is that solar neutrino experiments detect only about $40 \%$ of the expected number of neutrinos of this flavor coming from the sun.

## Answer: electron neutrinos

3. (15) If neutrino oscillations exist, they could be represented by a lepton-flavor mixing matrix analogous to this quarkmixing matrix named after three physicists who gave it an explicit parametrization.

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\text { Answer: } \quad \text { Cabibbo-Kobayashi- } \underline{\text { Maskawa matrix }}
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6. Answer these questions about England and classical music for 10 points each.
7. The most famous English Baroque composer, he is best known for his masque, Dido and Aeneas.

Answer: Henry Purcell
2. Handel wrote this 1717 work to celebrate George I at a party on the Thames.

Answer: $\quad$ Water Music
3. The leading English Renaissance composer, there remain only about 60 of his works in many styles, such as sections of the Mass, secular songs, and motets, which include Veni Creator Spiritus.

Answer: John Dunstable (or: Dunstaple)
7. Name these literary fallacies for ten points each.

1. This fallacy, theorized by John Ruskin, concerns the error of a writer ascribing human sensations and emotions to inanimate or natural objects.

Answer: $\quad$ The pathetic fallacy
2. This fallacy, formulated by W.K. Wimsatt and Monroe Beardsley in 1946, is a reader's fallacy. In its pure form, it claims that it is incorrect to read and interpret a text with reference to how it makes one feel.

Answer: $\quad$ The affective fallacy
3. This fallacy, also formulated by Wimsatt and Beardsley, claims that it is incorrect to read and interpret a text with reference to the author's aims.

Answer: $\quad$ The intentional fallacy
8. Name the following about the worst American president, U.S. Grant, for 10 points each.

1. Grant's secretary Orville Babcock was indicted in this scandal, which revolved around bribery of IRS agents.

Answer: the Whiskey Ring
2. Grant's first vice president, he was not invited to run again and was later implicated in the Crédit Mobilier scandal.

Answer: $\quad$ Schuyler Colfax
3. Despite the corruption of his administration, some misguided fools known by this name tried to nominate Grant for a third term in 1880.

Answer: $\quad \underline{\text { Stalwarts }}$
9. For 10 points each, name these epistles attributed to Paul.

1. Containing no specific address, it was written to recent converts, distinguishing between the old and new covenants and claiming Christ's superiority over the laws and the prophets.

## Answer: <br> Hebrews

2. It is the only Pauline epistle addressed to a church Paul did not found, although he did eventually visit the city in chains.

Answer: Romans
3. The first of the two epistles to this congregation gave advice on marriage, set forth Paul's beliefs on the resurrection, and defended against challenges to the apostle's authority.

Answer: $\quad$ First and Second Corinthians
10. Name these writings of Karl Marx, and perhaps also Friedrich Engels, for 10 points each.

1. Engels called Marx's theses on this philosopher the "germ of a new world-view;" they were the starting point for other work on the subject, and a foundation of his early philosophy.

Answer: Ludwig Feuerbach
2. This work, unpublished during the authors' lives, elucidates the materialist view of history. It also includes critiques on Feuerbach, Max Stirner, and Bruno Bauer.

Answer: $\quad$ The German Ideology (or: Die deutsche Ideologie)
3. In this three-volume work Marx makes a systematic study and critique of laissez-faire, attributing profit to exploitation of labor.

Answer: $\quad$ Das Kapital (or: The Capital)
11. Name these characters from Catch-22, 5-5-10-10.

1. (5) A mischievous computer promotes him because of his name on his first day in the army.

Answer: $\quad$ Major Major Major Major
2. (5) The main character, he has resolved to live forever or die trying.

Answer: Yossarian
3. (10) He's in charge of the wing Yossarian's squadron is in, and is the victim of a campaign against him led by General Peckem.

Answer: General Dreedle
4. (10) The executive officer of the squadron, he inspired such respect and fear in his men that they are afraid to ask his first name.

Answer: $\quad$ Major de Coverley
12. Answer these questions about Period 4 elements for 10 points each.

1. This element is present in the air at about 1 part per million. It is used in many lighting devices, such as fluorescent lamps. The meter was defined in 1960 in terms of wavelengths of an isotope of this element.

Answer:

## krypton

2. This metal's compounds are toxic. An ore of it called Siberian red lead is used as a red pigment for oil paints. Emerald is green due to the replacement of aluminum by this element in the beryl crystal lattice.

Answer: chromium
3. This compound of two Period 4 elements is a semi-conductor used in diodes, field-effect transistors, and integrated circuits.

Answer: gallium arsenide
13. Name the following about a Nigerian playwright for 10 points each.

1. His jail term inspired Poems from Prison.

Answer: Akinwande Olu Wole Soyinka
2. In this 1960 Soyinka play a council member calls upon spirits of the dead to tell him glorious tales of the past, but instead gets a lesson about nostalgia.

