Collegiate Written by Ewan MacAulay, Grant Boggess, Austin Brownlow, Michael Chuber, Alex Dzurick, Joey Novice 4 Goldman, Nicholas Karas, Melanie Keating, Paul Kelson, Benjamin Johnson, Grace Liu, Brian Fall 2013 Mongilio, Itamar Naveh-Benjamin, Robert Pond, Victor Prieto, Jacob Reed, Graham Reid, Jihye Shin, Packet 8 Jonathan Tong Xu, Eric Xu, and Haohang Xu. Edited by Andrew Hart.

1. This man, who defeated incumbent Culbert Olson in a gubernatorial election, was himself the only incumbent California governor to be nominated by both parties. This man, who was defeated by Alben Barkley in his bid for the vice presidency, headed a group including Gerald Ford and Hale Boggs that analyzed injuries to John Connally. He wrote that the psychological effects of racism meant that separate but equal had no place in education. For 10 points, name this man who, as Chief Justice from 1953 to ‘69, presided over Brown vs. Board of Education.
ANSWER: Earl Warren
2. This man theorized that short-term changes in income do not affect consumption patterns. This thinker argued that the money supply should have been expanded to counteract the Great Depression in a work co-written with Anna Schwartz, A Monetary History of the United States. This thinker, who suggested a "natural" rate of unemployment, believed that increasing employment by raising aggregate demand would cause inflation. For 10 points, name this author of Capitalism and Freedom, a Nobel-winning economist from the Chicago school.
ANSWER: Milton Friedman
3. This man's Jacob House, which was designed on a bet that he couldn't create a house with five thousand dollars, was an example of his "Usonian" theory of architecture. This man incorporated a hypostyle hall into his Johnson Wax Headquarters Building. This man, whose summer and winter houses were known as Taliesin and Taliesin West, designed a cantilevered Pennsylvania house for Edgar Kaufmann and advocated the Prairie School of architecture. For 10 points, name this American architect of Fallingwater.
ANSWER: Frank Lloyd Wright
4. One type of osmotically inactivated species in this experiment was visible under electron micrographs as tadpoleshaped "ghosts." In this experiment, centrifugation to separate virus capsids from bacteria showed that sulphur-35 had remained in the capsids while phosphorus-32 had been injected into the bacteria. This experiment showed that protein from the T2 phage had not been incorporated into the bacteria. For 10 points, name this experiment in which two scientists used bacteriophages to support the hypothesis that DNA is the genetic material.
ANSWER: Hershey-Chase experiment
5. This author created an elderly beach-goer who sees several menacing red-headed men. The title character of another work by this author murders the fascist hypnotist Cipolla. This author, who created a character who becomes obsessed with the Polish boy Tadzio, wrote of another character who converses with Clavdia Chauchat and Leo Naphta while staying at an alpine sanatorium. Gustav von Aschenbach and Hans Castorp are creations of this author of Mario and the Magician. For 10 points, name this author of Death in Venice and The Magic Mountain. ANSWER: [Paul] Thomas Mann
6. In response to this program, Reggie Walton was adamant that there was never a "rubber stamp." The Real Time Regional Gateway in Iraq was the predecessor to this program, which was introduced by Keith Alexander. US984XN is the official code name of this program, which was enacted under the Protect America Act of 2007 and the FISA Amendments Act of 2008. Glenn Greenwald of The Guardian was the first to report the existence of this program. For 10 points, the NSA's administration of what surveillance program was revealed by Edward Snowden? ANSWER: PRISM [accept US-984XN before read]
7. This man posited that part of the basis of the Torah was written by a woman named J. In one of this man's works, he claims that poets misread their predecessors to write original works. Another of his works attacks the "School of Resentment" and includes four appendices that list a large number of supposedly important books. This author of The Anxiety of Influence gives pride of place to Shakespeare in his definition of The Western Canon. For 10 points, name this Yale professor and literary critic.
ANSWER: Harold Bloom
8. At high frequencies, this type of flow can give rise to uneven distribution of charge away from the center of the wire in the skin effect. The voltage equation for this type of flow is described by the relationship of the peak voltage times the sine of the angular frequency times the time traveled. A transformer to increase the voltage is usually required to transmit flow with this property, which can be converted using a rectifier. For 10 points, give the name of this type of flow in which an electric charge periodically reverses, commonly referred to as AC.
ANSWER: alternating current [accept AC before mentioned; prompt on partial answer]
9. One composer from this country wrote the operas Libuse and The Devil's Wall as well as the tone poem "The Moldau." Another composer from this country wrote a Sinfonietta and a church service set in Old Church Slavonic, the Glagolitic Mass. The opera The Bartered Bride and the six-part composition Ma Vlast were composed by a man from this home country of Leos Janacek. Another composer from this country subtitled his Ninth Symphony From the New World. For 10 points, name this home country of Bedrich Smetana and Antonin Dvorak.
ANSWER: Czech Republic [or Czechoslovakia; prompt on Slovakia]
10. This man, the only Roman of the virtuous pagans found in Dante's Paradise, peacefully annexed Nabattea following the death of Rabbel II Soter. He was forced to march against Parthia following its installation of a puppet ruler in Armenia. This man employed Apollodorus of Damascus to build a namesake forum as well as a bridge across the Danube. He defeated Decebalus and captured Sarmizegetusa to add Dacia to the Roman Empire. For 10 points, name this Roman Emperor, the predecessor of Hadrian and namesake of a victory column.
