

1. After being tasked by a teacher to "make a contemporary version of a historical work of art", Patrick Caulfield used cheap enamel paint and a black-and-white reproduction to recreate this painting. This painting was partially inspired by Victor Hugo's poem "Les tetes du Serail". A special exhibition of this painting on 4 rue Gros-Chenet was used for fundraising purposes. Three severed heads can be seen in the background of this painting, and a dead man's severed arm projects out from the ruined column on which the title figure stands. The title figure gestures open-handedly in front of a turbaned man holding a standard of a crescent in the background. Its artist painted a similar subject in his The Massacre at Chios. For 10 points, name this Delacroix painting representing the horrors of an Ottoman occupation.
ANSWER: Greece Expiring on the Ruins of Missolonghi [or Greece Still Standing above the Ruins of Missolonghi or Greece on the Ruins of Missolonghi or La Greee sur les nines de Missolonghi]

094-14-67-06101
2. During this king's reign, the country was scandalized by the murder of a Catholic boy named Marc-Antoine by his Protestant father Jean Calas. This king asserted his supremacy in the Séance de la Flagellation and arrested the Marquis de Caradeuc and six other members of the Rennes Parlement in Brittany. His trio of ministers, Maupeou, Abbe Terray and the duc d'Aiguillon advanced absolutism. This monarch assented to the Family Pact with Spain and Naples. He signed the Second Treaty of Versailles allying his nation with Austria following the Diplomatic Revolution. This king took power at age 5 after surviving a smallpox epidemic at the court, beginning the Régence period of Philippe d'Orleans. During his reign, the first volume of Diderot's Encyclopédie was published. For 10 points, name this lover of Madame de Pompadour.
ANSWER: Louis XV [or Louis the Well-Beloved]
094-14-67-06102
3. The roots of this man's namesake polynomial are useful for interpolation as they minimize the oscillation around the interval edges known as Runge's phenomenon. Those polynomials are also used in the Clenshaw-Curtis quadrature for numerical integration. The observation that there are more 3 modulo 4 prime numbers than 1 modulo 4 is a "bias" named for this man. This man names a type of filter with a steeper roll-off rate than a Butterworth filter. The probability of data being within k times sigma of the mean is less than one over $k$ squared according to this man. That statement can be proven by using Markov's inequality. For 10 points, name this Russian mathematician whose namesake inequality gives an upper bound on the number of data points at some distance from the mean.
ANSWER: Pafnuty Chebyshev
4. Laucamacces became the ruler of this kingdom after Mezetulus led a revolt. One ruler of this kingdom married a wife of his rival and then immediately poisoned her. This kingdom's capital was located at Cirta, and one of the Quintus Meltellus's earned a nickname from this province after defeating one of its kings at the Battle of the Muthul. That king of this kingdom was betrayed by Bocchus. Another ruler of this kingdom defeated his rival Cyphax at the Battle of the Great Plains of Bagbrabades and participated in the Battle of Zama. That ruler of this kingdom famously changed sides from the Carthaginians to the Romans in the Second Punic War. Another ruler of this kingdom earned Gaius Marius a triumph when he was captured and brought back to Rome following his namesake war. For ten points, name this kingdom in northern Africa that was united by Masinissa and was involved in a war with Rome under Jugurtha. ANSWER: Numidia
5. An hourglass-shaped island within this lake is home to the "bowling ball face" stone figures and was formed by the Concepción and Maderas volcanos. The Mombacho Volcano within this lake formed its Granada islets. Thomas Thorson's research in 1976 showed that a fish endemic to this lake is actually a common bull shark. Ometepe Island and the Solentiname archipelago are found within this lake, whose outflow is the San Juan River, which once made it a candidate for the centerpiece of a canal. Beyond Zapatera island in the northwest of this lake, the Tipitapa River connects it to Lake Managua. For 10 points, name this large lake in Central America.
ANSWER: Lake Nicaragua
019-14-67-06105
6. One character on this show calls for a "Teutonic shift" in attitude and encourages another to be a bigger asshole. Minor characters on this show include an Adderall addict nicknamed The Carver. Andy Daly plays an unhelpful doctor on this show who can't remember if a prior patient took a large cash offer or not. A graffiti artist on this show creates an image of a Native American fucking the Statue of Liberty before realizing he's mistaken a South Asian for a Latino. In another episode, Jared is accidentally shipped off the Arallon, an artificial city being built by Peter Gregory. A whiteboard session between Gilfoyle, Dinesh and Bachman on how to best jerk-off a group of conference participants prompts its protagonist to solve an issue with his compression algorithm. For 10 points, name this Mike Judge HBO show about the startup Pied Piper.
ANSWER: Silicon Valley
094-14-67-06106
7. This artist sold a painting of the American flag with a garbled version of the Pledge of Allegiance on it in December 2013, and followed up in January 2014 with a pop art style depiction of Angela Corey. In July 2014, Sam Porter denied hiring this man, whose presence behind a store called Pompano Pat's has become an issue in Bob Apgar's mayoral campaign. In November 2013, this man was charged with assault after brandishing a shotgun at Samantha Scheibe, his then-girlfriend. That was his fourth encounter with police in the previous three months, following two speeding tickets and a domestic violence call involving his estranged wife Shellie. This man was defended by Don West and Mark O'Mara, who are now pursing payment of legal bills, following his April 2012 arrest by Sanford, Florida police and a trial in which the "Stand Your Ground" law was not mentioned. For 10 points, name this self-appointed neighborhood watch captain who was charged with murdering Trayvon Martin.
