

MKULTRA 3: Asking the Super-Important Questions

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Editors 1

Tossups

1. **One character in this movie successfully shoots at a thieving child despite being blind. Another character uses their last favour with Mad Pete Trullo. One character in this movie claims that the patrons of her establishment like both kinds of music: country *and* western. The title characters of this movie win over the patrons of the establishment by playing the theme song to the TV series (*) *Rawhide*. Later, they play in the Palace Hotel ballroom before engaging in a 106-mile car chase to Chicago pursued by the police, the Good Ol' Boys and the Illinois Nazis. For 10 points, name this 1980 movie where Dan Aykroyd and John Belushi are on a mission from God.**

ANSWER: *The **Blues Brothers*** <PA, Trash>

2. **Anthony Baines declared that the parts for this instrument in Handel's *Saul* were "the finest in the eighteenth century", and three of these instruments are featured in *Saul's* "Dead March". Launy Grondahl's concerto for this instrument has been recorded by Christian Lindbergh, and the first known concerto for this instrument was composed by Leopold Mozart. The (*) Tuba Mirum in W. A. Mozart's *Requiem* begins with a solo for this instrument, which also introduces the "Aino" theme in Sibelius's seventh symphony. Derived from the medieval sackbut, for 10 points, name this brass instrument whose pitch is controlled by moving a slide between varying positions.**

ANSWER: **trombone** [or **tenor trombone**, do not accept other more specific kinds of trombone]
<CS/EWL, Auditory Fine Arts>

3. *Note to moderator: maybe have a quick look at the answerline before you start reading.*

Resonance and polarity effects in one of these reactions can be analysed using the Q-e scheme. One type of this reaction can be initiated in the SU-8 photoresist using ultraviolet light. Xanthates and di-thio-esters are used as transfer agents in the RAFT class of these reactions. One type of these reactions uses methyl-alumin-oxane as a cocatalyst alongside a metallocene complex named for (*) Ziegler and Natta. The products of one of these reactions can be analysed using the Stockmayer distribution. Possible mechanisms for these reactions include step-growth and chain-growth. For 10 points, name this class of reactions which forms long-chain molecules from monomers.

ANSWER: **polymerisations** [or radical **polymerisations**; addition **polymerisations**; condensation **polymerisations**; reversible addition-fragmentation chain-transfer **polymerisation** before mentioned; **RAFT** before mentioned; or any other type of **polymerisation** reaction you can think of; accept **crosslinking**] <EWL, Chemistry>

4. **This man argued that the union between Christ and the Church was the second of "Four Kinds of Marriage". He's not Clement XI, but this man compared the Church to a diseased grapevine in the bull *Vineam Domini*, and called for the liberation of the Holy Land in *Quia Maior*. This man objected to the unification of Sicily and Germany, but accepted (*) Frederick II as Holy Roman Emperor after Otto IV's defeat at Bouvines. This pope excommunicated Philip Augustus for imprisoning his wife, and placed England under interdict after Stephen Langton was prevented from becoming Archbishop of Canterbury. For 10 points, name this domineering pope, who convened the Fourth Lateran Council and feuded with King John.**

ANSWER: **Innocent III** [or **Lothario of Signi**] <TH, History>

5. **This man finished third in the 2015 edition of Gent-Wevelgem ["VEV-ull-HEM"] despite being blown off his bike. At the 2015 Tour de France, a collision with Warren Barguil saw this man crash into a telegraph pole. This man wore the White jersey for four days at the 2010 Tour de France and, despite enduring a painfully-slow wheel change in the final kilometres, this man won the road race at the (*) 2014 Commonwealth Games. This man withstood attacks from Alberto Contador on the final stage to win the 2016 Paris-Nice. Alongside Mikel Landa, this man was chosen to lead Team Sky at the 2017 Giro d'Italia. For ten points, name this Welsh cyclist who won the opening time trial of the 2017 Tour de France.**

ANSWER: Geraint (Howell) **Thomas** <DK, Trash>

6. **Kepier Hospital was a medieval hospital located adjacent to this river. A former cement works near the village of Eastgate in this river's valley was used as the main outdoor set for the ITV series *Beowulf*. Vinovia was a Roman fort constructed where Dere Street crossed this river. Medieval masonry arch bridges that cross this river include (*) Framwellgate and Elvet. Chester-le-Street is home to the Riverside Ground, a cricket venue named for its proximity to this river, and a peninsula created by a sharp meander in this river is home to the historic centre of Durham. For ten points, name this river which enters the North Sea at Sunderland.**

