

Bulldog High School Academic Tournament XXII (2013): *Praxis*? We Talkin' Bout *Praxis*, Man
By Yale Student Academic Competitions
Edited by Matt Jackson and Ashvin Srivatsa, with Kevin Koai and Spencer Weinreich
Special Thanks to John Lawrence and Mike Cheyne

Round Eleven Tossups

1. This composer wrote an aria in which the singer reminisces, “Once I thought I'd never grow tall as this fence,” the day before her graduation. He wrote an opera about Martin and the farm girl Laurie, *The Tender Land*, and used the folk song “El Palo Verde” as a refrain in another work. The final movement of one of his pieces is based on the folk tune “Bonaparte's Retreat;” that work also includes a “Corral Nocturne” movement. He wrote *El Salón México*, as well as a ballet that features variations on the Shaker tune “Simple Gifts.” Another of his works closes with a “Hoe-Down.” For 10 points, name this American composer of *Rodeo*, who collaborated with Martha Graham on *Appalachian Spring*.

ANSWER: Aaron Copland <KK>

2. Fibroblasts that are transfected with Oct4 and Sox2 can be turned into this type of cell. This type of cell gives rise to teratomas, which are particularly frequent in the gonads. Bone marrow transplantation is effective against leukemia because marrow contains hematopoietic cells of this type, which can give rise to common myeloid progenitors. The morula consists exclusively of the totipotent type of these cells. Prior to 2006, embryos were the only human source of pluripotent ones, and thus were a subject of controversy. For 10 points, name these cells that can reproduce themselves and differentiate to form other types of cells.

ANSWER: stem cells [accept any more specific answer like pluripotent stem cells] <AS>

3. This owner of Paul Jennings was in office when his countrymen destroyed the ship *Guerriere*. He retained his predecessor's active Treasury secretary Albert Gallatin, and argued in one writing that “extend[ing] the sphere” of a country's size protects liberty from harmful “factions.” This man was spared a writ of mandamus from the Supreme Court after he, as Secretary of State, refused to honor the last-minute judicial appointment of William Marbury. The battle of Lake Erie occurred during this man's second term. For 10 points, name this only Federalist Paper writer to become President, who dealt with the burning of DC during the war of 1812.

ANSWER: James Madison, Jr. [prompt “Publius”] <MJ>

4. This ruler sent his son and daughter as envoys to King Tissa. On a victorious campaign, this ruler's men turned the Daya river red with blood. His kingdom began breaking apart under his successor Dasaratha. This man mentioned an effort to convert Antiochus II and called himself “Beloved of the Gods” in royal messages. His men sculpted four outward-facing lions on a column at Sarnath. He wrote how his bloody conquest of Kalinga province led him to renounce violence in the rock and pillar edicts he set up across his empire. For 10 points, name this Buddhist convert and grandson of Chandragupta, a Mauryan king of India.

ANSWER: Ashoka [or Asoka; or Ashok] <MJ>

5. This deity turned a woman who claimed she could run as fast as him, Arge, into a doe, and did not return the love of the Oceanid Clytie. This god helped Heracles get to Erytheia by lending him a golden cup-boat, and he restored Orion's sight. On the isle of Thrinacia, this god's sacred herd of cattle was eaten by Odysseus's men, causing their destruction. This god dwelt in a golden palace in the eastern ocean, where he greeted his son Phaethon; he then let Phaethon accidentally set the earth ablaze with this god's chariot. For 10 points, name this god often conflated with Apollo, the Greek god of the sun.

ANSWER: Helios [or Helius] <AT>

6. These objects are picked up near *jamarat* during a Muslim ritual. They're not lights, but Joseph Smith used two of them named Urim and Thummim to become a seer and translate the Book of Mormon. Jacob blessed one with the name "Beth-El", meaning House of God. Muslims make these objects collide with walls representing the Devil during the hajj, and a black one from heaven is at the most sacred corner of the Ka'aba. Jesus asked "he who is without sin" to cast the first one. For 10 points, name these objects whose larger examples were arranged by Neolithic British pagans into a namesake circular "henge."