ANSWER: George Zimmerman
8. This thinker wrote that assertive utterances are distinguished by an assertoric force. In the same essay, he claimed that the question of truth pertains only to thoughts, which belong to a third realm besides the realm of matter and ideas. This thinker argued that words only have meaning in the context of a proposition. He introduced the axiom that the value-ranges of two functions are identical if and only if for any object, they map it to the same value. This philosopher explained the difference between identity statements of the form $a=a$ and $a=b$ in "On Sense and Reference." He also showed that Hume's principle could be used to derive all five Peano axioms. Bertrand Russell showed that this philosopher's "Basic Law V" leads to Russell's Paradox. For 10 points, name this German logician who wrote Begriffsschrift and The Foundations of Arithmetic.
ANSWER: Friedrich Ludwig Gottlob Frege
9. Different interpretations in this book hinge on the definition of the Greek words kenoo and harpagmos, with the latter potentially meaning that Christ was equal with God but did not follow Adam in "snatching after" temptation. Both of those words appear in its Carmen Christi hymn. Its author compares his knowledge of Christ to "but dung" in an argument against the "confidence in the flesh" of the Judaizers. The author of this work pledges to send Epaphroditus to the title group of people so they can "honor men like him" and attacks brother Christians who are trying to make him jealous while he sits in jail. This epistle was written to a church first located in the house of Lydia and follows Ephesians. For 10 points, name this Pauline epistle to a church in the namesake Macedonian city.
ANSWER: The Letter of Paul to the Philippians [or Epistle to the Philippians]
094-14-67-06109
10. This value can be estimated for a given temperature and pressure by a DePriester chart. The temperature differential of the natural log of this quantity equals the enthalpy change divided by the ideal gas constant times temperature squared. This value, which is analogous to the stability constant for a metal-ion complex, was first derived by Goldberg and Waage in the law of mass action. The natural logarithm of this value is proportional to the standard change in Gibbs free energy by a factor of negative RT. Equal to the rate of the forward reaction divided by the rate of the reverse reaction, it is related to the temperature by the Van't Hoff equation. Comparing this value to the reaction quotient determines the direction of a reaction. For 10 points, name this constant which is calculated by raising concentrations to their stoichiometric equivalents under stable conditions.
ANSWER: equilibrium constant [accept K]
245-14-67-06110
11. In this novel, two characters find a cupboard full of whips in an empty section of a house. A character in this novel tells a rape-y story about breaking into a convent and promising to return for the novices. This novel sarcastically describes a fat, knife-wielding "man of honor" in a section in which a feud is resolved by the partition of an almond grove. A painting of The Death of the Just Man and a cart full of bull carcasses are contemplated by the protagonist after a ball. In this novel's last chapter, three old women are told that their religious relics are fakes, leading one to throw a taxidermied dog out the window. The title character allows the marriage of his nephew Tancredi to Angelica, the daughter of a social-climbing mayor. For 10 points, name this novel set during the Risorgimento and titled for Prince Fabrizio's coat of arms, a work of Giuseppe Tomasi di Lampedusa.
ANSWER: The Leopard [or Il Gattopardo]
12. This composer used an eighth-note moto perpetuo to represent a cuckoo in a piece in which the solo violin also imitates a quail, a nightingale, and marching musketeers. This composer used eight trumpets, timpani, and basso continuo in his Sonata "Sancti Polycarpi". This composer of Sonata violino solo representativa wrote a piece whose second movement has each instrument play different drinking songs in distinct keys. That piece divides the violones antiphonally and has them use snap pizzicato to simulate musket fire in its movement "Die Schlacht." This most likely composer of the Missa Salisburgensis used scordatura in all but the first and last of fifteen violin sonatas that conclude with a monumental passacaglia. For 10 points, name this Austrian Baroque composer of Battalia à 10 and the Mystery Sonatas. ANSWER: Heinrich Ignaz Franz Biber von Bibern
13. During this conflict, the largest recorded outbreak of anthrax among humans occurred because of one side's use of anthrax to poison cattle. During this conflict, one side supposedly told women to poison the winning side's food with thalium because the "war was already lost". In this conflict, Christian missionaries were killed in the Elim Mission massacre. An elite unit called the Selous Scouts operated in this conflict. A state led by Abel Muzorewa arose out of this war and Joseph Nkomo led one party during it. This conflict was ended with the Lancaster House Agreement and featured forces loyal to Ian Smith face off against forces led by the ZAPU and ZANU parties. For ten points, name this conflict that took place in the 1970s in the future Zimbabwe.
ANSWER: Rhodesian Bush War [accept Second Chimurenga; accept War of Zimbabwe Independence; accept War of Zimbabwe Liberation]

