**Ottawa Hybrid 2017 — Finals Round 3**

**Science**

1. **An investigation by William Goetzmann found that these phenomena are much rarer than previously thought. These circumstances can be caused by the a lack of moral hazard, where people are willing to invest differently knowing they are protected from (\*)** risk.The removal of the Glass- Steagall act during Clinton’s administration is said to have been one of the catalysts for one of these phenomena. Smaller scale versions of these episodes can be explained with the art market and beanie babies. Marc Cuban made a substantial amount of his fortune during one of these phenomena during the late 1990’s. For ten points name these economic phenomena, one of the famous ones being the “Dot Com” one.

ANSWER: Economic **Bubble**

2. **A bike shop owner creeps on a character with this name by showing him pictures of kids skinny dipping. A character with this name that was originally voiced by Danny Tamberelli has a great aunt called (\*)** Arizona. A family with this last name attends the funeral of Brian Cooper, who was killed in the Vietnam war. One person with this name helps out chocolate kid get over his addiction and helps Harold lose weight after he fails to lose weight on a cruise. That same character lives in a boarding with his grandparents and Helga has a crush on him. For ten points name this last name of the family from the Wonder Years and the first name of a Nickelodeon character that has a football shaped head.

ANSWER: **Arnold**

3. **One of these works ends with the line, "Jesus, What can you do?," and in another of these works, a character becomes "lost in the sauce" when he sees his girlfriend's BackPage account. Marc Andreessen coined the usual name for these pieces, and a man high on**(\*) amphetamines created a popular one of these which links Russia to 9/11. Aziah King's story of "why me and this bitch here fell out" is one of these works, and it recounts going with Jessica, Jarrett, and Z on a disastrous trip to spend a weekend stripping in Florida. The "Zola story" and Eric Garland's "time for some game theory" rant are, for 10 points, what kind of writings that are often collected on Storify?

ANSWER: **tweetstorm**s [accept answers suggesting **many tweets** at once -- do not prompt on just "tweets" -- anyone who buzzes with "tweets" is just trying to fraud this]

4. **In this type of crystal field splitting, the d-orbitals are split into two groups: lower energy orbitals dz2 and dx2-y2, and higher energy orbitals dxy, dxz, and dyz. The ligands in this type of complex are not aligned with the d-orbitals, resulting in a lower energy splitting. This also names a point group in molecular symmetry which has no inversion centre**, and has at least 2 Cn axes of symmetry where n is greater than or equal to 2. In transition metal chemistry, this geometry is common in complexes where the metal has d0 or d10 geometry. These types of coordination complexes include nickel carbonyl, but not the anticancer drug cisplatin. VSEPR theory predicts this geometry for molecules such as perchlorate, ammonium, and methane. For 10 points, what is this geometry describing four groups separated by bond angles of 109.5º?

ANSWER: **tetrahedral**

5. **A music video by this band features various protests and ends with a young boy riding his bicycle. Solo works by this band’s singer include the albums *Imperfect Harmonies* and *Jazziz Christ*. This band criticizes the Bush administration in songs whose verses include “[b]eyond the Staples center you can see America” and “you must now face authority / you’re nothing like me”. This band’s songs include (\*)** Violent Pornography and Aerials In the latter of which, the singer Serj Tankian says that he “cries when angels deserve to die”. For 10 points, identify this Armenian-American metal band behind songs such as Toxicity and Chop Suey! .

ANSWER: **System of a Down**

6. **One ruler with this name suggested allying with Lithuania while another ruler with this name refused to pay tribute to Ahmed Khan, leading to a war on the Ugra river. A ruler with this name reigned from the age of two months to the age of fifteen months, when he was usurped by his cousin Elizabeth. Another ruler with this name [\*]** introduced a new law code called the Sudebnik, significantly reconstructed the Kremlin, brought Novgorod and Tver under Muscovite control and freed Rus’ from the Golden Horde. A ruler with this name destroyed a slave market on the River Volga, conquered Kazan and murdered his own son in a fit of rage. For 10 points, give this name of the first Tsar of all the Russians, known as “The Terrible”.