ANSWER: stones [or rocks; or pebbles; or boulders] <MJ>

7. A Catholic boy from this city chooses alcoholism and promiscuity over his love for Lucy Scanlan in James T. Farrell's *Studs Lonigan* trilogy. A gangster who smashes Charlie Citrine's car for unpaid poker debts, Roland Cantabile, hails from this city in *Humboldt's Gift*. A man from here who accompanies Thea Fenchel to Mexico, calls this city "somber," and works for Einhorn, is Saul Bellow's Augie March. Ona's rape by a Packingtown foreman in this city inspires Jurgis Rudkus, a Lithuanian immigrant, to go socialist. For 10 points, name this subject of a Carl Sandburg poem, an American city whose meatpacking industry was chronicled in Upton Sinclair's *The Jungle*.

ANSWER: Chicago <GL>

8. In this body of water surrounding Bulla Island, Alfred Nobel's brothers launched a ship called the *Zoroaster*. This home of the kutum fish was the center of the original habitat of the zebra mussel. The landfill-expanded city of Oil Rocks is on oil platforms in this body of water, into which the Absheron Peninsula juts. A delta that ends here contains Astrakhan, and the largest city on this salt lake's shores is Baku. A Stalin-era project to bring its shore fresh water was begun in Turkmenistan, across this body of water from Azerbaijan. The Ural and Volga Rivers feed this lake. For 10 points, name this inland sea between Iran and Russia.

ANSWER: Caspian Sea [or Kaspiyskoye More; or Kaspiy Tenyizi; or Hazar Deñizi ("DENG-izi"); or Kaspi Dengizi; or Khazar Danizi; or Darya-i Khazar; or Darya-i Kaspvan; or Darya-i Mazandaran] <JW>

9. Edmund Gettier credited this author with the "justified true belief" theory of knowledge. In one of this thinker's writings, the lengths of a sides of a square are related to the square's area by a slave, showing that all knowledge is recollection. He also had a character relate how humans once had two heads, before the gods split them apart to make them long for their other half. This author of *Meno* wrote a multi-person drunken discourse on the nature of love, and advanced his theory of Forms with the allegory of the cave in a discussion of the ideal society. For 10 points, name this Greek author whose philosophical dialogues, including the *Symposium* and *Republic*, feature his master Socrates.

ANSWER: Plato [or Platon; or Aristocles] <DS>

10. In one part of this work, Lisabetta plants her lover's head in a pot of basil, and in another section, a young hermit loses her virginity to a monk who convinces her that intercourse is the only way to send the Devil to Hell. King Solomon instructs another character in this work to go to the Bridge of Geese, where he learns to beat his wife to make her obey him. In this collection, Dioneo tells a story in which the Marquis of Saluzzo tests the patience of his peasant wife Griselda. Other stories are narrated by Panfilo and Fiametta in a country villa. For 10 points, name this collection of stories told by young people fleeing the plague, a hundred-part work of Giovanni Boccaccio.

ANSWER: *The* Decameron [or *Il* Decameron] <GL>

11. One meeting in this city ratified British possession of Cyprus and, under the influence of Count Andrassy, reduced the size of the Principality of Bulgaria. That congress amended an agreement which ended the Russo-Turkish War, the Treaty of San Stefano. Lucius D. Clay conducted "Operation Vittles" in this city, where Peter Fechter later died in a "death strip." A meeting in this city confirmed King Leopold II's exclusive ownership of the Congo Free State and set off a "scramble for Africa" during Wilhelm I's reign. For 10 points, identify this city whose halves were separated until 1989 by a namesake wall, the capital of Germany.