ANSWER: River **Wear** <DK, Geography>

7. **The Five Elders are said to have escaped a 17th century destruction of this site, which is home to a 'forest' of 240 pagodas. This institution's current head, Shi Yongxin had been criticized for soliciting prostitutes and receiving a Volkswagen Touareg as a gift but has responded "Commercialization or industrialization, whatever term you use it, is a path leading up to the truth of Zen." Batuo, an Indian, served as this site's first (*) abbot, while this site's apocryphal southern equivalent in Fujian has not been identified. It was here that Bodhidharma was supposed to have left the Yijin Jing, a guide to physical and breathing exercises. For 10 points name this Chan monastery in Dengfeng County, Henan, home to monks who carry out a namesake of spiritually motivated Kung Fu.**

ANSWER: **Shaolin** Monastery [accept **Shaolin** Temple]

8. **In 2012, this poet's life was depicted in the Nick Dear play *The Dark Earth and the Light Sky*. The speaker of one poem by this author states "I have come to the borders of sleep / The unfathomable deep." Another poem by this author describes how he saw "meadowsweet, and haycocks dry, / No whit less still and lonely fair / Than the high cloudlets in the sky." This poet was inspired to enlist in the Artists Rifles by his friend (*) Robert Frost's poem "The Road Not Taken". One of this man's poem describes how "one afternoon / of heat the express-train drew up" at an empty Gloucestershire railway station. For 10 points, name this poet of "Adlestrop" who died at Arras.**

ANSWER: **Edward Thomas** [prompt on **Thomas**; do not accept "Dylan Thomas" from anyone confused about why they were prompted] <DJ, Literature>

9. **A 'spatial' model of these entities, which was developed by Anthony Downs, suggests that they mainly interact by their position in n-dimensional space, in contrast to 'valence' models. These entities can be classified as elite, mass, catch-all or cartel, depending on their relationship to the state and civil society. Duverger's Law states that the number of these entities in a (*) plurality system will tend towards two. These groups, which do not exist in Nauru or Tuvalu, are more powerful in closed electoral list systems, as voters are only able to indicate preferences for these entities and not candidates. For ten points, name these election-contesting groups of political elites, such as the Indian National Congress and the Liberal Democrats.**

ANSWER: Political **parties** [do not accept or prompt on "pressure groups"] <FCM, Social Science>

10. **In a play by this author, one character says that "After having won a scepter, few are so generous/As to disdain the pleasures of ruling", encouraging an emperor not to retire. A general**

in a play by this author says that “To conquer without risk is to triumph without glory” and that “he who fears not death fears not a threat” foreshadowing his death in a duel. One of this man’s plays was investigated by Richelieu’s (*) Academie Francaise, which criticized that tragicomedy for breaking classical unities. In one work by this author of *Cinna*, Chimene is forced to request the head of Rodrigue after he kills her father Don Gormas, but reunites with him after he wins a duel and defeats the Moors. For 10 points, name this French playwright of *Le Cid*.

ANSWER: Pierre Corneille <DJ, Literature>

11. Juan José Junquera attributed these works to their creator’s son on the basis that the house where they were found had just one storey. One of these works shows only the head of the title animal between a dirty ochre sky and brown earth; another of these works references an earlier depiction of a crowd fading into the distance in the *Meadow of San Isidro*. A (*) skull-like old man eats soup in one of these works which also include *Fight with Cudgels* and a painting of Satan as the Great He-Goat. These murals in the Quinta [“KEEN-tah”] del Sordo include *Witches’ Sabbath* and *Saturn Devouring His Son*. For 10 points, name this dark series of paintings by Francisco Goya.

ANSWER: Black Paintings [or Pinturas negras] <PA, Visual Fine Arts>

12. Robert A. Segal used the model of the Jungian puer to argue that the negative example of this figure “dramatizes the prerequisites for membership in the polis.” A festival commemorating this figure was celebrated by women growing small gardens of wheat, barley, lettuce and fennel which they would carry to the rooftops. In Ovid’s *Metamorphoses*, this figure is born after (*) Cinyras was seduced by his daughter, who was turned to a myrrh tree to hide her shame. Ovid describes how “enraptured by the beauty of a man, [this man’s lover] cared no more for her Cytherea’s shores nor sought again her sea-girt Paphos nor her Cnidos” and relates how the anemone first bloomed from this man’s blood. For 10 points name this beautiful youth loved by both Persephone and Venus.