ANSWER: **Ivan**

7. **A character played by this man captures Monique and forces her to remain as his seventh wife – that character is Prince Hapi.** **At the end of one film this actor sings happy birthday while apparently smoking weed**.  **In a notable documentary about his life, this man says that he “is (\*)** cumming day and night” because he does the title action. A character played by this man says that the best thing in life is to “crush your enemies and hear the lamentation of their women”. This actor masquerades as Turbo Man to get a present for his son Jamie, and in another role he tells Bennett to “let off some steam” before killing him. For 10 points, identify this Hollywood icon who has appeared in commercials for Mobile Strike.

ANSWER: Arnold **Schwarzenegger** (accept **Governator**)

8. **In one game of this type, a Japanese terrorist cell conducts several attacks on subway stations, and in that game, Lily discovers that the Council of Venice is corrupt. In one game of this type, players must smuggle rum from Musa Point by concealing it in a crate of bananas. In that game, an arduous sequence is initiated by Yanni Selika which involves completing a series of small favours. Locations in a game of this type include the Eastern Kingdoms and [\*]** Northrend, while various currencies include Tokkul and ISK. Many of these addictive games evolved out of MUD and often charged for monthlys subscriptions. For 10 points, identify this type of online game which includes EVE Online and World of Warcraft.

ANSWER: **MMORPG** (accept **M**assive **M**ultiplayer **O**nline **R**ole **P**laying **G**ame; prompt MMO, prompt RPG)

9. **One author with this surname wrote of the illiterate Grischa, who stumbles into his own getting executed as a suspected Russian spy. Another author with this surname wrote of Walter joining the British Army in Nairobi and getting cheated on by Jettel. Arnold wrote six World War I novels, and Stefanie with this surname wrote *Nowhere In Africa*. Another guy with this name wrote of Dr. B stealing a chess book from a prison guard and playing against Czentovic. That author with this surname committed suicide after finishing the autobiography *The World of Yesterday*. A sentimental Austrian writer known for his nesting frame stories, for 10 points, give this last name of (\*)** Stefan who wrote *Amok*, *Letter From an Unknown Woman*, and *Chess Story*.

ANSWER: **Zweig**

10. **A 2016 film by a director from this country features a scene in which two of its main characters dance to ‘Dragostea tin dei’, sparking a flashback to a picnic. A notable film from this country features a scene in which the protagonist stretches out his arms and extends the aspect ratio of the film, although most of that film,** [\*]*Mommy*, is shot in 1:1. Michael Snow is from this country, as is the director of horror films like *The Brood* and *Videodrome*. A man drinking half and half is arrested by this country’s Vegan Police. *Scott Pilgrim vs. the World* was produced in this country’s largest city, residents of which include Rachel McAdams. For 10 points, identify this homeland of David Cronenberg and Ryan Reynolds.

ANSWER: **Canada**

11. **One ceremony in this religion involves beating plates with cutlery, and another ceremony in this religion involves taking a series of herbal baths while wearing old clothes. Initiation into this religion ends after the initiate takes down a kolye necklace, which occurs a year following the completion of the [\*]** kanzo ceremony. A figure in this religion only drinks tafia while another can speak all human languages. Adherents of this religion believe in intermediary spirits that communicate between the temporal plane and the Supreme creator. A religious ceremony at the Bois Caiman ruin led to the insurrection of the Haitian Revolution. Papa Legba and Baron Samedi are loas in, for 10 points, what religion that used to be practiced in Haiti and Louisiana?

ANSWER: **Voodoo** (accept specific syncretisms like Louisiana or Haitian vodou)

12. **The Armed Forces Movement established the National Salvation Junta to lead this country for two years in the 1970s. A technocratic dictator of this country who was simultaneously finance minister imprisoned his opponents in Tarrafal. Between 1970 and 1974, this country participated in the Alcora Alliance with South** Africa and Rhodesia in opposition to communist and black liberation rebellions, which also targeted its African colonies. In 1974, this country’s Carnation Revolution overthrew a dictatorship that had been most prominently led by António de Oliveira Salazar. For ten points, name this European country, which granted independence to East Timor, Mozambique and Angola after the overthrow of the Estado Novo.