ANSWER: **Berlin** <GL>

12. These things can produce rocks with highly vesiculated texture, as well as a certain glass that can be dated by observing its degree of hydration. Some large-scale versions of these things in Siberia are implicated in the Great Dying. A bomb is a large piece of tephra, a type of pyroclast that is emitted from these things. When they collapse, they form calderas. The appearance of these things away from plate boundaries is attributed to hot spots. Extrusive rocks are formed at these places. Some examples of those are a lighter-than-water rock, pumice, as well as obsidian. For 10 points, name these ruptures in the crust that allow magma to flow out and become lava.

ANSWER: **volcanoes** [generously accept **flood basalts** or **trap basalt[s]**] <AS>

13. This operatic character fakes a foot injury in order to convince another character that he recently jumped out of a window. This character mocks an “amorous butterfly” in the aria “Non più andrai,” which he sings after Cherubino is enlisted in the army. In another opera, this character sings the aria “Largo al factotum,” in which he describes his “razors and combs” and repeatedly sings his own name. In that opera he assists in the wooing of Rosina by Count Almaviva. For 10 points, name this creation of Pierre de Beaumarchais, the title character of Rossini's *The Barber of Seville* and an opera by Mozart about his “Marriage.”

ANSWER: **Figaro** <KK>

14. This man showed a chef carrying a large cut of beef while a fat friar looks on in *Gate of Calais*. He depicted a young woman stretching, while a dog pulls a woman's nightcap out of her slumping husband's pocket, in *The tête-a-tête*. One of his paintings shows lamp oil spilling as a man in a sedan chair as is saved from arrest by his fiancé Sarah Young. In later paintings, he showed that man in debtor's prison and the Bedlam insane asylum. This artist of the *Marriage-a-la-Mode* series made eight paintings of Tom Rakewell. For 10 points, identify this 18th century British artist who satirized society in his *A Rake's Progress*.

ANSWER: William **Hogarth** <BS>

15. This non-Swede was adored by the Swedish Axel von Fersen, and was criticized for building a peasant village near the Petit Trianon. The prostitute Nicole Lequay d'Oliva obtained favors from the Cardinal de Rohan by masquerading as this woman, who was apprehended trying to escape at Varennes. Her reputation was harmed by Elizabeth Vigée-Lebrun paintings and by the Affair of the Diamond Necklace. This Habsburg gained the pejorative nickname “Madame Deficit” after being blamed for ruining France's finances. For 10 points, name this wife of Louis XVI, a queen who was guillotined during the Reign of Terror.

ANSWER: **Marie Antoinette** [or **Maria Antonia** Josepha Johanna] <GL>

16. In the musical *Hair*, Frank Mills's friend resembles this musician. This man's wife inspired a song based on the guitar lick A-C-D-F-D-C-D; that song, containing the words “What do you do when you get lonely?” is “Layla” by Eric Clapton. A *Concert for this man* a year after his 2001 death included covers of his songs “All Things Must Pass” and “Taxman.” This pupil of Ravi Shankar also wrote the music for “Something,” “While My Guitar Gently Weeps,” and “Here Comes the Sun.” For 10 points, name this lead guitarist who joined Ringo Starr, John Lennon, and Paul McCartney in The Beatles.

ANSWER: George **Harrison** <MJ>

17. This character forgets to play a piano duet with Lady Agatha; according to some rumors, his grandfather, Lord Kelso, killed the husband of his beautiful mother, Margaret Devereux. He attends a party at Lady Narborough's house after disposing of a body with the help of Alan Campbell. Although he seduces Lady Gwendolyn, the sister of a man who gave him a “yellow book,” he falls in love with an actress who he sees playing Juliet. James Vane tries to kill this character to avenge his sister Sibyl Vane's suicide. This man dies after stabbing Basil Hallward's corrupted portrait. For 10 points, name this title character who doesn't age in Oscar Wilde's only novel.

ANSWER: Dorian Gray [accept either underlined name] <GL>

18. This quantity is the only physically-meaningful axis of a Feynman diagram. Detailed balance describes conditions under which systems are reversible in this variable. All physical laws are believed to be invariant under charge conjugation, parity inversion, and reversal of this variable. Loosely speaking, virtual particles are permitted by the form of the Heisenberg uncertainty principle that relates energy to this quantity. Hyperfine transitions in cesium are used to define the SI unit for this quantity, which undergoes dilation at relativistic speeds. The change in position per unit change in this is velocity. For 10 points, name this dimension which is not space.

