

Michigan Fall Tournament (Written by Will Nediger, Kurtis Droge, Cody Voight, Saul Hankin, Ben Forster, Siddhant Dogra, and Peter Jiang)

## Editors Round 6

### Warm-Up Tossup (Optional)

Although it's a normal flying type, the Missing No. that can be found off Cinnabar Island using the old man glitch knows three moves, two notably being the same and this type. One Pokemon of this type was the third pokemon Ho-Oh created at the Brass Tower and is the embodiment of the North Wind. In the anime, the first pokemon Ash sees in Johto is a legendary of this type. Although not dragon or fighting, Palkia and Keldeo are recent pokemon of this type, and withdraw is this type of move. James unwittingly buys a Pokemon of this type in a golden pokeball, only to have it evolve and use dragon rage on him after he kicks it. The red-headed owner of Togepi is a gym leader of this type. Squirtle is, for 10 points, what wet type?

ANSWER: water type

### Tossups

**1. In an alternate ending to this film, the protagonist's ex-fiancée listens to a radio report about a pursued criminal. It is based on a novel by Boileau-Narcejac called *The Living and the Dead*. The protagonist of this film visits the McKittrick Hotel, and also visits the local history expert Pop Leibel to find out about the tragic death of a woman whose portrait is found in a local art museum, Carlotta Valdes. In this film, Scottie is hired as a private detective to follow Madeleine Elster. Madeleine apparently commits suicide by jumping from a bell tower, but it is later revealed that the suicide was faked and that Madeleine is actually Judy Barton in disguise. It popularized the use of the dolly zoom, which is used to simulate the title condition. For 10 points, name this Alfred Hitchcock film starring James Stewart and Kim Novak.**

ANSWER: Vertigo

**2. One class in this phylum uses a reproductive structure called Laurer's canal. The life cycle of that class in this phylum includes the stages miracidia and cercariae. The hermaphroditic species *P. hancockanus* in this phylum engages in penis fencing to determine which organism will become the father. Its members cause the infection schistosomiasis. This bilaterally symmetric, triploblastic, acoelomate phylum contains bundles of flame cells called protonephridia that regulate excretion. A non-parasitic class in it is *Turbellaria*, which includes planarians, and common parasitic organisms include flukes and tapeworms. For 10 points, name this phylum of flatworms.**

ANSWER: Platyhelminthes [or flatworms until it is read]

**3. The planar process was invented to manufacture things out of one of these materials. The most popular method for producing boules of one type of this material is the Czochralski process. If certain consecutive energy minima and maxima do not lie at the same momentum value, phonons must mediate generation and recombination processes in these materials, and they are classified as indirect. Adding impurities to these materials changes them to extrinsic and is done with a process called doping, which adds energy levels to their band gap. Its dominant type used commercially is silicon; transistors and solar cells are created with them. For 10 points, identify these materials that have a conductivity intermediate between that of conductors and insulators.**

ANSWER: semiconductors [or silicon wafers until "silicon" is read; prompt on crystals]

**4. He's not Xerxes I or Brennus, but this man was defeated at Thermopylae after a Pyrrhic victory at the Utus River. A treaty signed at Margus promised this man 700 pounds of gold per year; when that tribute wasn't paid, this man defeated Aspar and received 6,000 pounds of gold. An account of this man was written by Priscus of Panium. He was prompted to launch an invasion after the sister of Emperor Valentinian III begged this man to rescue her from her marriage. Early in his reign, he had his older brother Bleda killed. His invasion to win Honoria ended with his defeat by a combined Visigoth-Roman force under Theodoric I and Aetius at the Battle of Chalons. He was supposedly dissuaded from attacking Rome by Pope Leo I, and, not long after, he purportedly died in his sleep of a nosebleed. For 10 points, name this "Scourge of God" and king of the Huns.**

ANSWER: Attila the Hun, Flagellum Dei

**5. This country's Taliban was founded by Baitullah Mehsud, who was succeeded after his death in August 2009 by Hakimullah Mehsud. In May 2013, that Taliban in this country promoted Khan Said to second-in-command after his predecessor, Waliur Rahman Mehsud, was killed in an American drone strike. That strike took place near this country's town of Miran Shah in its region of North Waziristan. The winner of a recent election in this country has stated his belief that this country's former military dictator Pervez Musharraf should be tried for treason. That recently elected prime minister of this country leads its PML-N party, which split from the PPP in 2008, and is named Nawaz Sharif. For 10 points, name this country with capital Islamabad.**