250-14-67-06113
14. In Kehr's sign, damage to this organ may cause referred shoulder pain secondary to diaphragmatic irritation. A Warren shunt is a cure for portal hypertension that connects the kidney to this organ. This is the most commonly injured organ in blunt trauma. One way to detect enlargement of this organ is to percuss at the lowest intercostal space at the anterior axillary line and get the patient to breathe in, a technique known as Castell's sign. Removing this organ puts one at risk of infection from encapsulated bacteria. The descending and transverse colons meet at a flexure named for this organ. This organ contains cords of Billroth in its "red pulp". For 10 points, name this organ rich in lymphocytes which serves to store and filter red blood cells.
ANSWER: spleen
245-14-67-06114
15. This poem describes "cloud-towers by ghostly masons wrought" as one of the things imagined by a painter who "cannot see the features right." In this poem, Nature cries "A thousand types are gone: / I care for nothing." The speaker of this poem stands in "the long unlovely street" in front of a "dark house." Other sections of this poem begin "To sleep I give my powers away" and "I wage not any feud with death." This poem, which coined phrases like "ring out the old, ring in the new" and "nature, red in tooth and claw," begins by addressing the "Strong son of God, immortal Love." For 10 points, name this poem that includes the lines "'Tis better to have loved and lost / Than never to have loved at all," an elegy for Arthur Henry Hallam by Tennyson.
ANSWER: In Memoriam A.H.H.
16. One of the first successful modern "pointe" ballets was this man's Feast of Ashes. This dancer choreographed the premiere of Samuel Barber's Antony and Cleopatra at the grand opening of Lincoln Center. He built on his training with Lester Horton to develop a style with "a ballet bottom" and "a modern top." For Judith Jamison, this dancer choreographed a work for a solo dancer in a white leotard and ruffed skirt called Cry, and he collaborated with Duke Ellington on works like The River. Eighteen dancers clad in yellow enact a church service with fans and stools in "Rocka My Soul in the Bosom of Abraham," a piece from the section "Move, Members, Move" of one of his works. For 10 points, name this founder of a widely touring "American Dance Theater," an African-American modern dancer who choreographed Revelations.
ANSWER: Alvin Ailey
17. This action gained national attention thanks to New York Times editor A. M. Rosenthal, although the Times later issued an apology for its poor coverage of it. The man who carried out this action later was hospitalized for jamming a tin can up his ass. Sophia Farrar was briefly with the victim during this crime. The perpetrator of this crime was caught five days later after being arrested for stealing a TV. The victim in this crime was in a relationship with Mary Ann Zielonko. This crime prompted the adoption of the 911 system. This action was perpetrated by a computer punch-card operator named Winston Moseley in 1964. For 10 points, name this action where a woman was spuriously not helped by 37 -or-so onlookers as she was killed, a canonical example of the bystander effect.
ANSWER: the murder of Kitty Genovese [or killing of Catherine Susan Genovese; accept equivalents for "murder" like "assault" or "rape"; I suppose also accept things like the reaction to the murder of Kitty Genovese]
18. In one book, this thinker developed eight criteria that can be used to determine a just distribution of resources across territories. This thinker analogized Georges-Eugène Haussmann's renovation to the global boom in urbanization to support Henri Lefebvre's call for "the right to the city." This author of Paris, Capital of Modernity argued that economic crises of the 1970s caused a transition from Fordism to a regime of "flexible accumulation." He also described the process through which the powerful dispossess the public of wealth and natural resources through privatization and financialization, which he termed "accumulation by dispossession." For 10 points, name this author of Social Justice and the City and The Condition of Postmodernity, a noted Marxist geographer.
ANSWER: David Harvey
19. In a first-person novel by this author, a woman expresses jealousy of Weidi and despairs over the "cheap, ordinary soul" of the handsome man Ling Jishi. Zhang Pin appears at the Moon Festival to sort out the ideological errors of lesser Communists in a novel by this author, who described peasants' association leader Cheng Ren, who is in love with the niece of land baron Qian Wengui, during the arrival of arrogant Communist agitator Wen Cai in that novel. This author was denounced by Mao Zedong for arguing against the practice of Communist leaders abandoning their pre-fame wives and spent several years at a prison farm during the Cultural Revolution. For 10 points, name this writer of Miss Sophia's Diary and The Sun Shines Over the Sanggan River, the major female author of twentieth-century China.
ANSWER: Ding Ling [or Jiang Bingzhi]
20. An attempt to classify the Founder's Scrolls in this novel results in every book in the library being assigned to its own category and then shredded. A character in this novel makes the Orwellian observation "passage is flunking" as part of its extended religious allegory. A character in this novel is unable to walk and instead hops on the back of a Frumentian football player named Croaker. The protagonist of this novel is executed for killing a former concentration camp commander who had actually committed suicide. Billy is found within WESCAC by Max Spielman in this novel, which uses New Tammany College to represent the U.S. For 10 points, name this novel which explains the Cold War via academic politics and discusses a youth raised with farm animals, written by John Barth.
ANSWER: Giles Goat-Boy
019-14-67-06120
21. Gorsky et. al published a weak-coupling Yang Mills model that contained a non-Abelian variety of this effect. One explanation for the incomplete form of this effect states that high critical fields of connected filaments caused by strains or lattice imperfections contribute to trapping and is called the Mendelssohn sponge. One explanation of this effect has a "number density times electron charge squared divided by quantity mass times speed of light" term as a constant of proportionality between the vector potential and current density. BCS Theory fails to explain the mixed-state variety of this effect, which occurs in Type II materials. This effect is described by the London equations. For 10 points, name this phenomenon in which a magnetic field is completely expelled from a superconductor, also named for Ochsenfeld.
ANSWER: Meissner-Ochsenfeld effect