ANSWER: time <AS>

19. On a certain type of thermodynamic diagram, lines along which this quantity is constant are given by an expression in which one quantity is raised to the ratio of specific heats; those lines are called adiabats. The difference between the Gibbs free energy and the enthalpy is equal to this quantity times temperature, to which it is conjugate. This quantity can be measured in units of Boltzmann's constant, which is the proportionality factor relating it to the logarithm of the number of available microstates. This quantity is non-decreasing, according to the second law of thermodynamics. For 10 points, name this quantity that is a measure of disorder.

ANSWER: entropy [prompt on "S"] <AS>

20. This author's characters include a railroad engineer from Richmond named Cyrus Smith, who helps rescue Ayrton, and a princess who gets saved from a fire named Aouda. He also wrote of an anti-nationalist who renounced the name Prince Dakkar, as told in this man's quasi-sequel *The Mysterious Island*. This man wrote about the hunter Ned Land and the kidnapped professor Arronax in a book that opens with reports of narwhal attacks, and in another of his books, the magic of time zones saves Phileas Fogg's wager. For 10 points, name this proto-science-fiction author of *Twenty Thousand Leagues Under the Sea* and *Around the World In Eighty Days*.

ANSWER: Jules Gabriel Verne <AT>

[STOP HERE]

[You have reached the end of the round. Do not continue reading unless the game is tied or a tossup was thrown out earlier in the round.]

21. In one play by this author, a god in disguise says "Abraxas, galla galla tsay tsay" to dispel creatures surrounding a horrifying statue of himself. This 20th-century author wrote about the Marxist agent Hugo's assassination attempt on Hoederer in *Dirty Hands*, and reworked classics in a play where Zeus refuses to intervene in Aegisthus's murder and the title creatures grow into Furies that plague Orestes. This author of *The Flies* also depicted a Second Empire-style room where Estelle, Inez, and Garcin realize that they will spend eternity together, since "Hell is - other people!". For 10 points, name this French thinker whose play *No Exit* illustrates his existentialist philosophy.

ANSWER: Jean-Paul Sartre <DS>

Bonuses

1. Answer some questions about a magazine which *The Washington Post* sold for a dollar, for 10 points each.

[10] This magazine, which first investigated the Lewinsky scandal, merged with *The Daily Beast* under Editor-in-chief Tina Brown. After almost eighty years, it published its final print issue in December.

ANSWER: Newsweek magazine [prompt on “*Newsweek Global*”; prompt on “*Newsweek International*”]

[10] This longtime rival of *Newsweek*, founded by Henry Luce, features covers with an iconic red border and capitalized title. This magazine, once co-published with *Life*, named Barack Obama its 2012 “Person of the Year.”

ANSWER: TIME Magazine

[10] This columnist for *Newsweek* and *TIME* was put on suspension by *TIME* in August 2012, following accusations of plagiarism from *The New Yorker*. “GPS” follows his name in the title of a CNN show he hosts.

ANSWER: Fareed Rafiq Zakaria <JW>

2. This man converts from the worship of an idol named Benamuckee to Christianity. For 10 points each:

[10] Name this dark-skinned Carib native who becomes a servant after being saved from a cannibalistic death.

ANSWER: Man Friday

[10] This castaway and title character of a Daniel Defoe novel spends years alone on a desert island before saving and employing Friday.

ANSWER: Robinson Crusoe [accept either underlined name]

[10] This other Defoe title character is born in Newgate prison. She travels to America, cons a bunch of people, and marries five husbands, including an unwitting marriage to her brother, before ending up in Newgate herself.