ANSWER: Islamic Republic of Pakistan [or Jamhuryat Islami Pakistan]

**6. A pedagogical technique based on the tenets of this school of thought is known as chaining. One proponent of this school of thought developed the "matching law" and worked with Charles Murray on the controversial book *The Bell Curve*. The main tenets of this school were set out in a 1913 manifesto written by the author of *Psychological Care of the Infant Child*. A proponent of the radical form of this school invented the teaching machine and the air crib, and developed a number of schedules of reinforcement. That thinker's namesake box is used to study operant conditioning. The cognitive revolution was a response to this school of thought, which holds that psychology should deal with observable phenomena. For 10 points, name this approach to psychology espoused by John Watson and B. F. Skinner.**

ANSWER: behaviorism [accept word forms]

**7. This work warns against Europe becoming like China by adopting an educational and political system which tends to make all people think alike. It is equivocal on the question of whether fornication and gambling should be tolerated, noting that public gambling-houses should not be permitted, but laws prohibiting them are ineffective. The final chapter of this work, "Applications," attempts to clarify the meaning of the two maxims which, according to the author, form its entire doctrine. It ends by giving three reasons for resisting government interference, including the desire not to add unnecessarily to government power. This book argues that the only reason that someone should be prevented from doing what they want is to prevent harm to others, which is known as the "harm principle." For 10 points, name this utilitarian essay by John Stuart Mill.**

ANSWER: On Liberty

**8. The creation of this poetry collection is the subject of a novel by Amin Maalouf. One poem from this collection asks whether God would tell his secret to "a maggot-minded, starved, fanatic crew" and deny it to the speaker. In another poem from this collection, a "Vessel of a more ungainly Make" asks "did the Hand then of the Potter shake?" The speaker of one of its poems wishes to "conspire to grasp this sorry Scheme of Things entire." The poems in this collection have an AABA rhyme scheme. One of the most famous poems from this collection begins, "The Moving Finger writes: and, having writ, moves on." The line "a jug of wine, a loaf of bread - and thou" appears in the fifth edition of Edward FitzGerald's translation of this work. For 10 points, name this collection of quatrains by Omar Khayyam.**

ANSWER: *The* Rubaiyat of Omar Khayyam

**9. A group led by this figure took in eighty women from Cyprus in order to provide wives for men in the party. This figure ordered her servants to throw away bags supposedly filled with gold, but actually full of sand, in order to avoid returning to her brother. This figure was desired by the Gaetolian king Iarbas, and surrounded a hill with strips of oxhide in order to gain land. This figure flew from Tyre soon after her husband, either Acerbas or Sychaeus, was killed on account of his wealth by her brother Pygmalion. This woman tells her sister Anna to create a pyre so she may burn the items of a certain man, whom she ignores when he meets her in the underworld. For 10 points, name this queen of Carthage who committed suicide after being left by Aeneas.**

ANSWER: Dido

**10. This movement spread among southern slaves thanks to the work of Samuel Davies. Leaders of this movement included Theodorus Frelinghuysen, who inspired the founders of Log College, William and Gilbert Tennent. One opponent of this movement was Charles Chauncy, and it saw the first use of the terms “Old Lights” and “New Lights.” One speech given in support of this period spoke of “great waters that are dammed for the present” and an “arrow made ready on the string,” and opens with the quote “Their foot shall slide in due time.” One figure associated with this movement led a congregation at Northampton, while another was George Whitefield. The aforementioned speech, which uses the analogy of holding a spider over a fire, is Jonathan Edwards’s “Sinners in the Hands of an Angry God.” For 10 points, name this first big religious revival in America, which began in the 1730s.**

ANSWER: First Great Awakening [prompt on partial answer]

**11. In a story by this author, when asked why he is waiting outside the bathroom with a two by four, Otis Ormonde says when the title character comes out he’ll club her back in. In another of his stories, Kismine gets lettuce poisoning. In that story, John Unger discovers that Percy Washington’s father is using extreme measures to prevent people from finding out about his extremely valuable mountain. In another of his stories, after Duncan and Lorraine show up drunk, Lincoln and Marion Peters refuse to give custody of Honoria to Charles Wales. He wrote a story whose title character is no longer allowed to go to Draycott Deyo’s party because Marjorie weaseled her into performing an abomination of fashion. His experiences with his wife Zelda inspired his story “Babylon Revisited.” For 10 points, name this author of “The Diamond as Big as the Ritz” and “Bernice Bobs Her Hair.”**