ANSWER: Trajan [or Imperator Caesar Nerva Traianus Divi Nervae filius Augustus]
11. The set of numbers with this property was divided into $S, T$, and $U$ varieties by Kurt Mahler. If A does not have this property and $B$ is irrational, Hilbert's seventh problem asks whether A raised to the $B$ always has this property. A man who proved that this property is possessed by " $e$ to the $a$," when a has this property, is the first namesake of the Lindemann-Weierstrass theorem, which used Euler's identity to show that $e$ and another number possess it. For 10 points, the non-algebraics, such as pi, have what property, meaning they are not the solution of any polynomial? ANSWER: transcendental numbers [accept word forms like transcendence]
12. This nation's southern borderlands were the subject of the Log Revolution, which sought to isolate the town of Knin. In 1991, a man from this nation, Stjepan Mesic, was appointed nominal head of a country from which this nation was trying to secede. The Vukovar massacre occurred in this nation during its war for independence, which began shortly after a contested soccer match involving its Dinamo side and included Slobodan Milosevic's attack on its Dalmatian coastal city of Dubrovnik. For 10 points, name this Balkan nation with capital at Zagreb.
ANSWER: Republic of Croatia [or Republika Hrvatska; prompt on Yugoslavia before read]
13. This practice is the final step of wudu, which must be performed prior to salah. Chapter 13 of the Book of John is the scriptural basis for this practice in Christianity. On March 28, 2013, Pope Francis became the first pope to perform this action on a woman. One example of this action was initially refused by Saint Peter and is commemorated on Maundy Thursday. For 10 points, name the action done by Jesus to the Apostles following the Last Supper that is performed by hand using a basin of water in order to purify a certain area of the body. ANSWER: foot washing [accept any answer indicating the purification of the feet]
14. These substances, which can be solidified by intercalation with graphite, contain a "naked" subatomic particle that hops around between anions via the Grotthuss mechanism. George Olah prepared one of these substances that could react with hydrocarbons and noble gases, and gave it the nickname "magic." Hydrogen fluoride reacts with antimony pentafluoride to yield the strongest known of these substances. These substances have a Hammett function of minus-12 or below. For 10 points, name these substances with extremely low pH .
ANSWER: superacids
15. One god of this entity was often depicted as a scarab beetle and was named Khepri. One god of this entity was worshipped through the Mnevis Bull and through his conflation with Khnum was represented with a ram's head. Isis once poisoned that god of this entity and only gave him the antidote when he revealed to her his true name. A god of this entity, who owns the boats Mandjet and Masektet that Set defends from attacks by Apep, was often combined with Amun. For 10 points, name this celestial body associated with Ra.
ANSWER: sun [accept equivalents]
16. This character lives in a nation that uses the Blundecral, which records the teachings of the prophet Lustrog, as scripture. This character observes a conflict between High- and Low-Heels, satirizing Tories and Whigs, respectively. This character also sees a conflict between Big- and Little-Endians over how to break a boiled egg in that nation inhabited by people six inches tall. For 10 points, name this character character who visits Blefuscu and Lilliput in a Jonathan Swift novel about his "Travels."
ANSWER: Dr. Lemuel Gulliver [accept either; accept Gulliver's Travels]
17. In the background of this painting, a small orange and black boat gives off grey smoke. Two soldiers in this painting are watching four men row a boat helmed by a woman in blue. In the center of this painting, a girl dressed entirely in white looks directly at the viewer. In the bottom left of this painting, a reclining man smokes a long pipe. In this painting, a woman holding a parasol has a monkey on a leash. For 10 points, name this work by George Seurat, a notable example of pointillism set on a Parisian riverside.
ANSWER: A Sunday Afternoon on the Island of La Grande Jatte-1884 [or Un dimanche après-midi à l'Île de la Grande Jatte-1884; accept "Isle" in place of "Island"; prompt on La Grande Jatte]
18. An author from this country won a Booker Prize for a work about Kerewin's relationship with the mute Simon and his abusive father. Another author from this country described an affair between Harry and Pearl in her short story "Bliss." That author from this country wrote a story about Mr. Scott’s death occurring before the title event, confusing Laura Sheridan. "The Garden Party" was written by an author from this home country of Keri Hulme. For 10 points, Katherine Mansfield is from what country whose Maori culture is described in The Bone People?
ANSWER: New Zealand [or Aotearoa]
19. In this war, an ironclad that influenced the Battle of Pacocha terrorized its foes until it was captured at Angamos. In an attempt to settle this war aboard the USS Lackawanna, one belligerent demanded the Tarapaca district and a 20-million-peso indemnity in return for districts including Tacna and Arica. The Battle of Miraflores and the subsequent taking of Lima occurred during this war that was fought over guano and saltpeter in the Atacama Desert. For 10 points, in what war did Chile defeat Peru and Bolivia, which lost access to the namesake body of water? ANSWER: War of the Pacific [or Guerra del Pacífico]
20. This river creates the Mana Pools, a flood plain that serves as a wildlife conservation area. The Cuando River flows into this river, whose namesake coastal flooded savanna has been damaged by the destruction of waterbuck and buffalo by FRELIMO and RENAMO forces. This river, which generates hydroelectric power at the Kariba and Cahora Bassa dams, contains a feature that includes the Devil's Cataract and six gorges over which water plunges. For 10 points, name this African river that flows through Zambia and Zimbabwe and over Victoria Falls.