ANSWER: Moll Flanders [accept either underlined name] <AT>

3. This quantity measures the fraction of light that passes through an absorbing medium. For 10 points each:

[10] Name this quantity which, along with reflectivity, determines the behavior of light waves encountering a barrier. Beer’s law describes how this quantity depends on the absorptivity of a sample.

ANSWER: transmissivity [or transmission (coefficient); or transmittance]

[10] Applying this function to the absorbance yields the transmissivity times a constant. One can also apply this function to the concentration of hydrogen ions and multiply by negative one to compute the pH.

ANSWER: logarithm [or natural logarithm; or ln; or base-ten logarithm; or any other kind of logarithm]

[10] If your sample is aqueous, you won’t find any hydrogen ions in it. Instead, you will probably find this ion, which is a complex of water and a hydrogen ion. It is the strongest acid that can exist in aqueous solution.

ANSWER: hydronium cation [or H3O+] <JG/AS>

4. This battle was fought on Senlac Hill. For 10 points each:

[10] Name this battle preceded by a landing at Pevensey. The Bayeux tapestry depicts this battle, a 1066 victory for William the Conqueror which secured the Norman conquest of England.

ANSWER: Battle of Hastings

[10] This king, the successor to Edward the Confessor, won the Battle of Stamford Bridge before losing to William the Conqueror at Hastings.

ANSWER: Harold Godwinson [or Harold II; or Harold Godwineson; prompt partial answers]

[10] The Bayeux tapestry supports the tradition that Harold Godwinson died due to this specific cause at Hastings, though his real method of death is unknown.

ANSWER: he was shot by an arrow in his eye [or shot in the eye; prompt “shot,” “arrow’d,” “eye wound,” “arrow to the head,” “BOOM! HEADSHOT,” or other partial answers] <JW>

5. Kepler's law of equal areas is a special case of the conservation of this quantity. For 10 points each:

[10] Name this quantity that is also responsible for gyroscopes staying upright while they are spinning.

ANSWER: **angular momentum** [do not prompt on or accept "momentum"]

[10] To compute the angular momentum, one must apply this anticommutative operation to the position vector and the linear momentum vector. Applying this operation to two vectors yields a vector.

ANSWER: **cross product** [or **vector product**]

[10] For any vector v , this second-derivative operator acting on v is equal to "grad div v minus curl curl v ".

Geometrically speaking, this operator measures how much a vector deviates from its surroundings.

ANSWER: vector **Laplacian** [or vector **Laplace** operator] <AS>

6. This man pshawed long-term economic predictions by saying "In the long run, we're all dead." For 10 points each:

[10] Name this British macroeconomist, whose *General Theory of Employment, Interest, and Money* advocates deficit stimulus spending during economic crisis.

ANSWER: John Maynard **Keynes**, 1st Baron Keynes [or Lord **Keynes**] ("CANES")

[10] In the Keynesian IS-LM model, outward shifts in the LM curve represent increases in this quantity, which the M in IS-LM stands for. Milton Friedman claimed that increases in this quantity resulted in inflation.

ANSWER: **money supply** [or **money stock**; prompt "money"]

[10] Keynes theorized this condition, where increases in the money supply do not result in interest rate changes and banks don't lend the new money. Paul Krugman claimed that Japan suffered this condition in the 1990s.

ANSWER: **liquidity trap** <IP>

7. This play features the hymn "Blessed Be the Tie That Binds" as a refrain, and its final act takes place in a cemetery as the ghosts of older citizens like Mrs. Soames welcome the newly-dead ghost of Emily. For 10 points each:

[10] Name this play set in Grover's Corners, by Thornton Wilder.

ANSWER: **Our Town**

[10] When Emily asks, "Do any human beings ever realize life while they live it?" this character replies that maybe saints and poets do. He comments on the action onstage and serves as the minister at George and Emily's wedding.

ANSWER: the **Stage Manager**

[10] In this Thornton Wilder novel, Marquesa de Montemayor and the son of Camila Perichole are among five people who die when the title structure collapses, as Brother Juniper learns.