ANSWER: Francis Scott Key Fitzgerald

**12. For an integral with bounds of negative and positive infinity, this mathematician names the quantity that is the limit of the integral for bounds negative and positive A, where A goes to infinity, which is his principal value. A theorem named for this mathematician states that, in a simply connected domain, the integral of an analytic function over a contour is zero. A metric space is termed complete if every sequence named for this person converges in its set; those sequences have terms that become arbitrarily close to each other as it progresses. His *Cours d'Analyse* introduced the delta-epsilon definition of a limit. He is the first namesake of a statement which states that the inner product of two vectors is less than or equal to the norm of each vector, multiplied together. For 10 points, name this French mathematician who names an inequality with Schwarz.**

ANSWER: Augustin-Louis Cauchy

**13. At an engagement in this battle, the South African 1st Infantry Brigade held a key feature despite suffering an 80% casualty rate. One side in this battle unsuccessfully attacked the Butte de Warlencourt. The High Wood was the site of much fighting during this battle. Henry Rawlinson was criticized for allowing heavy losses during this battle. This battle included engagements at Delville Wood, Bazentin Ridge, and Albert. Ten minutes before this battle’s Zero Hour, a mine was detonated under Hawthorn Ridge Redoubt. One side in this battle was led by Ferdinand Foch and Douglas Haig. After this battle, the German army retreated to the Hindenburg**

Line. For 10 points, name this extremely bloody World War I battle, the first battle in which tanks were used for combat.

ANSWER: Battle of the Somme [accept the Battle of Delville Wood before mentioned]

**14. One colony in this present-day country was founded on the principle of “sufficient price” espoused by Edward Gibbon Wakefield. A government prize for crossing what is now this country prompted a fatal expedition led by Robert Burke and William Wills, and a later successful expedition led by John Stuart. Disturbances in what is now this country included one carried out by the gold prospectors of Ballarat under Peter Lalor. One resident of what is now this country was an outlaw who wore homemade armor. Lachlan Macquarie was made governor after the deposition of William Bligh in a rebellion here that was ostensibly about an alcoholic beverage. This country was home to the Eureka Stockade and the Rum Rebellion, and James Cook landed in its Botany Bay. For 10 points, name this country that was home to bushrangers such as Ned Kelly.**

ANSWER: Commonwealth of Australia

**15. The accuracy of this technique can be improved by inserting a step for solid-phase extraction between HPLC and it in an example of a hyphenated technique. If samples are very dilute, as is often the case with proteins, tubes manufactured by Shigemi can be used for this process. For this process, the equation  $A \cos \theta + C \cos 2\theta$ , where  $\theta$  is the dihedral angle, can be used to find the J-coupling constant. Pascal's triangle is followed by the intensity ratios of multiplets in this technique. Samples for this process are often dissolved in DMSO or deuterated chloroform. TMS is used as a chemical shift reference for this technique. For 10 points, name this kind of spectroscopy that comes in proton and carbon-13 varieties.**

ANSWER: NMR spectroscopy [or nuclear magnetic resonance spectroscopy]

**16. While visiting an oriental mythologist, the main character of this novel is offended by a Goethe figurine because it is too beautiful, and later dreams of Goethe simultaneously tempting him with a lady's leg and repelling him with a scorpion. In this novel, the main character reads that half of his souls have fox, dragon, tiger, ape and bird of paradise in them, in a treatise which is named after him. Venues in this novel include the Odeon and Black Eagle bars, where the protagonist meets an androgynous girl who reminds him of a boyhood friend. A saxophonist in this novel can supposedly speak every language and leads the protagonist to a place where he decides to snipe random car drivers, as part of the war with the machines. The protagonist later finds Pablo amid coitus with his saviour Hermine in the Magic Theater, so naturally he kills her. For 10 points, name this novel about Harry Haller by Hermann Hesse.**