ANSWER: **Portugal** [Also accept “**Portuguese** Republic”]

13. **After a Monday Night game against the Raiders, Bo Jackson declared this player his idol and said “I want to be just like him”. After gaining only 53 yards in the first two games of one season, this running back set a record with 14 consecutive 100-yard games. This famously** elusive running back recorded 2 053 yards on 6.a yards per carry in a season in which he shared the MVP Award with Brett Favre. Having gotten within 1 500 yards of Walter Payton’s career rushing record, this running back suddenly retired at age 30 due to frustration with his team’s constant losing. For ten points, name this running back who played from 1989 to 1998 exclusively with the Detroit Lions.

ANSWER: Barry **Sanders**

14. **These characters tell the protagonist he can’t come with them to climb the Matterhorn because it’s the “only adults matter...horn”.In a Christmas special, one of these characters interrupts the protagonist’s song to jab that Valentine’s day always makes him** (\*) sad because he just can’t get a girlfriend, and both of these characters chime into that same song holding a sign that says “we love you noggy”. One of these characters bemoans her lack of gardening skills by saying “everything I touch dies”, to which the other of these characters responds by inviting his hated neighbour Dinkleberg over for a congratulatory hand-touch. For 10 points, identify these nameless characters who leave their son with Vicky so often that he needs magical versions of them to grant his wishes.

ANSWER : **Timmy’s parents** (Fairly Odd Parents)

15. **The coat of arms on the cover of this paintings is empty which could suggest the donor of the painting passed during its making. On the far right of this painting a large green woman can be seen spitting fire into the sky. During weekdays this work would be folded allowed one to see grey images of (\*)** St.James the Greater and Boho. An egg with legs speared with an arrow can seen in this work along with a demon playing a lute beside a woman being led by a dragon. On the left side of this painting three different scenes show how Eve was created, tempted by the serpent and ultimately expelled with Adam. For ten points name this triptych by Hieronymous Bosch where angels play horns beside god sitting in heaven.

ANSWER: **The Last Judgement**

16. **A nonsensical phrase said several times in this song is a reference to a song by Rick & Doug E.Fresh. An SNL parody of this song shows the singer as Michele Bachman bragging about shutting down the U.S government. Another line in this song is a reference to 2Pac’s *Only God Can Judge Me*. A live performance of this song showed the singer getting out of a giant (\*)** bear with laser eyes onto the stage. In the music video for this song somebody takes a bite out of wad of bills and a spoon with alphabet pasta spells out “twerk”. For ten points name this song by Miley Cyrus in which she repeatedly says “so la-di-da-di, we like to party”.

ANSWER: **We Can’t Stop**

17. **The first fight Kobe Bryant had in the NBA happened against this team after Chris Childs punched him twice in the face. After losing a playoff game to the Miami Heat in 2012 a player from this team punched a fire extinguisher glass case. This team is the only (\*)** 8th seed to have ever reached an NBA finals, which they lost against San Antonio in 1999. While Isaiah Thomas was the General Manager and Coach of this team he drafted Nate Robinson and David Lee. In the most recent offseason this team acquired both Joakim Noah and Derrick Rose. For ten points, name this team, whose President is Phil Jackson, and whose star players include Kristaps Porzingis and Carmelo Anthony.

ANSWER: **New York Knicks**

18. **Urysohn's Lemma states that any two closed sets in a space with this property are separated by a function, and proving Urysohn’s Metrization Theorem involves showing that second-countable, regular Hausdorff spaces have this property. According to a theorem named for Borel, almost all real numbers have this property. If the sum of two independent random variables is independent from the difference between them, then they have the (\*)** distribution with this name. A matrix has this property when it commutes with its adjoint, and a subgroup has this property if and only if it is the kernel of some homomorphism. For 10 points, name this overused adjective in mathematics, which refers to vectors with length one and is another name for the Gaussian distribution.

ANSWER: **normal** [accept **T4** or **normal Hausdorff** before “real numbers”]

19. **In one poem by this author, “science groans in chains / and wit dreads exile, penalties and pains”, while in another the “Dim lights of life, that burn a length of years” are “Useless, unseen, as lamps in sepulchres”. In that poem, titled *Elegy to the Memory of an Unfortunate Lady*, this author states that “Life’s idle business at one gasp be o’er”. This poet wrote an elegy to** Thomas Southern on his 81st birthday and wishes that he “walk to his grave without reproach / and scorn a rascal and a coach”. This author criticized John Dennis in several of his works and argues that “ten low words oft creep in one dull line / while they ring round the same unvaried chimes”. For 10 points, identify this English poet known for using heroic couplets in works such as *Dunciad* and mock verse in *The Rape of the Lock*.