ANSWER: *The* **Bridge of San Luis Rey** <GL>

8. The rebellious Fahmy falls in love with Maryam in this novel. For 10 points each:

[10] Name this novel in which Yasin takes after the strict patriarch Ahmad, though Ahmad cheats on his wife Amina and his affairs are revealed at Aisha's wedding. This novel's al-Jawad family meets soldiers during World War I.

ANSWER: **Palace Walk** [or **Between the Two Palaces**; or **Bayn al-Qasrayn**]

[10] This author of the novel *Akhenaten* followed up *Palace Walk* with *Palace of Desire* and *Sugar Street* to complete his Cairo trilogy.

ANSWER: Naguib **Mahfouz**

[10] Mahfouz writes in the Modern Standard form of this official language of Egypt.

ANSWER: Modern Standard **Arabic** [or al-loghat al-'**Arabiyyah**] <JW>

9. H.P. Lovecraft's Cthulhu may have been inspired by his short story about a water-drinking vampire-like creature from Brazil. For 10 points each:

[10] Identify this creator of the Horla, who also wrote about a Jewish prostitute named Rachel in "Mademoiselle Fifi." Many of his short stories, including "Ball of Fat," are set during the Franco-Prussian War.

ANSWER: Guy de Maupassant

[10] Madame Forestier lends the title item to Madame Loisel in this Maupassant short story. Madame Forestier later exclaims that the components of the title item were worth at most five hundred francs.

ANSWER: “The Diamond Necklace” [or “La Parure”]

[10] Like O. Henry’s “The Gift of the Magi,” the last line of “The Necklace” demonstrates this literary device, which forces a reevaluation of the story.

ANSWER: twist ending [or surprise ending; accept equivalents that refer to something unexpected at the close of the story; prompt on “plot twist;” prompt on “reveal”] <GL>

10. Answer these questions about the 1972 Olympics massacre, for 10 points each.

[10] This West German city in Bavaria was hosting when eleven Israeli athletes got kidnapped and killed. The Beer Hall Putsch and a namesake appeasement agreement also occurred in this city.

ANSWER: Munich [or München]

[10] This Israeli leader began Operation Wrath of God to retaliate for the Munich massacre a year before the Yom Kippur War. She was Israel’s only female prime minister.

ANSWER: Golda Meir [or Golda Meyerson; or Golda Mabovich]

[10] This Palestinian terrorist group, led by Ali Hassan Salameh, carried out the Munich Massacre. It also hijacked Sabena Flight 571 and took Americans hostage in Khartoum.

ANSWER: Black September Organization [or Munathimat Aylul al-Aswad] <JW>

11. The viola's repeated notes in the second movement of this piece represent the barking of a dog. For 10 points each:

[10] Name this E-major composition, the first of a set of four violin concertos. The soloist's trills in the first movement represent the chirping of birds.

ANSWER: Spring [or *La primavera*; prompt on *The Four Seasons* or *Le quattro stagioni*]

[10] *Spring* is one of the *Four Seasons*, by this prolific Italian Baroque composer. He also wrote sacred music like *Juditha triumphans* and an often-performed setting of the *Gloria*.

ANSWER: Antonio Vivaldi

[10] Another Italian Baroque composer was this one who wrote the *Christmas Concerto* and pioneered the form of the *concerto grosso*.

ANSWER: Arcangelo Corelli <KK>

12. Ahem (*throat clearing noise*). Gentlemen? Answer these questions about fictional spies, none of whom are James Bond, for 10 points each.

[10] The Spy is the only piece that can kill a rank-10 Marshal in this board game, in which players move red and blue pieces that hide Napoleonic soldiers to avoid bombs and find the enemy flag.

ANSWER: Stratego

[10] This alcoholic employee of his mom at the ISIS agency subverts many spy tropes in his namesake FX sitcom, which is animated in cel-shading style.

ANSWER: Sterling Malory Archer [accept either underlined name]

[10] This British comedian played an incompetent spy in his film *Johnny English*. He played a narcoleptic in *Rat Race*, and hit one note of the “Chariots of Fire” theme repeatedly in the 2012 Olympic opening ceremony.