ANSWER: *Der Steppenwolf*

**17. In a portrait by this artist, the subject is leaning on a relief sculpture depicting her own head in profile. This painter of *La Schiavona* painted the Madonna holding a rabbit in her left hand. Another of his Madonnas has two offset columns in the center, partially obscured by black clouds, on top of which two Cupids are frolicking. In one of his works, a man is being wrapped around by a snake while a god leaps out of a chariot drawn by two cheetahs to save an abandoned woman. This artist of *Bacchus and Ariadne* painted a work whose two title figures flank a sarcophagus which a Cupid is reaching into. In one of his paintings, a dog is curled up at the bottom of a bed, on which a nude woman is lying in a pose inspired by Giorgione's *Sleeping Venus*. For 10 points, name this painter of the *Pesaro Madonna*, *Sacred and Profane Love* and *Venus of Urbino*.**

ANSWER: Titian [or Tiziano Vecellio]

**18. While Paul Claudel was French ambassador to this country, he wrote the text of the ballet *Man and His Desire*. The music for that ballet was written by a composer who was influenced by a composer from this country named Ernesto Nazareth and who incorporated folk tunes from this country into his ballet *The Ox on the Roof*. One work from this country, which was visited by Darius Milhaud, begins with a suite scored for**

**eight** cellos and includes an aria subtitled “Cantilena.” This country’s most famous composer was inspired by the street music of this country to write *Choros*, but is best known for a nine-part work which includes a toccata subtitled “The Little Train of Caipira” and which combines this country’s musical idiom with the contrapuntal style of J. S. Bach. For 10 points, name this country home to Heitor Villa-Lobos.

ANSWER: **Brazil**

**19. To respond to the persecution of Catholics in this country, Pius XI issued the papal bulls *Iniquis Afflictisque*. Several bishops in this country opposed a tyrant nicknamed “Bloody Guzman.” Orange marigolds are associated with one holiday celebrated in this country; on that holiday, which coincides with All Saints’ Day and All Souls’ Day, people compose short poems whose name translates as “skulls.”** One person in this country experienced a religious vision that told him to go cut some flowers despite it not being the season for them to blossom, thus healing his sick uncle. That man, Juan Diego, claimed to have seen the Virgin Mary as Our Lady of Guadalupe. For 10 points, name this country that celebrates the Day of the Dead, and in which Catholicism was spread after the conquest of the Aztec empire.

ANSWER: **Mexico**

**20. The speaker of this poem experiences “sensations sweet” and “feelings too of unremembered pleasure.” Near the end of this poem, the speaker says that the addressee’s voice reminds him of “the language of my former heart.” The speaker recalls the “aching joys” and “dizzy raptures” of his youth, when he took a purely sensual delight in nature, which “had no need of a remoter charm by thought supplied.”** Later in life, the speaker of this poem feels “the joy of elevated thoughts” and hears “the still, sad music of humanity” when looking upon nature. This poem begins by noting that “five years have passed” since the speaker visited the title place. The writing of this poem was occasioned by the poet’s visit to the title building on the River Wye with his sister Dorothy. For 10 points, name this William Wordsworth poem.

ANSWER: “Lines Written a Few Miles Above **Tintern Abbey**”

**21. This structure is flanked by three Bhanjani Ber trees, and it is alleged to have originally risen from an excavated tank that was referred to as “The Pool of the Nectar of Immortality.” This square-based building features a door on each of its sides to symbolize that it’s open to people of all creeds and ethnicities. This building harbours a text that contains thousands of *Angs* and *Baanis*; that text is also considered alive.** The founder of one empire that consisted of several Misls between the Sutlej and Jhelum Rivers gilded this building; that leader was Ranjit, the Lion of the Punjab. Operation Woodrose followed one anti-terrorist raid that occurred here, which later led to the assassination of the woman that ordered it, by her bodyguards: that woman was Indira Gandhi. For 10 points, what is this Sikh gurdwara found in Amritsar that is known for its rich color?

ANSWER: **Golden Temple** [accept **Harmandir Sahib**]

## Bonuses

1. Many of this thinker's early publications dealt with psychology, including "The Ego as Cause" and "The Reflex Arc Concept in Psychology." For 10 points each:

[10] Name this American pragmatist philosopher whose works on the theory of education include *Democracy and Education*.

ANSWER: John **Dewey**

[10] Dewey's main writing on aesthetics, in which he compares the consumption of art to other aspects of everyday life, is about "art as" this. This word is paired with "nature" and "education" in other titles by Dewey.

ANSWER: **experience**

[10] This book by Dewey, which defends democracy, was written as a response to Walter Lippmann's *The Phantom Public*.