ANSWER: Alexander **Pope**

20. **A terrorist who killed 77 people at the Worker’s Youth League summer camp praised this man. A cartoon shows this man holding his phone open to Twitter while many people yell into megaphones, including one megaphone that has “Party for Animals” written on it. Since 2004 this man has had (\*)** bodyguards surrounding him while atparliament. In 2016 this man was forced to pay a fine for discriminatory comments he had made about Moroccans in his country. Mark Rutte claimed that his country had not chosen “the wrong kind of populism” exemplified by this man. For ten points name this leader of the *Party for Freedom* whose party came second in the 2017 Dutch General Election.

ANSWER: Geert **Wilders**

21. **One character in this text is forced to travel through hostile territory after a proposed trade goes awry. This text ends with the author stating that he will “exercise his right of rejection” because he has been “treated with contempt”, and wonders whether any merchants of Telmun have treated him improperly in the past. The author of this text alludes to a sealed tablet kept in Samas, and reveals that he has delivered** 1080 pounds of copper to an unnamed palace. The target of this text, Ea-Nasir, promises to deliver quality copper ingots to Gimil-Sin but infuriates Nanni when he does not fulfill his promise, leading to the creation of this text. For 10 points, identify this text written in cuneiform and found at Ur, currently being held at the British Museum.

ANSWER: **Complaint** Tablet to Ea-Nasir (accept **oldest written complaint** or variations thereof, prompt on Letters from Mesopotamia or Oppenheimer’s letters)

1. Southern outcry over this bill led to its replacement by a more moderate version in 1832, but that was still not enough to placate opponents. For ten points each:

[10] Identify this protective tariff. Anger against this tariff and its replacement led to South Carolina’s declaration that they were null and void within its boundaries, setting off the Nullification Crisis.

ANSWER: Tariff of **Abominations** [Also accept “Tariff of **1828**”]

[10] The Nullification Crisis took place during the Presidency of this man, whose strong stand against nullification caused a split with his Vice President, John C. Calhoun. This man is regarded as the founder of the modern Democratic Party.

ANSWER: Andrew **Jackson**

[10] South Carolina’s nullification was inspired by these earlier resolutions, passed in 1788 and 1789 by two state governments. These resolutions had declared the Alien and Seditions Acts to be unconstitutional.

ANSWER: **Kentucky** and **Virginia** **Resolutions** [Accept “**Resolves**” in place of “Resolutions”]

2. In one skit this actress plays a woman that is molested by aliens while her two friends have a very spiritual experience:. For ten points each:

[10] Name this actress who threw a knife at Beck Bennett and then fell down a window in one skit and also played Jeff Session in another.

 ANSWER: Kate **McKinnon**

[10] Mckinnon performed a parody of the song *Roxie* of the musical *Chicago* as this advisor of Donald Trump.

ANSWER: Kellyanne **Conway**

[10] This character played by McKinnon has appeared several times on *Weekend Update* wearing a babushka and telling depressing stories about living in Russia.

ANSWER: **Olya** **Povlatsky** (Accept either name)

3. This man tells his wife that he got fired from work because she acted up at a party when in reality it was because he slept around with coworkers. For ten points each:

[10] Name this abusive ex-husband of Rachel that convinces she is violent whenever she gets blackout drunk.

ANSWER: **Tom**

[10] Rachel is the main character of this Paula Hawkins novel who investigates the murder of Megan.

ANSWER: ***The Girl on the Train***

[10] At the end of the novel, Rachel confronts Tom over the murder of Megan and stabs him with this household item in self defence.

ANSWER: **Corkscrew**

4. The Burnout series might be best known for its later iterations which feature more extensive havoc, but everyone knows Burnout 2 is the best in the series. For 10 points each,

[10] The first map in Burnout 2 is set at one of these locations. In Call of Duty: Modern Warfare 2, the player can choose to massacre civilians in one of these security-heavy locations.