ANSWER: Adonis

13. A method named for this scientist used in scattering theory takes the incident field as the driving field in the scatterer. This man is the first namesake of an equation for which a rho-over-r-nought term was added in a refinement named for this man and Mayer. This scientist names that equation used to calculate the lattice energy of an ionic compound with (*) Alfred Landé. This man is the first namesake of a principle stating that nuclear motion is negligible on the timescale of electronic motion, an approximation named for this man and Oppenheimer. For 10 points name this scientist who names a cycle used to calculate reaction energies with Fritz Haber, whom non-scientists would like you to know is the grandfather of Olivia Newton-John.

ANSWER: Max Born <EWL, Physics>

14. This leader allegedly fulfilled a prophecy by lifting at the age of fourteen the Naha Stone. This leader was advised by John Young and Isaac Davis, whom they captured from the ships *Fair American* and *Eleonora*. A rebellion against this leader led by their cousin Keoua failed when a volcanic eruption destroyed the rebels. This leader was beaten by a fisherman with an oar while raiding the Puna district, and afterwards established the (*) Law of the Splintered Paddle. This leader won the Battle of Nu’uanu by driving their enemies off a cliff, and subsequently conquered the island of Oahu. When Kauai submitted to him, which man became, for ten points, the unifier and founder of the Kingdom of Hawaii?

ANSWER: Kamehameha I [or Kamehameha the Great; or Kalani Pai’ea Wohi o Kaleikini Keali’ikui Kamehameha o ‘Iolani i Kaiwikapu kau’i Ka Liholiho Kūnuiākea] <PA, History>

15. This band appear as nuclear garbagemen in Neil Young’s film *Human Highway*. This band sings “But I ain’t got a hammer and I ain’t got a pencil [...] so I’m doing it the hard way” in “Post Post-Modern Man”. The music video for one track by this band features red and blue (*) skateboarding

teams which crash into each other on a half-pipe. Another music video created by this band is based on an issue of *Dude* magazine and sees a woman's clothes skilfully removed using the track's title implement. That song encourages the listener to "Shape it up / Get straight / Go forward / Move ahead". For live performances, this band often wears yellow jumpsuits and red "energy domes". "Freedom of Choice" and "Whip It" are, for ten points, singles by which US rock band?

ANSWER: Devo <DK, Trash>

16. **This is the heaviest element enriched in soils in the process of laterization. Soker and Tsebrenko suggested that a white dwarf undergoing a supernova could fire out "bullets" composed of this element. A "hypothesis" named for this element aims to dump it into the ocean to (*) stimulate phytoplankton growth and reduce ocean acidification. If the proton does not decay, then in roughly 10 to the power of 1500 years, stars composed of this element are hypothesised to form. The lowest mass per nucleon of any nuclide is found in this element's 56 isotope, which is the most common endpoint of nucleosynthesis. For 10 points, name this metallic element with symbol Fe.**

ANSWER: iron [or Fe before mentioned] <EWL, Other Science>

17. **In *Magic: The Gathering*, Tezzeret the Schemer is associated with these two colours, as is House Dimir from Ravnica. These colours are paired in the lyrics of Pink Floyd's "Us and Them". Teams that use stripes of these colours include Montreal Impact and Club Brugge. These colours name albums by both the (*) Backstreet Boys and the Rolling Stones. In a 1929 jazz standard, the singer wakes in a "cold empty bed / springs hard as lead", and asks "what did he do" to be these colours. In croquet, the opponents of red and yellow use these colours. If "The Dress" is not white and gold it is, for 10 points, what two colours of Inter Milan?**

ANSWER: black and blue [accept colours in either order; two colours are required, so do not prompt on answers giving just one colour] <PA, Miscellaneous>

18. NOTE: Descriptive answers acceptable. **This place's first black mayor was Goldie Wilson. One map of this place indicates a ravine as named for Shonash, though its name is later changed variously to Eastwood or Clayton. Movies that can be seen in cinemas here include *Orgy American Style*, *The Atomic Kid* and *Jaws* (*)** 19. The Twin Pines Mall can be found in this place, though later it becomes the Lone Pine Mall. Marvin Berry plays at a high school dance in this town where a bolt of lightning stopped a courthouse clock at 10:04 pm on November 12th 1955. For 10 points, name this hometown of Doc Brown and Marty McFly.