ANSWER: *The **Public and Its Problems***

2. One prime minister of this country staged sexual bunga bunga parties. For 10 points each:

[10] Name this country whose politics included the center-left Olive Tree coalition during the late 20th and early 21st centuries. A period in this country's 20th-century history was known as the Years of Lead.

ANSWER: **Italy**

[10] During the Years of Lead, Italian Prime Minister Aldo Moro was kidnapped and killed by militants who were part of a group of brigades named after this color, also associated with the shirts of Giuseppe Garibaldi's forces.

ANSWER: **red**

[10] Aldo Moro's Historic Compromise sought to unite his Christian Democrat Party with this Italian party. Its longtime power base was in Bologna, and it was once led by Enrico Berlinguer.

ANSWER: Italian **Communist** Party [or **PCI**]

3. In one work, this thinker classified four different types of suicide. For 10 points each:

[10] Name this man who established sociology as a discipline with his book *Rules of the Sociological Method* and also wrote *The Division of Labor in Society*.

ANSWER: Emile **Durkheim**

[10] Durkheim analyzed this concept in *The Elementary Forms of Religious Life*. Referring to the connection between a person and another, spiritual object, it is paired with "taboo" in the title of a Sigmund Freud work and with "exogamy" in the title of a James Frazier book.

ANSWER: **totemism**

[10] Developed in Durkheim's book *The Division of Labor in Society*, this concept refers to the sociological cohesion that arises when people perform different jobs in advanced societies, making them dependent on each other.

ANSWER: **organic solidarity** [prompt on partial answer]

4. In an infamous scene from this novel, the title character masturbates using a piece of liver, which his mother Sophie then serves for dinner. For 10 points each:

[10] Name this novel whose title character tells the psychoanalyst Dr. Spielvogel about his sexual liaisons with women like Mary Jane Reed, who he nicknames "The Monkey."

ANSWER: Portnoy's Complaint

[10] *Portnoy's Complaint* is by this American novelist. His novels about Nathan Zuckerman include *American Pastoral* and *The Human Stain*.

ANSWER: Philip Roth

[10] Roth won a National Book Award for this novel about the lecherous puppeteer Mickey.

ANSWER: Sabbath's Theater

5. The protagonist of a novel by this author constantly peeps through a hole in the wall with Porcupine to catch Red Shirt in the act with a geisha. For 10 points each:

[10] Name this author who wrote about a math teacher in *Botchan*.

ANSWER: Natsume Soseki

[10] This author included some lascivious peeping in *The Sailor Who Fell from Grace with the Sea*, in which Noboru watches Ryuji have sex with his mother Fusako. He also wrote *Spring Snow*.

ANSWER: Yukio Mishima

[10] Both *Botchan* and *The Sailor Who Fell from Grace with the Sea* are novels from this country.

ANSWER: Japan [accept Nippon]

6. Name some pharaohs of the 18th Dynasty, for 10 points each.

[10] Howard Carter discovered the tomb of this pharaoh, whose mother is known only as "The Younger Lady."

ANSWER: Tutankhamun

[10] This final pharaoh of the 18th Dynasty was the commander-in-chief of the army under King Tut. After becoming pharaoh, he destroyed the monuments of his predecessor, Ay.

ANSWER: Horemheb

[10] The remains of the capital that this pharaoh built are found at Amarna. Nefertiti was his chief consort.

ANSWER: Akhenaten [or Amenhotep IV]

7. For 10 points each, name the following about cars and some heads of state who ride them.

[10] A Mercedes M-class serves as the Popemobile, the official ride of this current head of the Vatican.

ANSWER: Francis I

[10] A Volvo limousine is the state car of this European monarch, who was crowned following the abdication of his mother, Queen Beatrix.

ANSWER: Wilhelm Alexander

[10] A BMW E67 is the official choice of this Iraqi president who spent half of this year being treated for a stroke after collapsing into a coma.

ANSWER: Jalal Talabani

8. The derivation of a generalized form of this law is described in a 2011 *Science* paper by the Capasso Group. For 10 points each:

[10] Name this law which describes the relationship between the angle of incidence and angle of refraction of a wave passing through two isotropic media.

ANSWER: Snell's law [or Snell-Descartes law]

[10] Snell's law is derivable from this principle, which is sometimes named for Fermat. It describes the path taken by a ray of light.