ANSWER: **Airport**

[10] One of the best stock cars in Burnout 2 is this type of car. This stereotypically American type of car features a bulky front and is often fitted with a V8 engine.

ANSWER: **Muscle** car

[10] After you complete the championship in Burnout 2, you are invited to the Custom series championship, in which all maps have this quality that make the easiest maps in the game the hardest.

ANSWER: It is in **reverse** (accept **backwards** or **mirrored**, prompt more oncoming traffic or any such description)

5. This leader deceived Roman centurions Sabinus and Lucius Cotta into believing that their camp at Eburones would be attacked, and later ambushed them instead. For 10 points each:

[10] Name this Gallic leader who revolted against Rome and was defeated by Julius Caesar in a revenge-war in 53 BC. He ruled Eburones jointly with Catuvolcus, and a series of 102 gold coins are labelled this man’s ‘treasure’.

ANSWER: **Ambiorix**

[10] Ambiorix fought against this wealthy landowner at Nervii before Caesar’s timely arrival. This brother of Cicero is also the likely author of *On Running for the Consulship*.

ANSWER: **Quintus** Tullius Cicero

[10] Ambiorix is a national hero in this modern-day country. The Euberones are thought to have settled between the rivers Rhine and Meuse in this country, which houses the European Council in its capital.

ANSWER: **Belgium**

6. Resident of this city often change the decade which they live in and frequent the local bar Tucker’s. For ten points each:

[10] Name this virtual reality city which people like Yorkie and Kelly upload their consciousness to live in for eternity.

ANSWER: **San Junipero**

[10] *San Juperino* is an episode from this tv show which is often compared to the Twilight Zone and whose first episode involved the Prime Minister shagging a pig.

ANSWER: **Black Mirror**

[10] At the end of the episode *Shut up and Dance* several characters that were blackmailed into doing crimes all receive text message of this black and white image.

ANSWER: **Troll face**

7. The singer of this album’s titular track says that he “misses the kiss of treachery / the shameless kiss of vanity” in the opening verses. For 10 points each,

[10] Identify this 1989 album. It’s opening song, Plainsong, explodes into a wall of sound after 15 seconds of soft chimes. Its bridge features the lines “It’s so cold, it’s like the cold if you were dead.”

ANSWER: **Disintegration**

[10] Disintegration’s singer, Robert Smith, is the vocalist for this post-punk group formed in West Sussex, whose other albums include *Pornography* and *Wish*.

ANSWER: **The Cure**

[10] This Cure song off *Wish* begins with “I don’t care if Monday’s Blue, Tuesday’s grey, and Wednesday too”.

ANSWER: **“Friday I’m in Love”**

8. The Toronto Maple Leafs are significantly less awful than usual this year! Answer some questions about their renaissance, for 10 points each:

[10] Although Auston Matthews has stolen most of the headlines, this young forward has also been having an excellent season, with 50 points through 68 games. This Swede was the Maple Leafs’ first round pick in the 2014 Draft.

ANSWER: William **Nylander**

[10] Another skilled Leafs rookie is Mitch Marner, who played in the O.H.L. for this team, the most recent winners of the Memorial Cup.

ANSWER: **London** **Knights** [accept either underlined portion]

[10] This season is the Leafs’ second under this head coach. This former Red Wings coach has also coached Team Canada to gold medals at the last two Olympics.

ANSWER: Mike **Babcock**

9. Answer the following questions about how fish breathe underwater.

[10] These thin plates are the functional units of the gill, around which water passes. They are located on the ends of gill filaments.

ANSWER: gill **lamella**e

[10] This equation states that the movement of gases across the respiratory epithelium in the gill lamellae is proportional to the partial pressure gradient and surface area, and inversely proportional to thickness.

ANSWER: **Fick** equation

[10] This term describes the type of exchange that occurs in the gill lamellae. This term also describes the type of exchange that occurs in the loop of Henle in the kidney.