## ANSWER: Zambezi River

TB1. A triangular depression called the hilum can be found in these structures, which are the primary locations where ACE converts angiotensin I to angiotensin II. Their total capacity is the sum of their residual and vital capacities, which can be measured with a spirometer. These organs are enclosed by serous membranes called pleura. Cystic fibrosis causes thick mucus to form in these organs, which are partially destroyed in emphysema. For 10 points, alveoli are structures in what respiratory organs found in the chest?
ANSWER: lungs

TB2. In an essay titled "concerning" this concept, Adolf Reinach argues that ordinal numbers do not exist. Maurice Merleau-Ponty drew on the phantom limb experience of amputees in a book describing this concept "of perception." Edmund Husserl wrote two books about the relationship of ideas to the "pure" type of it. The master-slave dialectic is described in a work with this word in its title. For 10 points, name this study of the way people experience things, which is "of spirit" in the title of a Hegel work.
ANSWER: phenomenology

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1. The first of these conflicts began when a flag pole in front of the American consulate in Tripoli was chopped down. For 10 points each:
[10] Give the collective names for these two conflicts, sometimes dubbed the Algerian and Tripolitan wars, fought between the United States and several North African States.
ANSWER: Barbary Wars [accept Barbary Coast Wars or Barbary Pirates Wars]
[10] This man, who led the only flotilla to see combat in the Second Barbary War, led a daring raid to destroy the captured USS Philadelphia during the First Barbary War.
ANSWER: Stephen Decatur [Jr.]
[10] This admiral, who was later appointed as U.S. consul to the Dey of Algiers, captured the Drake and Serapis and commanded the Bonhomme Richard during the American Revolution.
ANSWER: John Paul Jones
2. When the wings of this piece are closed, it depicts the Third Day of Creation, painted entirely in shades of grey. For 10 points each:
[10] Name this triptych that depicts the presentation of Eve to Adam, a massive gathering of nude people, unicorns, and other fantastical images.
ANSWER: The Garden of Earthly Delights
[10] This Dutch triptych painter created The Garden of Earthly Delights.
ANSWER: Hieronymus Bosch
[10] This Bosch fragment, originally part of a triptych that originally also included Allegory of Gluttony and Death and the Miser, depicts people aboard a vessel with a tree growing from it.
ANSWER: Ship of Fools
3. This technique uses TMS as a reference for chemical shifts in a sample. For 10 points each:
[10] Name this form of spectroscopy, in which an external magnetic field is applied to a sample to determine the structure of a molecule. Types of it include proton and carbon-13.
ANSWER: NMR spectroscopy [or nuclear magnetic resonance spectroscopy]
[10] This analytical technique, which depends on the m to z ratio, produces a series of peaks that provide
information about molecular weight and relative abundance of elements.
ANSWER: mass spectrometry [or mass spectroscopy; accept MS]
[10] A method of determining a crystalline structure, such as that of DNA, uses Bragg's law to interpret diffraction patterns from this radiation that is also used to image bones.
ANSWER: $\underline{\mathbf{X}}$-rays [or $\underline{\mathbf{X}-r a d i a t i o n ; ~ a c c e p t ~} \underline{\mathbf{X}-r a y ~ c r y s t a l l o g r a p h y ~ o r ~ X-r a y ~ d i f f r a c t i o n] ~}$