ANSWER: Hill Valley [accept the town from Back to the Future or obvious equivalents] <PA, Miscellaneous>

19. **In one novel by this author, a character breaks the silence in a church by saying "If that story about hell is a lie, we're all fucked, aren't we?" The protagonist of a novel by this author is forced to flee a brothel after a police raid and move in with a Turkish man with a cleft palate, before helping guerrilla fighters rescue prisoners from jail with (*)** Rolf Carle. This author wrote a novel in which the nobleman Jean de Satigny is revealed not to be related to Alba, whose father is actually Pedro Tercero. The green-haired Rosa dies from poison intended for her father Severo del Valle in a novel by this author, which follows the life of the Trueba family. For 10 points, name this Chilean author of *Eva Luna* and *The House of the Spirits*.

ANSWER: Isabel Allende <EWL, Literature>

20. **An account of this event written by Arthur Haines describes a soldier being bayoneted while waving a white flag outside the Alexandra Hospital. An unauthorised retreat caused the Jurong Line to collapse during the battle of Kranji, part of this event. Following the Battle of Bukit Timah, the losing side in this event convened in (*)** Fort Canning to surrender. An account of the strategy leading to this event described how "Even the long-legged Englishmen could not escape our bicycles" and

was written by Masnabu Tsuji. For 10 points, which battle, described by Churchill as the “worst defeat” in British military history, resulted in the Japanese conquest of an entrepot in Malaya?

ANSWER: Battle of **Singapore** or Fall of **Singapore** [accept obvious equivalents or **Alexandra Hospital Massacre** before mention, prompt on World War Two or Malayan Campaign] <PA, History>

Bonuses

1. You are a good Muslim. For 10 points each:

[10] You are such a good Muslim that you descend, both patrilineally and matrilineally, from the prophet Muhammad, and thus can use this honorific title.

ANSWER: **sayyid** (for men) or **sayyida** (for women)

[10] Because you are a good Muslim, you fulfil this pillar of Islam that requires you to pray five times a day.

ANSWER: **salat**

[10] You want to prove you are an exceptionally good Muslim, and thus commit to becoming a hafiz or hafiza, which involves doing this action.

ANSWER: **memorising the Qur'an** [or obvious equivalents]

2. The song "It Was a Good Day" recounts a particularly happy day for its author. Analysis of the lyrics says that the day in question may have been the 20th of January 1992. For 10 points each:

[10] "It Was a Good Day" is by this artist, who started out in N.W.A. and had his most successful release with the album *The Predator*.

ANSWER: **Ice Cube** [or **O'Shea Jackson Sr.**]

[10] Amongst other reasons, Ice Cube claims it was a good day because no one he knows got shot in this area of Los Angeles famously associated with gang violence.

ANSWER: **South Central LA** [accept **South LA** but not Central LA]

[10] Yet another reason it was a good day is because this basketball team from Los Angeles beat the Seattle Supersonics on that day.

ANSWER: Los Angeles **Lakers** <PA, History>

3. As well as Britain, France, Spain and Portugal, smaller polities also tried their hand at colonisation. For 10 points each:

[10] This region saw colonisation efforts by the Prussians in Groß Friedrichsburg, the Danish in Fort Christianborg, and the Swedish in Fort Carlsborg, before being eventually seized by the British. This region was valued for its role in trading slaves, as well as its namesake commodity.

ANSWER: **Gold Coast** [prompt on **Ghana**]

[10] In the 1690s, Scotland attempted to settle this area of the New World. Outbreaks of disease, as well as blockades by the English and Spanish, rendered it a disastrous failure.

ANSWER: Gulf of **Darien** [generously accept **Panama**]

[10] Phillippe de Longvilliers de Poincy established colonies on Saint-Martin and Saint Barthelemy acting on behalf of France and this organisation.

ANSWER: **Knights Hospitaller** [or **Order of St. John**; or **Knights of Malta**; or **Knights of Rhodes**] <PA, History>

4. Answer the following about British plays that sparked audience walkouts, for 10 points each:

[10] Starting small, this play has only had one known audience walkout, when a lone man at a preview stood up, said "I object", and left. This play by Michael Frayn concerns a meeting between Niels Bohr and Werner Heisenberg to discuss atomic weaponry.

ANSWER: **Copenhagen**

[10] A current Broadway adaptation of this 1949 novel has seen walkouts due to its amped-up depiction of O'Brien's torture of Winston Smith. Star Tom Sturridge has already suffered a broken nose and fainted mid-performance.