ANSWER: **countercurrent**

10. Did you know that not all shoutouts in music are to producers or kinds of liquor? For ten points each, answer these questions about athletes who got name dropped in some famous songs
[10] House of Pain warned in their 1992 single “Jump Around” that they would “serve your ass” like this American tennis star, and that “if your girl steps up I’m smackin’ the hoe”
Answer: John **McEnroe**
[10] In their 1994 song Sure Shot, The Beastie Boys brag to the listener that “I’ve got mad hits like I was” this play with 7 AL batting titles in his career with the Minnesota Twins and California Angels
Answer: Rod **Carew**
[10] Drake name dropped this rich athlete to help destroy Meek Mill’s career, stating that he was “back to back like I’m (this man) ‘96 ‘97”
Answer: Michael **Jordan**

11. Ali and Esi become lovers in a work by this author despite Ali’s marriage to Fusena. For 10 points each,

[10] Identify this author of *Changes: A Love Story*, in which Oko rapes the protagonist, Esi, because she does not want another child.

ANSWER: Ama Ata **Aidoo**

[10] Ama Ata Aidoo is a novelist from this country. A notable poet from this country, Kofi Awoonor, incorporates dirges from the Ewe people into modern poetic form.

ANSWER: **Ghana**

[10] Aidoo comes from this group of Ghanian people, in her play *Anowa* she shows the tension between these people and the Ashanti.

ANSWER: **Fante** (Accept **Mfantsefo)**

12. An early internal strife in this empire, the Tepanec war, led to the establishment of the Triple Alliance, which represented the imperial domination of this empire around Mexico. For 10 points each,

[10] Identify this Mesoamerican empire ruled by Montezuma and eventually destroyed by the Spanish.

ANSWER: **Aztec** Empire

[10] Everyone knows Montezuma, but can you name this influential king of pre-Aztec empire? This king of Azcapotzalco expanded Tepanec influence in the Gulf of Mexico. His five sons all became rulers of different peoples.

ANSWER: **Tezozomoc** Yacateteltel (accept Tezozomoctli or Tezozomoctzin)

[10] Tezozomoc declared numerous wars against this city-state and usurped its crown in 1419. This city-state was part of the triple-alliance; you might know it better for its namesake lake.

ANSWER: **Texcoco**

13. In a work by this author, Elfrieda begs Yolandi to accompany her to a Swiss euthanasia clinic. For 10 points each:

[10] Name this Mennonite author who drew from her hometown experience to create quixotic characters like Nomi Nickel, who loses her virginity to the boring Travis in *A Complicated Kindness*.

ANSWER: Miriam **Toews**

[10] Toews acted in the movie *Silent Light*, whose dialogue was in this Low German dialect of Mennonite communities. Its name is roughly the German for “flat German.”

ANSWER: **Plautdietsch** (or **Plattdeutsch**)

[10] In Toews’ *All My Puny Sorrows*, Elfrieda imagines dating this English poet, who wrote of “an Albatross” which came “through the fog / as if it had been a Christian soul” in *The Rime of the Ancient Mariner*.

ANSWER: Samuel Taylor **Coleridge**

14. In the last few years Amazon Studios has started producing movies For ten points each:

[10] In 2016 Amazon signed deal with this director of *Cafe Society* to produce his moviesas well as his miniseries *Crisis in Six Scenes.*

ANSWER: Woody **Allen**

[10] In this Amazon produced film the character of Lee Chandler is given guardianship of his nephew Patrick after his father dies of a heart attack.

ANSWER: **Manchester by the Sea**

[10] Inspired by an epic poem by William Carlos Williams, the eponymous character of this movie is a bus driver in New Jersey that has the same name as the town he lives in.

ANSWER: **Paterson**

15. This island was created in 1 BGC and was destroyed in 1001 AGC when the beast for which this island was named awoke from his great sleep. For 10 points,

[10] Identify this island found on Aqua Magna which is divided into six Wahi. It houses mechanical beasts such as the Bohrok, Matorans, and Toas.

ANSWER: **Mata Nui**

[10] Mata Nui was the primary setting of early works in this universe. Some of its heroes include Takanuva and Vakama, while its main antagonist is the evil machine Makuta.

ANSWER: **Bionicle**(s)

[10] Bionicles is created by this entertainment licensing company that also has a series of *Harry Potter, Star Wars, and Indiana Jones* video games.