4. This play implies that the title character commits suicide at the end. For 10 points each:
[10] Name this 1888 play that describes the relationship between the servant Jean and the title aristocratic woman.
ANSWER: Miss Julie [or Froken Julie]
[10] This playwright of The Ghost Sonata and To Damascus penned Miss Julie.
ANSWER: August Strindberg
[10] August Strindberg is a playwright from this country, whose national academy awards the Nobel Prize in Literature.
ANSWER: [Kingdom of] Sweden [or Konungariket Sverige]
5. The fourth movement of this composition depicts a man on an ox-cart approaching and then leaving the listener and is entitled "Bydlo." For 10 points each:
[10] Give this orchestral work, inspired by the works of Viktor Hartmann, which contains a recurring "Promenade" motif.
ANSWER: Pictures at an Exhibition: A Remembrance of Viktor Hartmann [or Kartínki s výstavki]
[10] This Russian composer of Night on Bald Mountain wrote Pictures at an Exhibition.
ANSWER: Modest [Petrovich] Mussorgsky
[10] Mussorgsky was part of this Russian group, headed by Mily Balakirev, which sought to create a new, unique Russian type of sound with their compositions.
ANSWER: The Russian Five [or The Mighty Handful; or The Mighty Coterie]
6. This song states that "sometimes all of our thoughts are misgiven." For 10 points each:
[10] Name this eight-minute-two-second song about a "lady who's sure all that glitters is gold."
ANSWER: "Stairway to Heaven"
[10] "Stairway to Heaven" was released on this rock band’s fourth eponymous album.
ANSWER: Led Zeppelin
[10] The cover of Led Zeppelin IV shows a man carrying a bundle of these objects, four of which title a song on the album's B side.
ANSWER: sticks [accept "Four Sticks"]
7. This type of simple machine is classified into three "classes." For 10 points each:
[10] Name this type of simple machine that consists of a rigid beam and a fulcrum.
ANSWER: lever
[10] This is the ratio of the output force to the input force of a simple machine.
ANSWER: mechanical advantage
[10] If a double-tackle pulley system has a mechanical advantage of 4 , what is the minimum amount of force required to lift a weight of 500 pounds?
ANSWER: 125 pounds
8. For 10 points each, name the following about taxonomy.
[10] Carl Woese divided life into three of these taxonomic levels, which are above a kingdom but below an empire. ANSWER: domains
[10] This domain, which consists of single-celled microorganisms including extremophiles, contains organisms that are similar to bacteria but lack fatty acid synthetase enzymes.
ANSWER: Archaea [accept archaebacteria]
[10] Some extremophiles live in environments with extreme concentrations of this mineral, and must expend energy to avoid desiccation in such places as a "great" Utah lake.
ANSWER: salt [or halite; or $\underline{\mathrm{NaCl}}$; accept halophiles]
9. In this novel, the English professor Faber is forced to rip pages from a stolen Bible. For 10 points each:
[10] Name this novel about the "fireman" Guy Montag, who actually burns things, especially banned books.
ANSWER: Fahrenheit 451
[10] This short story collection by the author of Fahrenheit 451 includes "There Will Come Soft Rains." In it, inhabitants of a certain planet become "Dark...and Golden-Eyed."
ANSWER: The Martian Chronicles
[10] This American science fiction author wrote Fahrenheit 451 and The Martian Chronicles.
ANSWER: Ray [Douglas] Bradbury
10. For the losing nation, this battle was a culmination of defeats including Beaumont and Metz. For 10 points each:
[10] Name this victory of General von Moltke and the Army of the Meuse against Marshal MacMahon.