1. Citizens in Renaissance Florence and Siena began their calendars on this holiday. For 10 points each: [10] Identify this holiday, usually held on March 25th. Maronites and other Eastern denominations celebrate this holiday as part of a season that also includes feasts honoring the birth of John the Baptist. ANSWER: The Feast of Annunciation of Mary [or Solemnity of the Annunciation of Christ] [10] This angel related the news to Mary that she would give birth to Jesus. In the Book of Enoch he brings Enoch to God, and he's also the angel who will blow a trumpet to announce the Last Judgment.

## ANSWER: Gabriel

[10] The date of the Annunciation, as well as that of Easter, was set by this Scythian monk who came up with the system of Anno Domini. His system was adopted in England by the Synod of Whitby.
ANSWER: Dionysius Exiguus [or Denis the Little]
094-14-67-06201
2. Identify the following about ships in Ancient Greece, for 10 points each.
[10] The name of these quick ships comes from the fact that they were powered by three levels of oarsmen, who generally tried to ram other ships with these ships' bronze rams.

## ANSWER: trireme

[10] Both the trireme and the bireme were improvements on this older Greek warship and merchant vessel. Its name comes from the fifty oarsmen who manned it from a single level.
ANSWER: pentecontor
[10] The Romans started using ships called liburians during these conflicts with the namesake Balkan pirates. The namesake people in these conflicts were the western neighbors of the Thracians, and Queen Teuta led them during the first of these wars.
ANSWER: Illyrian Wars

094-14-67-06202
3. In 2014, this country's parliament building was attacked by a rogue militia loyal to Khalifa Hiftar. For 10 points each:
[10] Name this country, where Christopher Stevens and Sean Smith were killed in September 2012. ANSWER: Libya
[10] A recurring source of turmoil in 2014 Libyan politics is rebel groups performing this economically crippling action, especially at Zueitina and Hariga.
ANSWER: blockading the export of oil [or equivalents, prompt on answers that don't mention oil] [10] 13,000 Filipino citizens were urged to evacuate Libya in July 2013 following the murder of a construction worker and the sexual assault of a guest worker in this profession. In 2000, five Bulgarians with this profession were put on trial in Libya after being accused of heading a bizarre conspiracy by the Gaddafi government.
ANSWER: nurses
4. This series concludes in 1968, where the Charles Manson analogue Murtlock recruits several descendants of the central family to his cult. For 10 points each:
[10] Name this novel cycle which follows the families of Kenneth Widmerpool and Nicholas Jenkins, beginning in 1921 with A Question of Upbringing.
ANSWER: A Dance to the Music of Time
[10] Another British novel series is Lawrence Durrell's "Quartet" set in this cosmopolitan city, where Constantine Cafauvy also lived.
ANSWER: Alexandria
[10] This other British novel series is about a character who saves the life of Second Lieutenant Aranjuez and refuses to let O Nine Morgan leave the army because he knows his wife is cheating on him with a murderous boxer.
ANSWER: Parade's End
5. One class of these wrongs is civil negligence, which involves a breach to the duty of care owed by one party to another. For 10 points each:
[10] Name these kinds of civil wrongs, usually not involving contracts, in which one party incurs a legal liability by causing harm to another party.
ANSWER: torts
[10] In this tort case heard by the New York Court of Appeals, Benjamin Cardozo denied that the misconduct of railroad workers was proximate cause for a set of scales falling on top of the plaintiff because they could not have foreseen that she might be injured.
ANSWER: Palsgraf v. The Long Island Railroad Company
[10] This influential judge of the U.S. Court of Appeals, Second Circuit created a formula for determining duty of care in U.S. v. Carroll Towing Co. His essays were collected in The Spirit of Liberty.
ANSWER: Billings Learned Hand
6. Answer some questions about phonons, for 10 points each:
[10] Phonons are only able to affect thermal conductivity when they undergo an "umklapp process", in which interaction with the center-of-mass of a crystal ensures this value for the system is not conserved. ANSWER: total momentum [or linear momentum; do not accept "angular momentum"] [10] In multi-atom solids such as sodium chloride, phonons are present in one of two forms. This is the name given to the branch in which the two atoms in the cell are moving in opposite directions.
ANSWER: optical branch [or optical form]
[10] In BCS theory, long-range phonon-electron interactions cause a distortion that allows for the formation of these things, the coupling of bound electrons.
ANSWER: Cooper pairs
7. The Bucherer-Burgs reaction proceeds through a hydantoin intermediate before arriving at the same product as this reaction, for 10 points each:
[10] Name this reaction in which an aldehyde or ketone reacts with potassium cyanide to form an alpha-amino nitrile through an imine intermediate. Its final product can be generated by hydrolysis.
ANSWER: Strecker synthesis [accept answers that include the answer to the next question below as long as they have Strecker]
[10] The Strecker synthesis produces these compounds in a racemic mixture. Examples of these compounds include isoleucine and arginine.
ANSWER: amino acids
[10] Treating the product of this reaction with excess ammonia can also form an amino acid. This reaction uses phosphorus tribromide to alpha-halogenate a carboxylic acid.
ANSWER: Hell-Volhard-Zelinski reaction [or HVZ]