ANSWER: Rowan Sebastian Atkinson [DO NOT accept “Mr. Bean”] <MJ>

13. [Note to moderator: do NOT reveal any promptable or acceptable alternate answers to the second bonus part unless a team gives one of them.]

Answer some questions about the downfall of Camelot, for 10 points each.

[10] This knight's affair with Queen Guinevere brought Arthur's reputation down. This greatest knight of the Round Table killed Gareth and Gaheris to prevent Guinevere's burning at the stake.

ANSWER: Lancelot du Lac [or Lancelot of the Lake; accept Launcelot]

[10] Things started going downhill in Camelot after this mysterious woman sealed Arthur's wizard advisor Merlin in a cave. More benevolently, she gave Arthur the sword Excalibur.

ANSWER: Lady of the Lake [or Vivian; or Vivienne; or Nimue; or Nyneve; or Nyneue; or Ninianne; or Niviane; prompt on "Lady of Avalon;" *DO NOT REVEAL that you can prompt such an answer unless teams give it*]

[10] In some tales, Arthur is boated away to this island after losing to his illegitimate son Mordred. In others, the Lady of the Lake rules this home of many fruit trees.

ANSWER: Isle of Avalon [or Ynys Afallon; or Isle of Apples; or Insula Pomorum; prompt "Fortunate Isle"]
<GL>

14. One photograph taken in this geographic area focuses on an almost horizontal tree, the Jeffrey Pine, atop Sentinel Dome. For 10 points each:

[10] Name this preserved region of the Merced river valley photographed in *Bridal Veil Fall*. One of its most famous landmarks is depicted in *Moon and Half Dome*.

ANSWER: Yosemite National Park

[10] This prominent nature photographer of *Moonrise, Hernandez, New Mexico* captured those views of Yosemite in black and white. He helped lead the Sierra Club.

ANSWER: Ansel Easton Adams

[10] Ansel Adams founded this photographic group along with Willard Van Dyck and Edward Weston. They strove for pure photography, "possessing no qualities of technique, composition or idea, derivative of any other art form."

ANSWER: f/64 [or f-stop 64] <BS>

15. Algorithms for doing this include the Mersenne twister and the funnily-named Blum Blum Shub. For 10 points each:

[10] Name this process that generates a stream of unpredictable data, often using a "seed".

ANSWER: generating pseudorandom numbers [or equivalents that specify that random numbers are being created]

[10] One tremendously stupid and relatively predictable algorithm for generating "random" numbers is described as this type of congruential generator. This also describes the runtime of searching an unsorted array.

ANSWER: linear [accept big O of n]

[10] If you have a *sorted* array, however, you can use this type of search, which runs in logarithmic time. This technique cuts the array in half at each step, and hence shares a name with a certain numeral system.

ANSWER: binary search <AS>

16. This branch of Judaism derives its name from the Hebrew for "loving kindness," and it values fervor and spirituality over strict adherence to the letter of Jewish law. For ten points each:

[10] Name this branch of Judaism which is nonetheless ultra-Orthodox. Chabad is affiliated with this movement, which was founded in the 1600s by the Baal Shem Tov.

ANSWER: Hasidism [or Hasidic Jews; or Hasidism]

[10] Hasidic Jews consider this day of rest to be the center of the week. Observant Jews refrain from flipping light switches to keep it sacred, and celebrate it every Saturday.

ANSWER: Shabbat [or the Sabbath day; or Shabbos]

[10] Because Hasidic Jews strictly observe Shabbat, this thick egg-based bread must be finished before Shabbat begins. It resembles a fat braid.

ANSWER: challah [or hallah] <DSt/MJ>

17. This journalist used her contact with Henry H. Rogers to write investigative pieces for *McClure's* magazine which she later compiled into a book. For 10 points each:

[10] Name this woman who described J.D Rockefeller's manipulation of railroad rates in *The History of the Standard Oil Company*.