## ANSWER: Battle of Sedan

[10] The battle of Sedan was the decisive battle of this 1870 war, named for its two combatants.
ANSWER: Franco-Prussian War [or Franco-German War]
[10] This man led the Second French Empire and was captured at the Battle of Sedan.
ANSWER: Napoleon III Bonaparte [or Louis-Napoleon; prompt on Napoleon or Bonaparte]
11. Before this event, the main opposition leader was poisoned with dioxin. For 10 points each:
[10] Name this colorfully named series of protests against the election of Viktor Yanukovych.
ANSWER: Orange Revolution [or Pomarancheva revolyutsiya; prompt on partial answer]
[10] The Orange Revolution centered on Kiev, the capital of this former Soviet Republic.
ANSWER: Ukraine [or Ukrayina]
[10] After the Orange Revolution, this man with prominent dioxin scars on his face served as president of Ukraine until 2010.
ANSWER: Viktor [Andriyovych] Yushchenko
12. One journey from this city ended at Yathrib. For 10 points each:
[10] Name this holiest city in Islam, the destination of the hajj pilgrimage.
ANSWER: Mecca
[10] This cube-shaped building in Mecca contains the Black Stone and is the primary destination of Muslim pilgrims.
ANSWER: Kaaba [or Sacred House; or Baytu I-Hiram]
[10] This is the Arabic term for the ritual counterclockwise circling of the Kaaba during a hajj.
ANSWER: tawaf
13. One work by this poet begins "Life in the world is but a big dream." For 10 points each:
[10] Name this 8th-century Tang Dynasty Chinese poet who was friends with poet Du Fu.

## ANSWER: Li Po [or Li Bai; or Li Bo; or Li Pai]

[10] One of Li Po’s most well-known works, which begins "A cup of wine, under the flowering trees," is titled Drinking Alone by this type of light.
ANSWER: moonlight
[10] This American poet, who introduced many of Li Po’s writings in his work Cathay, wrote The Cantos.
ANSWER: Ezra [Loomis] Pound
14. This country's Thar Desert is located in its largest state, Rajasthan. For 10 points each:
[10] Name this country, whose capital is New Delhi.
ANSWER: Republic of India
[10] This large northern state of India with capital Lucknow borders Rajasthan on the east. Varanasi is in this most populous state of India.
ANSWER: Uttar Pradesh
[10] This Himalayan kingdom is separated from Nepal by the Indian state of Sikkim.
ANSWER: [Kingdom of] Bhutan
15. On the front end, these programs perform lexical analysis to create tokens. For 10 points each:
[10] Name these programs that convert programming languages into machine code.