245-14-67-06207
8. His most famous contribution to evolutionary biology posits that the majority of genetic changes at the molecular level have no overall effect. For 10 points each:
[10] Name this Japanese biologist who devised the "neutral theory" of molecular evolution.
ANSWER: Motoo Kimura [or Kimura Motoo]
[10] Kimura also improved upon the Jukes-Cantor substitution model by accounting for the lower probability of these events. These events involve the mutation of a pyrimidine to a purine, or vice versa. ANSWER: transversions
[10] A consequence of Kimura's "neutral theory" is that the majority of evolutionary changes happen via this process, the random variation of allele frequencies in a population.
ANSWER: genetic drift
245-14-67-06208
9. One essay says that this movement "reveals that violence is normal behavior for the suffering." For 10 points each:
[10] Name this film movement discussed in the essay "The Aesthetics of Hunger." This movement was led by directors like Carlos Diegues and Glauber Rocha.
ANSWER: Cinema Nova [accept New Cinema]
[10] The Cinema Novo took place in this country, which was the setting for Marcel Camus's Black
Orpheus. Some Cinema Novo films showed somewhat realistic depictions of this country's poor in cities like Rio de Janeiro.
ANSWER: Federative Republic of Brazil [or República Federativa do Brasil]
[10] In the end of Glauber Rocha's seminal film Black God, White Devil, the two main characters run toward this type of place which is shown in the last few shots. Antoine Doinel runs to this type of place at the end of The 400 Blows.
ANSWER: body of water [accept beach; accept specific kinds of bodies of water like ocean or lake]
10. This novel begins with Rocky's death in the Philippines during World War II, and the protagonist's inability to shoot enemy soliders who resembled his uncle Josiah. For 10 points each:
[10] Name this novel which ends with Tayo discovering the use of a New Mexico uranium mine to buid the atomic bomb.
ANSWER: Ceremony
[10] Ceremony is a novel by this American Indian author of Laguna Woman and Storyteller.
ANSWER: Leslie Marmon Silko
[10] This other Indian author discussed his journey through the U.S. on the roads marked as secondary in the atlas in Blue Highways. He also wrote River Horse and Roas to Quoz.
ANSWER: William Least Heat-Moon
019-14-67-06210
11. One work in this language comprises 1330 couplets divided into three sections about paals about virtue, wealth, and love. For 10 points each:
[10] Name this language of the Thirukkural. Ilango Adigal wrote about Kovalan's wrongful execution due to accusations he stole the queen's anklet, and his wife Kannagi's quest for revenge, in one of this language's five epics, the Silappatikaram.