ANSWER: **1984**

[10] This play by Philip Ridley had at least 10 walkouts in every performance of its original run, possibly due to the scene where a child dressed as Elvis singing "Love Me Tender" is tortured using a meat hook by a "Party Guest" high on hallucinogenic butterflies.

ANSWER: **Mercury Fur** [how this didn't make it into last year's set is beyond me] <EWL, Literature>

5. Theresa May may not be "strong and stable", but well-designed bridges are. For 10 points each:

[10] The longest single-span bridges in the world have been achieved with this type of bridge, one example of which is the Humber Bridge.

ANSWER: **suspension** bridge

[10] Contrary to popular belief, the not-so-strong and stable Tacoma Narrows suspension bridge did not fail due to resonance, but due to this dynamic instability where oscillations amplify due to positive feedback between the deck deflection and the wind force.

ANSWER: aeroelastic **flutter**

[10] Older long-span bridges often used this design in which segments of the bridge are suspended between supports that are mounted on just one side. The Forth Bridge implements this design in steel trusses.

ANSWER: **cantilever** bridge <DK, Miscellaneous>

6. Arrests made under Operation Spanner resulted in this legal case, which was appealed to the House of Lords in 1993. For 10 points each:

[10] Name this legal case, in which five men were convicted of actual bodily harm after performing sadomasochistic acts.

ANSWER: *R. v* **Brown**

[10] The prosecution were judged to not have to prove a lack of this legal excuse in order to prove the defendant's guilt. This legal excuse cannot be applied to sexual acts with people under 16 years old in the UK.

ANSWER: **consent**

[10] The case of *Chester v Afshar* found that consent could not be given if incomplete information was given by a member of this profession. The standard of negligence for these people can be established by the Bolam test.

ANSWER: **doctors** <FCM, Social Science>

7. The name for this school of poetry was coined by Francesco Flora, and its principles first explained by Carlo Bo. For 10 points each:

[10] Name this Italian poetic movement, similar to Symbolism, characterised by brief, punctuation-less works with cryptic meaning and espoused by Salvatore Quasimodo and Giuseppe Ungaretti.

ANSWER: **Hermeticism** or **hermetic poetry**

[10] Giuseppe Ungaretti wrote many hermetic poems based on his experiences in this conflict, such as *Soldati*. Wilfred Owen wrote "Dulce et decorum est" during the same conflict.

ANSWER: **World War I** [or obvious equivalents]

[10] This Italian poet received the 1975 Nobel Prize in Literature for his hermetic poetry, such as the collection *Cuttlefish Bones*.

ANSWER: Eugenio **Montale** <PA, Literature>

8. This man's use of ether to painlessly extract a tooth inspired an 1846 public demonstration of anaesthesia in Boston. For 10 points each:

[10] Name this dentist who tried to patent ether as "letheon" and spent years feuding with other pioneers of anaesthesia.

ANSWER: William T(homas) G(reen) **Morton**

[10] This contemporary of Morton's coined the term anaesthesia; his identically named son is better known for describing "clear and present danger" in his judgement on 1st Amendment rights in *Schenck vs. US*.

ANSWER: Oliver Wendell **Holmes**, Sr. [accept also Oliver Wendell **Holmes**, Jr.]

[10] The younger Holmes served at the Battle of Fredericksburg while serving in this Union Army active in the Eastern Theater, which made extensive use of anaesthetics in battlefield surgery. Wikipedia asserts that Morton himself worked as a surgeon with this Army.

ANSWER: Army of the **Potomac** <ED, History>

9. Liam Neeson and Ralph Fiennes appear opposite each other as Greek gods in this film. For 10 points each:

[10] Name this 2010 remake in which Zeus asks Hades to “RELEASE THE KRAKEN!!!”

ANSWER: ***Clash of the Titans***

[10] *Clash of the Titans* was nominated at the Golden Raspberries for the Worst Eye-Gouging Misuse of 3-D but lost out to this M. Night Shyamalan film based on a Nickelodeon animated TV series about people who can control the four classical elements.

ANSWER: ***The Last Airbender*** [accept ***Avatar: The Last Airbender***; do not accept or prompt on “Avatar”]

[10] This actor portrayed Perseus in both *Clash of the Titans* and its sequel *Wrath of the Titans* as well as paraplegic US marine Jake Sully in James Cameron’s 2009 film *Avatar*.