ANSWER: Fermat's principle of least time [or variational principle]

[10] Fermat's principle of least time in inhomogenous media allows one to derive the existence of these optical phenomena that come in "inferior" and "superior" forms, the latter normally due to a temperature inversion.

ANSWER: mirages

9. Answer some questions about the Muslim calendar, for 10 points each.

[10] The Muslim calendar begins in the year 622, the year in which Muhammad emigrated from Mecca to Medina, an event known by this name.

ANSWER: the Hijra [or the Hegira]

[10] The Battle of Karbala is commemorated on the Day of Ashura, which is on the tenth day of this first month of the Muslim calendar.

ANSWER: Muharram

[10] The only month more sacred than Muharram is this month of fasting which precedes Shawwal.

ANSWER: Ramadan

10. This composer's 41 symphonies include ones nicknamed "Haffner," "Linz" and "Jupiter." For 10 points each:

[10] Name this composer from Salzburg who was a child prodigy.

ANSWER: Wolfgang Amadeus Mozart

[10] Only two of Mozart's symphonies were written in a minor key, and they are both in G minor. Give the numbers of both.

ANSWER: Symphony No. 25 and Symphony No. 40 [both parts required; accept K. 173 and KV. 550]

[10] A theme similar to the first theme of Symphony No. 40 makes an appearance in Mozart's 21st work of this type, which may be most famous for its use in the movie *Elvira Madigan*. Rachmaninoff wrote four of these pieces.

ANSWER: piano concerto

11. An important model in this field is the SIR model, which divides populations into three compartments. For 10 points each:

[10] Name this field that uses the Bradford Hill criteria to assess causation.

ANSWER: epidemiology

[10] An early pioneer in the field of epidemiology was John Snow, who tracked the incidence of this disease in London.

ANSWER: cholera

[10] Gaetan Dugas was the index case, or "patient zero", for the epidemic of this disease, which was first recognized in 1981. It is caused by infection with the virus HIV.

ANSWER: HIV/AIDS

12. One skyscraper in this city is known as The Gherkin due to its phallic shape, while another is simply called Tower 42. For 10 points each:

[10] Name this city that also contains a banqueting house with a ceiling painted by Peter Paul Rubens.

ANSWER: London

[10] This architect of several portions of the Hampton Court Palace was called on to head the rebuilding of London's churches after the Great Fire of 1666. He thus supervised the design of St. Paul's Cathedral.

ANSWER: Christopher Wren

[10] This architect of Brighton Palace is known for his work on the extensive renovations that took place to Buckingham Palace during the 1820s, though he ran over budget before all of his plans could be realized.

ANSWER: John Nash

13. This process solves the horizon problem. For 10 points each:

[10] Identify this process proposed by Alan Guth in which the early universe underwent a period of rapid expansion.

ANSWER: cosmic inflation [or cosmological inflation]



[10] Cosmic inflation also solves the problem of why the universe has this geometry, which corresponds to a density parameter equal to one and a curvature of zero.

ANSWER: **flat** geometry

[10] The density parameter appears in the FLRW metric, which is one of the solutions to these equations of general relativity.

ANSWER: **Einstein field** equations

14. This woman was married to Prasutagus, whose will was ignored after he died. For 10 points each:

[10] Name this queen of the Iceni tribe who revolted against her Roman oppressors at Camulodunum, but was eventually defeated by Suetonius Paulinus at Watling Street.

ANSWER: **Boudica** [or **Boadicea**]

[10] This fellow Welsh rebel was originally on good terms with John I when he married his daughter Joan, but eventually relations deteriorated and he allied himself with the barons that were responsible for the Magna Carta.

ANSWER: **Llywelyn** the Great

[10] The final Welsh Prince of Wales, Owain Glendower, unsuccessfully fought against this king. This son of John of Gaunt became the first ruler of the House of Lancaster after he usurped the throne from his cousin.

ANSWER: **Henry IV** [accept **Henry** or **Bolingbroke**; prompt on partial answers]

15. One measure of this concept is molarity. For 10 points each:

[10] Name this quantity that gives how much of something there is per unit volume.

ANSWER: **concentration**

[10] When solutions contain ions, activities are usually needed instead of concentrations. This doubly eponymous equation can be used to calculate the activity coefficients for electrolyte solutions.