## ANSWER: Tamil

[10] Another medieval Indian poet was this Sanskrit writer. He described a yaksha's attempt to convey a message to his wife in The Cloud Messenger and also wrote The Recognition of Sakuntala.
ANSWER: Kalidasa
[10] Dushyanta gives Sakuntala one of these objects so that she can later take her rightful place as queen, but she loses it in the river.
ANSWER: a signet ring
12. This woman once organized a march of around 500 juvenile textile workers to the summer home of Teddy Roosevelt to protest child labor which was dubbed the Children's Crusade. For 10 points each: [10] Identify this "Angel of the Miners" who lends her name to a progressive magazine that leaked Mitt Romney's 47\% Speech.
ANSWER: Mother Jones [or Mary Harris Jones]
[10] Although she didn't have the money to pay up, Mother Jones was fined $\$ 350,000$ in a libel suit from the publisher of the largest newspaper in this city. Over 20 people died in a 1905 Teamsters strike in this city in support of workers at Montgomery Ward.
ANSWER: Chicago
[10] Mother Jones' last public appearance was speaking at the 1924 convention of this political party, where it endorsed Robert La Follettte for president. It's not the Progressives, but this Minnesota-based party got Floyd B. Olson elected as governor three times before merging with the Democrats.
ANSWER: Minnesota Farmer-Labor Party [or Democratic-Farmer-Labor Party]
13. Mexicans sure have made a lot of plans that have failed. Name some stuff about them. For 10 points each:
[10] This plan was proposed after Juarez's Reform Laws due to a Catholic backlash. Feliz Zuolaga authored this plan and Ignaico Comonfort was un-excommunicated after signing this plan.
ANSWER: Plan of Tacubaya [accept Tacubaya Plan]
[10] The Plan of Ayutla targeted this dude whose fake leg was supposedly used as a bat by Abner
Doubleday. He also signed the Treaties of Velasco with the Republic of Texas.
ANSWER: Antonio Lopez de Santa Anna [accept Santa Anna]
[10] This President of Mexico was overthrown after the Plan of Tuxtepec This man's troops lost the Battle of Tecoac after which he was exiled.
ANSWER: Sebastian Lerdo de Tejada

250-14-67-06213
14. Identify these tools used by data scientists, for 10 points each.
[10] This programming language developed by Kiwi statisticians Ross Ihaka and Robert Gentleman is a variation on a similarly named language created by John Chambers. Tables in this language can be stored in data frames, and there are lots of great packages available at CRAN.
ANSWER: $\underline{\mathbf{R}}$
[10] You might use one of R's built-in functions to display this kind of graph and see the shape of your distribution. These graphs break the data into bins, with vertical bars representing frequency of that bin. For instance, a graph of this kind representing bonus conversion at this tournament might have a bin for 10-12 PPB with 6 teams in that bin.