ANSWER: (Samuel Henry John) “Sam” **Worthington** <DK, Trash>

10. Name some post-translational modifications, for 10 points each:

[10] The most common post-translational modification adds a group containing three oxygen atoms and one atom of this group 15 element, which is also found in the head group of lipids that form the cell membrane.

ANSWER: **phosphorus** [or **P**; accept **phosphorylation**]

[10] This small regulatory protein can also be added to the end of proteins to tag them for degradation in the proteasome. As its name suggests, it is found in essentially every tissue in eukaryotic organisms.

ANSWER: **ubiquitin**

[10] This compound, which features a ureido ring fused to a tetrahydrothiophene ring, can be added to proteins for use in affinity chromatography, which exploits the strong interaction between this compound and avidin.

ANSWER: **biotin** <EWL, Biology>

11. The name of this region is derived from a local Amerindian group rather than a small flying insect. For 10 points each:

[10] Name this region of Caribbean coast, formerly a British protectorate, shared by Honduras and Nicaragua.

ANSWER: **Mosquito Coast** or **Miskito Coast**

[10] One of the few major settlements along the Mosquito Coast is this Nicaraguan city and former capital of the British protectorate. Its name is derived from a Dutch pirate rather than the presence of land of a particular colour.

ANSWER: **Bluefields**

[10] The Mosquito Coast is home to numerous examples of this type of body of water that has been separated from a larger one by a shoal, reef or barrier island. Examples in the UK include the Fleet in Dorset and Slapton Ley in Devon.

ANSWER: **lagoon** <DK, Geography>

12. This painting’s near-8 metre length gives it the impression of an “ultra-widescreen” with the title action clustered on the right-hand side. For 10 points each:

[10] Name this 1530s painting in which a tiny child clothed in blue emits a halo and stuns the two priests who await her atop a staircase.

ANSWER: *The **Presentation** of the **Virgin** in the **Temple*** [accept **Mary** for **Virgin**; accept variations on the word order and prepositions as long as the answer contains the three underlined concepts]

[10] This painter of *The Presentation of the Virgin in the Temple* highlighted the child Mary in a characteristic brilliant blue, also seen in his works like *Bacchus and Ariadne* and *Diana and Actaeon*.

ANSWER: **Titian** [or either underlined part of **Tiziano Vecellio**]

[10] *The Presentation of the Virgin in the Temple* is housed in this principal picture gallery in Venice, which also contains Veronese's *Feast in the House of Levi*. Michelangelo's *David* is housed in an identically named gallery in Florence.

ANSWER: Galleria dell'**Accademia** <ED, Visual Fine Arts>

13. This man is nicknamed "the Silver Bullet" due to the shiny helmet he wears in competition. For 10 points each:

[10] Name this Swiss Paralympic athlete who took gold in both the T54 800 m and marathon at the Rio 2016 Paralympics.

ANSWER: Marcel (Eric) **Hug**

[10] Hug's T54 class of competition is within this track discipline in para-athletics. Tanni Grey-Thompson competed in this discipline's T53 class.

ANSWER: **wheelchair racing** [prompt on partial answer; accept descriptive answers mentioning both the concepts of a **race** and **wheelchairs**]

[10] For many years Hug had a rivalry with this British T54 wheelchair racer who won six Paralympic gold medals across the 2008 and 2012 games. He won his seventh London Marathon title in 2017.

ANSWER: David (Russell) **Weir** <DK, Miscellaneous>

14. Answer the following about graph theory, for 10 points each:

[10] Name these cycles in graph theory, which start and end at the same vertex of a graph, traversing every edge exactly once.

ANSWER: **Eulerian** path [or **Eulerian** trail, **Eulerian** circuit or **Eulerian** cycle]

[10] Paths which visit each vertex in a graph exactly once are named for this Irish mathematician, who also developed the quaternions.

ANSWER: William Rowan **Hamilton** [or **Hamiltonian** path]

[10] These graphs are formed by assigning a direction to every edge in a complete graph. László Rédei proved that a finite one of these graphs must contain an odd number of Hamiltonian paths.

ANSWER: **tournaments** <EWL, Other Science>

15. The epitaph on this man's tombstone reads "Teenage dreams, so hard to beat." For 10 points each:

[10] Name this original and longest serving Radio 1 DJ, who loved the song "Teenage Kicks" so much that he once played it back to back on his show.