ANSWER: **Debye-Hückel** limiting law

[10] This scientist extended Debye-Hückel theory by giving more weight to dipole interactions. He is definitely better known for calculating exact solutions for the 2-D Ising model.

ANSWER: Lars **Onsager**

16. Name some characters from *The Three Musketeers*, for 10 points each.

[10] This protagonist joins Athos, Porthos, and Aramis and coins the motto “All for one and one for all.”

ANSWER: **d’Artagnan**

[10] This seductive French spy tries to murder d’Artagnan a lot, without success. This wife of Athos is executed at the end of the novel.

ANSWER: **Milady** de **Winter** [accept either name]

[10] This count insults d’Artagnan in the first chapter, so d’Artagnan spends much of the novel trying to get revenge on him. Like Milady de Winter, he works for Cardinal Richelieu.

ANSWER: Comte de **Rochefort**

17. This work describes the author’s experiences as part of the ILP Contingent. For 10 points each:

[10] Name this account of the author’s experiences during the Spanish Civil War as a member of the POUM.

ANSWER: **Homage to Catalonia**

[10] In this essay by the author of *Homage to Catalonia*, the narrator reluctantly kills a rampaging animal while working as a police officer in Burma.

ANSWER: “**Shooting an Elephant**”

[10] *Homage to Catalonia* and “Shooting an Elephant” are by this writer, whose fiction includes *Keep the Aspidistra Flying* and *Animal Farm*.

ANSWER: George **Orwell** [or Eric Arthur **Blair**]

18. Men wearing suits and jackets as well as these items of clothing rain from the sky in the painting *Golconda*. For 10 points each:

[10] Name this item of clothing worn by the three men with crescent moons over their heads in *The Mysteries of the Horizon*. In another painting, a man wearing one has a dove in front of his face.

ANSWER: **bowler hats** [prompt on **hat**]

[10] More famously, a man in a bowler hat has a green apple in front of his face in *The Son of Man*, a painting by this Belgian surrealist also known for painting *Time Transfixed*.

ANSWER: René **Magritte**

[10] In this Magritte painting, a cannon sits inside of a room whose walls display images of clouds, a forest, and a woman's nude torso, among other things.

ANSWER: ***On the Threshold of Liberty*** [or ***Au seuil de la liberté***]

19. Name some Knights of the Round Table, for 10 points each.

[10] This knight has an affair with Guinevere. He is shown the Grail by Elaine of Corbenic, who tricks him into sleeping with her by wearing Guinevere's ring so he thinks she is Guinevere.

ANSWER: Sir **Lancelot** du Lac

[10] This knight is almost a virgin, because King Brandegoris's daughter Claire tricks him into sleeping with her using a magic ring, which is apparently a common occurrence in Arthurian myth.

ANSWER: Sir **Bors** the Younger

[10] This father of the Fair Unknown gets stronger as the sun gets brighter. In a poem, he is given a girdle by Lady Bertilak, whose advances he resists.

ANSWER: Sir **Gawain**

20. This leader used guerrilla tactics during Red Cloud's War, and opposed the Treaty of Fort Laramie. For 10 points each:

[10] Name this Lakota Sioux chief who was shot by policeman in a firefight that occurred after James McLaughlin ordered his arrest out of fear that he would join the Ghost Dance movement.

ANSWER: **Sitting Bull** [or **Thathanka Iyotake**]

[10] Sitting Bull and Crazy Horse were victorious at the Battle of Little Bighorn, the "last stand" of this officer.

ANSWER: George Armstrong **Custer**

[10] Another famous Lakota is this medicine man, a cousin of Crazy Horse who related his visions to John Neihardt, who published a book called "[this man] speaks."

ANSWER: **Black Elk** [or **Hehaka Sapa**]

21. For 10 points each, name some things about a girl's best friend.

[10] This model postulates that what people expect the aggregate demand to be helps determine said demand, thereby making peoples' rational expectations a self-fulfilling prophecy. It's named after a fruit.

ANSWER: **Diamond coconut** model

[10] Probably Jared Diamond's most influential work, this text speculates on how and why Europeans subjugated the New World.

ANSWER: ***Guns, Germs and Steel***

[10] Cora Diamond has written on both *Tractatus Logico-Philosophicus* and *Philosophical Investigations*, and can therefore be considered an expert on this neurotic Austrian philosopher's work, like Stanley Cavell.

ANSWER: Ludwig **Wittgenstein**