## ANSWER: compilers

[10] A just-in-time compiler is used in these programs that emulate hardware that is not physically present. Java's use of one of them inspired the slogan "write once, run anywhere."
ANSWER: [Java] virtual machine [or VM; or JVM]
[10] A cross-compiler allows the compiled program to be run on a different software platform of this type than the one on which the compiler runs. One example of these platforms is Windows.

## ANSWER: operating system [or OS]

16. This politician, who rose to prominence as a general during the Peninsular War, oversaw the passing the Catholic Relief Act of 1829. For 10 points each:
[10] Name this British Prime Minister under Kings George IV and William IV.
ANSWER: Arthur Wellesley, First Duke of Wellington [accept either underlined part]
[10] The Duke of Wellington ended Napoleon Bonaparte's reign in France by winning a battle named for this Belgian town.

## ANSWER: Waterloo

[10] The Duke of Wellington was elected Prime Minister as part of this party, which became the modern Conservative Party under Robert Peel.
ANSWER: Tory Party [or Tories]
17. This Spanish citizen lived in America and was a professor at Harvard. For 10 points each:
[10] Name this man who wrote the philosophical works The Sense of Beauty and The Life of Reason.
ANSWER: George Santayana [or Jorge Agustín Nicolás Ruiz de Santayana y Borrás]
[10] George Santayana is quoted as saying "those who cannot remember" this thing "are condemned to repeat it." ANSWER: "the past" [do not accept other answers]
[10] Santayana wrote a book titled for this belief "and animal faith." In ancient Greece, this belief originated with Pyrrho of Elis and traced its way through Sextus Empiricus.
ANSWER: skepticism [accept word forms like skeptic]
18. This author contributed an introduction to Rabindranath Tagore's Gitanjali. For 10 points each:
[10] Name this Irish poet of The Tower and "The Lake Isle of Innisfree."
ANSWER: William Butler Yeats
[10] This Yeats poem asks "what rough beast, its hour come round at last / Slouches towards Bethlehem to be born?" ANSWER: "The Second Coming"
[10] Yeats’s poem "Sailing to Byzantium" coined this phrase, which titles a Cormac McCarthy novel featuring the assassin Anton Chigurh.
ANSWER: "That is no country for old men"
19. Name some mythological bovine ladies, for 10 points each.
[10] This surly, "cow-eyed" Greek goddess frequently foils the best-laid adulterous plans of her husband, Zeus.
ANSWER: Hera [do not accept or prompt "Juno"]
[10] This young princess was stolen away to Crete when Zeus came to her in the form of a white bull. There, she gave birth to Minos, Rhadamanthes, and Sarpedon, all of whom became judges of the dead in Hades.

## ANSWER: Europa

[10] This nymph was transformed into a white heifer when Hera caught her in a liaison with Zeus. She was rescued from the hundred-eyed giant Argos by Hermes and eventually became an Egyptian goddess.
ANSWER: Io
20. This work depicts William Cullen Bryant and a friend standing on a rock in the Catskill Mountains. For 10 points each:
[10] Name this painting by Asher Brown Durand.
ANSWER: Kindred Spirits
[10] Durand was a member of this school of American art, which tried to depict their namesake region in a Romantic style.
ANSWER: Hudson River School
[10] This artist of the Hudson River School, who is standing with Bryant in the painting Kindred Spirits, painted The Ox-Bow and the Course of Empire series.
ANSWER: Thomas Cole
21. This man defended his own plays in the treatise The New Art of Writing Plays. For 10 points each:
[10] Name this Spanish "Phoenix of Wits" who wrote around 1,800 plays.
ANSWER: [Félix Arturo] Lope de Vega [y Carpio] [prompt on de Vega or Carpio]
[10] Along with Miguel de Cervantes, Lope de Vega wrote during this period of flourishing arts and literature in Spain under the Hapsburg Dynasty.
ANSWER: Spanish Golden Age [or Ciglo de Oro; or Golden Century]
[10] The anonymous Lazarillo de Tormes was the first work in this genre of literature, which told of lower-class rogues and adventurers drifting from place to place and living by their wits.
ANSWER: picaresque [or picaresca]