ANSWER: John **Peel**

[10] John Peel paid for the recording of this Northern Irish band's first EP after hearing their demo of "Teenage Kicks." This band's other singles include "Jimmy Jimmy" and "Here Comes the Summer".

ANSWER: The **Undertones**

[10] The titular figure of this other Undertones song has "A grades in economics, maths, physics and bionics", but is "in love with himself". That titular figure calls the singer a cabbage because he hates *University Challenge*.

ANSWER: "**My Perfect Cousin**" <TH, Trash>

16. A leitmotif associated with this character consists of a turn at the end of a minim E-flat followed by an ascending major sixth and descending perfect fourth. For 10 points each:

[10] Identify this character who, shortly after singing *Der diese Liebe mir ins Herz gehaut*, is put to sleep by her father to be awakened by a hero who knows no fear.

ANSWER: **Brunhilde**

[10] Brunhilde is one of the title characters of *Die Walküre*, one of four operas by Richard Wagner that make up this group of operas centered on an object forged by the dwarf Alberich.

ANSWER: The **Ring** Cycle [or *Der **Ring** des Nibelungen*]

[10] Due to Brunhilde's attempt to save Siegmund and Sieglinde, Wotan is forced to intervene, breaking this sword, whose shards Brunhilde hides after the death of Siegmund.

ANSWER: **Notung** [or **Needful**; prompt on **Gram**] <CS, Auditory Fine Arts>

17. William Rowe used a fawn burning to death in a forest as an example of the "natural" form of this phenomenon. For ten points each:

[10] Name this philosophical phenomenon, which apparently contradicts the omniscience, omnipotence and omnibenevolence of God in a namesake "problem".

ANSWER: **evil** [accept more specific forms, such as natural or moral **evil**]

[10] This philosopher of religion attempted to solve the logical problem of evil through the idea of "transworld depravity". His other work includes a series of books on warranted belief.

ANSWER: Alvin **Plantinga**

[10] Plantinga's defence of God hinges on the intrinsic value of this concept, which he suggests is necessary for the possibility of moral good. Compatibilism is the belief in both this concept and determinism.

ANSWER: **free will** <FCM, Philosophy>

18. This character scandalously visits the Chateau de Chillon with a gentleman she has only just met, after her brother demanded sugar cubes from that gentleman. For 10 points each:

[10] Name this character, who meets Frederick Winterbourne on holiday in Switzerland. She contracts "Roman fever" after visiting the Colosseum with her lover Giovanelli.

ANSWER: (**Annie**) "**Daisy**" **Miller** [accept any of the three parts]

[10] *Daisy Miller* is a novella by this American author of *The Golden Bowl* and *The Ambassadors*.

ANSWER: Henry **James**

[10] Henry James was fictionalised in this author's novel *The Master*, which depicts James living in East Sussex after the failure of his play *Guy Domville*.

ANSWER: Colm **Tóibín** ["CULL-um Toe-BEAN"] <EWL, Literature>

19. In case you didn't think there were already enough doubly-eponymous concepts in this set, here's a triple whammy. For 10 points each:

[10] This [4+2] ["four-plus-two"] cycloaddition between a diene and a dienophile won the Nobel for its namesake pair of German chemists.

ANSWER: **Diels-Alder** reaction

[10] The Diels-Alder reaction is a member of this class of reactions, which proceed through a concerted mechanism. These reactions are governed by the Woodward-Hoffmann rules.

ANSWER: **pericyclic** reactions

[10] This subset of pericyclic cycloadditions are those in which two sigma bonds are made or broken to the same atom, such as in the Simmons-Smith cyclopropanation.

ANSWER: **cheletropic** reactions <EWL, Chemistry>

20. The largest empire in India was the Iron Age Mauryan Empire. For 10 points each:

[10] The Mauryan Empire was founded by this man, who conquered much of the subcontinent before becoming a Jain monk.

ANSWER: **Chandragupta** Maurya [or **Sandrokottos**; or **Androcottus**]

[10] Chandragupta's wars led him to fight this general of Alexander the Great. This general lost the Indus River Valley to the Maurya Empire and ruled over a namesake empire in the Near East.

ANSWER: **Seleucus I** Nicator

[10] The Maurya Empire reached its greatest extent under Chandragupta's grandson, Ashoka, after this war was won. This war was so bloody that Ashoka swore off violence and became a Buddhist monk.

ANSWER: **Kalinga** War <PA, History>