## ANSWER: histograms

[10] Weka, a popular machine learning tool, allows you to easily run this unsupervised clustering algorithm which keeps running and assigning its namesakes to the centroids of the clusters until none of the clusters change. The Forgy method picks random observations to pass as inputs to this algorithm.
ANSWER: k-means clustering [or Lloyd's algorithm]
15. One of these things pertaining to eating prevented different sexes from dining together and was eliminated by a monarch who took power in 1819 . For 10 points each:
[10] Identify these restrictions which helped protect the manna of a person or place. Violating one of these things was sometimes punishable by death.
ANSWER: kapus [or kapu system]
[10] The kapu system was used in these islands, until the kapus were mostly abolished by King
Kamehameha II.
ANSWER: Hawaii [or Hawaiian islands]
[10] These high priests ranked below the ali'i mo'i and ali'i nui on a Hawaiian island and were tasked with memorizing and passing on chants called oli. They also made offerings to the akua.
ANSWER: kahunas
16. Despite the Nazi ban on Jewish writers, Richard Strauss fought to keep this man's credit for writing the libretto for his opera The Silent Woman. For 10 points each:
[10] Identify this author of an extremely popular biography of Erasmus. In a novella by this author, Dr. B steals a book on chess moves and becomes so adept at the game that he can split his personality into white and black and defeats the champion Czentovic on a cruise liner.
ANSWER: Stefan Zweig
[10] This other German-language author complained that Zweig "should never have granted the Nazis this triumph" by committing suicide. He wrote short stories like "Little Lizzy" and "The Clown" in addition to a novel about sanatorium resident Hans Castorp.
ANSWER: Thomas Mann
[10] Zweig's The Royal Game is sometimes published with this other novella, whose title condition is described as "a sort of human rabies, an attack of murderous, pointless monomania". In this novella, a doctor from Leipzig refuses to perform an abortion on the woman he loves, so she tries to get it done by a local healer, but dies during the operation.
ANSWER: Amok
17. In his Persecution and the Art of Writing, this philosopher claimed that Maimonides was an esoteric writer who recast the role of prophecy in political, rather than epistemological, terms. For 10 points each: [10] Name this philosopher who critiqued his supervisor, Julius Guttmann, in another work on Maimonides, Philosophy and Law.
ANSWER: Leo Strauss
[10] Strauss compared God's creation in the Bible to Hesiod's Theogony in an lecture titled for these two places. They were the subject of a question posed by Tertullian about the relation between reason and revelation.
ANSWER: Jerusalem and Athens [accept either order]
[10] In a work titled for this philosopher's "critique of religion," Strauss compares John Calvin, who favors revelation, with this Jewish rationalist, who rejected the divine origin of the Torah in his Tractatus Theologico-Politicus.
ANSWER: Baruch Spinoza [or Benedict de Spinoza; or Benedictus de Spinoza; or Benedito de Espinosa; or Bento de Espinosa]
18. This character buys dozens of copies of the Newark Star Ledger after his name appears in the it. For 10 points each:
[10] Name this character who constantly feuds with Paulie and is the long-time fiancé of Adriana La Cerva.