Answer: $\quad A$ Dance of the Forests
3. This Soyinka play centers around the courtship of Lakunle and Sidi, who is eventually seduced by Baroka, the leader of the village.

Answer: $\quad$ The Lion and the Jewel
14. Identify the deity, 30-20-10.
30. It is believed that he originated in Thessaly, but later married Camese and had several children, one of which was the river God Tiber.
20. During the reign of Augustus, the temple of this God was closed three times. This had only been done twice since the founding of Rome, and was a sign of the beginning of the Pax Romana.
10. In early depictions, one of his two faces was bearded while the other wasn't. Later on, both were shown with beards.

Answer:
Janus
15. For 10 points each, name these African revolts against colonial rule.

1. This 1905-07 rebellion against the Germans in Tanganyika takes its name from the magic water the Africans sprinkled on their bodies to protect themselves from bullets.

Answer: $\quad$ Maji Maji rebellion (or equivalents: revolt, uprising, etc.)
2. This 1952 Kenyan revolt was fought by the "Hidden Ones" resistance groups, organized by Jomo Kenyatta.

Answer: $\quad$ Mau Mau rebellion (or equivalents)
3. The FLN war of liberation in this country caused the collapse of France's Fourth Republic and Charles De Gaulle's return to power.

Answer: Algeria
16. Name these sculptures for 10 points each.

1. Originally thought to have been carved from a single piece of marble, this ancient piece picturing a Trojan priest being attacked by snakes was unearthed in 1515.

Answer: Laocoön
2. This was sculpted from an unusually shaped block of marble called "The Giant," which other sculptors had tried to do something with and failed. "The Giant" may account for the sculpture's size, 14 ' 3 ".

Answer: David
3. This three-figure Giambologna work incorporates two men and a woman spiraling in conflict. Its title, referring to an infamous event in early Roman history was not given to it until after its completion in 1582.

Answer: $\quad$ The Rape of the Sabines (or: The Rape of the Sabine Women; also accept singular equivalents such as The Rape of a Sabine or Abduction of a Sabine. Be reasonable.)
17. For 10 points each, identify these terms from economics.

1. This is the ability to produce a good at a lower opportunity cost compared to other consumers. It is often applied to examine trade between nations.

Answer: comparative advantage
2. This is a situation in which consumers are unwilling to pay more than the price of a low-quality product because they are unsure of the product's quality.

Answer: lemons problem (also accept: market for lemons)
3. The intersection of two response functions in a Cournot duopoly is called by this name more common in game theory. Answer: Nash Equilibrium
18. Given the college they attended, their current NBA team, and one statistic name the player for 10 points each.

1. Miami of Ohio, Minnesota Timberwolves, Minnesota's second leading scorer.

Answer: Wally Szczerbiak (pronounced: SIR-be-ack)
2. Virginia Union, Detroit Pistons, Detroit's leading rebounder.

Answer: Ben Wallace
3. Michigan State, Golden State Warriors, 2002 Slam Dunk Champion.

Answer: Jason Richardson
19. For 10 points each, name these things from Greek politics in the Archaic period, 700-500 BCE.

1. The central political event in most areas was this, the creation of the city-state. Translated, it means "coming to live together."

Answer: $\quad$ Synoecism (or: Synoikismos)
2. In the Archaic age many city-states went through a period of rule by these men who seized control and ruled illegally.

Answer: $\quad$ Tyrants (or: Tyrannoi)
3. The best known tyrant is this Athenian, who was thrown out of the city twice only to return with mercenaries and take over in 541.

Answer: $\quad \underline{\text { Pisistratus (or: Peisistratos) }}$
20. For five points per answer, answer the following questions about plant tissue.

1. $(5,5,5)$ Plant tissues are organized into three tissue systems, each of which extends throughout the plant body. Name them for five points each.

Answer: ground tissue system, vascular tissue system, dermal tissue system
2. (5) Tracheids and vessel elements are found in this type of vascular tissue, which conducts water from the roots to the stems and leaves.

Answer: xylem
3. (5) These types of dermal tissue are commonly seen as hairs extending from the epidermis.

Answer: trichomes
4. (5) This type of ground tissue is specialized for structural support. Due to extreme thickening, the secondary cell walls of these cells are strong enough to provide support for the plant body.

Answer: sclerenchyma tissue
21. Name these swamps for 10 points each.

1. In his surveying days George Washington planned to drain this swamp on the Virginia-North Carolina border. Answer: Great Dismal Swamp
2. This swamp in Georgia and Florida drains to the Atlantic Ocean through the Suwannee River. Answer: Okefenokee Swamp
3. This swamp in northwest Botswana can increase in size by over 2000 square miles in years of high rainfall. Answer: Okavango Delta or Swamp