ANSWER: **Lego**

16. This book begins by describing the grisly execution of Robert-Francois Damiens, because physical torture was all we knew how to do back then. For 10 points each:

[10] Name this book that goes on to tell how prisons shifted to using surveillance as a way to control prisoners' behaviour.

ANSWER: ***Discipline and Punish*** [or ***Surveiller et Punir***]

[10] Discipline is an example of this concept, which Foucault linked to knowledge and "the sciences." This concept is how the state can restrict your will.

ANSWER: **power**

[10] The last line of *Discipline and Punish* says that prisons resemble four other institutions. Name two of them.

ANSWER: (any two of) **factories**, **schools**, **barracks**, and **hospitals**

17. At the end of this film J.D blows himself up in front of Westerburg High School and Veronica asks Martha to rent new releases with her. For ten points each:

[10] Name this film in which Winona Ryder and Christian Slater poison the leader of this titular clique of girls and cover it up as a suicide.

ANSWER: **Heathers**

[10] Throughout the film Veronica and the Heathers play this sport in the Sawyer’s backyard.

ANSWER: **Croquet**

[10] This Heather played by Shannon Doherty is blackmailed by D.J into replacing Heather Chandler as the leader of the school.

ANSWER: Heather **Duke**

18. This man’s record of 270 total weeks at world number one has only been broken by Pete Sampras and Roger Federer. For ten points each:

[10] Name this Czech tennis player, who dominated the A.T.P. through much of the 1980s.

ANSWER: Ivan **Lendl**

[10] Although he won 8 majors, Lendl was unable to ever win this one, where his baseline style worked poorly on the grass surface. Lendl lost the 1987 final of this major to Pat Cash, whose supporters memorably held up signs saying “Cash is better than Czech”.

ANSWER: [The Championships,] **Wimbledon**

[10] In a late-career effort to win WImbledon, Lendl put more effort into his grass-court game, culminating in a 1990 victory at this tournament. This ATP 500 Series event, held in London, is often used as a warmup event for Wimbledon.

ANSWER: **Queen’s Club** Championships [Also accept “**Stella Artois** Championships” or “**Aegon** Championships”]

19. This man was able to beat Alejandro Toledo and Alan Garcia in the first rounds of the general election.

[10] Name this man who beat Keiko Fujimori in the second round of the 2016 Peruvian general elections.

ANSWER: Pedro Pablo **Kuczynski** (Accept PPK)

[10] Many former Peruvian Presidents are currently under investigation for allegedly receiving bribes from this Brazilian infrastructure conglomerate.

ANSWER: **Odebrecht** Organization

[10] The briberies that Odebrecht gave to world leaders was uncovered by this Brazilian operation, also known as Lavajato, to detect bribery and corruption.

ANSWER: **Operation Carwash**

20. Answer the following questions about statistical thermodynamics for 10 points each.

[10] This particle distribution function, named after two 19th century physicists, describes the probability distribution of a uniform ideal gas in thermal equilibrium as a function of its momentum or velocity.

ANSWER: **Maxwell-Boltzmann** distribution

[10] This thermodynamic ensemble corresponds to a system of fixed number of particles and volume in contact with a heat reservoir at temperature T. It is therefore also known as the NVT ensemble.

ANSWER: **Canonical** ensemble

[10] This function acts as the normalizing factor for occupying microstate probabilities within a statistical ensemble. For a discrete system, it is defined as the sum, over all microstates, of the exponential of the microstate energy divided by k times the temperature.

ANSWER: **Partition** function

21. This country’s “Middle Belt” is populated mostly by ethnic minorities, and the Benue River, also known as the Tchadda, flows through the eastern half of this country. For ten points each:

[10] Name this country, which contains the cities of Ibadan and Port Harcourt, the latter of which sits on the Gulf of Guinea. This country’s northeast corner borders on Lake Chad.

ANSWER: Republic of **Nigeria**

[10] The largest city in Nigeria is this port, which is the largest city in Africa with about 20 million people. This city was the capital of Nigeria until 1991.

ANSWER: **Lagos**

[10] This northern city and capital of a namesake state, inhabited mostly by the Hausa people, is the second-largest city in Nigeria.

ANSWER: **Kano**