ANSWER: Christopher Moltisanti [accept Christopher Moltisanti; accept Chrissy Moltisanti]
[10] Christopher Moltisanti is the cousin of this guy who, after overthrowing his Uncle Junior, runs the DiMeo crime family in northern New Jersey. This guy was the main character on a show on HBO created by David Chase.
ANSWER: Tony Soprano [accept Anthony Soprano; accept Anthony Soprano]
[10] While in deep gambling debt, J.T. Dolan, a friend of Chris's, attempts to sell this item, but the pawn shop will only give him $\$ 15$ for it. J.T. would eventually help write Chris's film The Cleaver.
ANSWER: Emmy Award
19. During this city's Golden Age in the early 14th century, it was ruled by a rotating group of aristocrats known as the Nine. For 10 points each:
[10] Identify this Italian city state whose armies won the Battle of Montaperti. A tyrant of this city named Pandolfo Pertrucci ordered the assassination of Niccolò Borghese in 1500.
ANSWER: Siena
[10] From 1399 until 1404, Siena was ruled by Gian Galeazzo Visconti, the duke of this other city. It was later ruled by Francesco Sforza.
ANSWER: Milan [or Milano]
[10] Siena was home to Saint Bernadino, who went on an 80-day preaching marathon after this pope witnessed Bernadino successfully defend himself from heresy charges. This pope had trouble with Braccio da Montone until the 1424 Battle of Aquila and convened the Council of Pavia-Siena.
ANSWER: Martin V [or Oddone Colonna or Oddo Colonna]
20. Three men examine this sculpture by candlelight in a 1765 painting by Joseph Wright of Derby. For 10 points each:
[10] Identify this classical sculpture famous for the movement of the figure's torso. A stump in this sculpture contains a signature by Agasias of Ephesus, and the remnant of a shield strap on the figure's left arm led scholars to conclude that its traditional title is inaccurate.
ANSWER: The Borghese Gladiator [or Borghese Warrior]
[10] Joseph Wright of Derby is perhaps best known for his painting of an experiment on one of these animals in an air pump. Rembrandt's Rape of Ganymede features a specific kind of this animal.
ANSWER: a bird [or an eagle]
[10] Wright caused a minor controversy by following up Three Persons Viewing the Gladiator with this similar canvas, where a group is enthralled by science rather than the classics. Two children in this painting crowd towards the metal orbs that represent planets.
ANSWER: A Philosopher Lecturing on the Orrery [or The Orrery or A Philosopher giving a Lecture on the Orrery in which a lamp is put in place of the Sun or A Philosopher giving that Lecture on the Orrery in which a lamp is put in place of the Sun]
21. This composer's works include an opera about the painter of the Isenheim Altarpiece and a piece whose second movement uses material from another composer's Turandot. For 10 points each:
[10] Name that German composer who wrote Mathis der Maler and Symphonic Metamorphoses of Themes by Carl Maria von Weber.

## ANSWER: Paul Hindemith

[10] Hindemith premiered William Walton's concerto for this instrument, for which he wrote seven sonatas and the concerto Der Schwanendreher. Niccolò Paganini commissioned a Hector Berlioz work with an obbligato for it.
ANSWER: viola
[10] Hindemith is closely associated with this label which designates music written for a social purpose, and translates to "utility music." It was coined by Paul Nettl and championed by Heinrich Besseler.
ANSWER: Gebrauchsmusik