ANSWER: Ida **Tarbell**

[10] Tarbell rejected this label, a word used for investigative journalists of the Progressive era such as Lincoln Steffens. These people catalogued abuses in social and business institutions.

ANSWER: **muckrakers**

[10] Other muckrakers worked for this newspaper tycoon. His *New York World* competed with William Randolph Hearst's "yellow journalism," and his will established namesake prizes for American writers.

ANSWER: Joseph **Pulitzer** [or **Pulitzer** József] <GL>

18. One modern leader of this country, P. W. Botha, was known as "The Great Crocodile" and refused to testify before its Truth and Reconciliation Commission. For 10 points each,

[10] Name this nation dubbed the "Rainbow Nation" by Desmond Tutu, who serves as Archbishop Emeritus of Cape Town in it.

ANSWER: Republic of **South Africa** [or Republiek van **Suid-Afrika**; if a team tries gives an answer containing the word "Afrika" in one of the other nine official languages, ask them to translate it]

[10] Mandela and his three successors since 1994 have all come from this political party, whose armed wing, Spear of the Nation, was founded in 1961 by Nelson Mandela.

ANSWER: **African National Congress** [or **ANC**]

[10] This Afrikaner, Mandela's predecessor as President of South Africa, initiated the referendum and negotiations that ended racial segregation and let black majority rule occur.

ANSWER: Frederik Willem **de Klerk** <SJW>

19. This class of chemicals is responsible for maintaining apical dominance. For 10 points each:

[10] Name these plant hormones that also promote phototropism. Indole-acetic acid is the most commonly occurring one.

ANSWER: **auxins**

[10] In a classic experiment, Charles Darwin showed that covering the tip of this structure prevented the release of auxins. This structure is a protective sheath that covers the shoot of a growing grass plant.

ANSWER: **coleoptile**

[10] Auxins cause grasses to bend by activating proteins that pump these particles. The "motive force" generated by a gradient of them powers ATP synthase, and parietal cells secrete them and chloride ions into the stomach.

ANSWER: **protons** [or **H⁺** ions; or **hydrogen cations**; prompt on "hydrogen"] <AS>

20. The low-caste taxi driver Balram Halwai is compared to one of these creatures in a recent Booker-winning novel by Aravind Adiga titled for a *White* one. For 10 points each:

[10] Name this type of large mammal which accompanies Pi in a lifeboat at sea in Yann Martel's *Life of Pi*. William Blake asked one: "Did he who made the Lamb make thee?"

ANSWER: **tigers** [or **Bengal tigers**; or white **tigers**; or **Panthera tigris**]

[10] This autocratic island city-state, among the booming "Asian tiger" economies, sits south of the Malay peninsula.

ANSWER: Republic of **Singapore** [or Republik **Singapura**; or **Xīnjiāpō**]

[10] This Hindu destroyer goddess with ten-plus arms rode a tiger to slay a water buffalo demon. She is sometimes conflated with the black-skinned Kali, or calls Kali to burst from her forehead.

ANSWER: **Durga** [or **Mahishasura Mardini**; prompt on "Devi," "Mahadevi," or "Shakti"] <MJ>

21. You are a gardener. Answer these questions about gardens that it is probably impossible for you to imitate no matter how awesome you are at gardening, for 10 points each.

[10] This triptych depicts the Garden of Eden on the left and hell on the right panel, flanking the central hedonistic place. Hieronymus Bosch filled it with lots of nude people and odd animals.

ANSWER: *The Garden of Earthly Delights*

[10] This Paris complex consisted of a palace and an enormous botanical garden until 1871, when the palace was leveled. Manet painted a crowd appreciating music in this place.

ANSWER: Tuileries Garden [(TWILL-uh-ree); or Tuileries Palace]

[10] This literary protagonist resolves that the only thing left for them to do is grow a garden after his inimitable journeys wind down to a close. He is in love with Cunégonde.

ANSWER: Candide <MJ>