OOT 2019: A Pope for Every Packet
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THE ANSWER TO THE LAST TOSS-UP SHOULD HAVE BEEN: **Gloucestershire**

<u>Packet 7</u>

Toss-ups:

1. Mary Ann Glendon argues that discussion of these entities has an 'absoluteness that promotes unrealistic expectations'. The Hohfeldian system is a fourfold classification of these entities. The sufficient reason criterion is an element of the 'interest theory' of these entities which is supported by Joseph Raz. Ronald Dworkin uses a metaphor that holds these entities should be seen as 'trumps'. Jeremy Bentham argued that these entities 'lay down as an inviolable principle whatever is in dispute' and labelled them 'nonsense on stilts'. J.S. Mill described these entities as 'something which society ought to defend me in the possession of'. For 10 points, name these principles that describe what people are entitled to do, including free speech and freedom of religion.
ANSWER: **rights** <GDC>

2. They are not coral reefs, but some of the most northerly examples of this biome are found in Okinawa, where high levels of sedimentation may be threatening the remaining areas. The Brazilian city of Recife contains a notable urban example of this biome. Despite containing no large settlements, one of these biomes supports four million people, providing valuable timber, but has been threatened by the construction of the Rampal coal power plant in Khulna. That single largest area comprised of this biome is known as the Sundarbans, as the Ganges-Brahmaputra rivers flow into the Bay of Bengal. For 10 points, name this intertidal habitat, which contain many of their namesake salt-tolerant trees.
ANSWER: **mangrove** swamps [accept **mangals**] <OSC>

3. This town's castle was destroyed by Scottish forces in 1337 to prevent it falling into English hands, after which it lay in ruins for the rest of the century. That castle was a notorious prison, notably being used to detain its insane owner Archbishop Patrick Graham. In 1472, Pope Sixtus IV elevated this town's bishopric to an archbishopric, making it the first in Scotland to hold that status. One institution in this city was founded when the Avignon Antipope Benedict XIII issued a papal bull to a group of Augustinians, creating the third oldest university in the English-speaking world. For 10 points, name this home of golf, located on the east coast of Fife in Scotland.
ANSWER: **St Andrews** <CP>

4. The title of a 1935 play by Jean Giraudoux states that a war at this city 'Will Not Take Place'. This city is the setting of Christopher Logue's *War Music*, a retelling of an earlier work. Alice Oswald's *Memorial* describes characters who died at this location, beginning with 'PROTESILAUS / A focused man who hurried to darkness' who 'died in mid-air jumping to be first ashore'. A recent book by Madeline Miller is titled for the *Song of* a character who dies at this location. In Marlowe's *Dr Faustus*, the protagonist resurrects the character said to have caused a war at this city. For 10 points, name this ancient city, which Aeneas fled in an epic by Virgil and at which Hector, Achilles, and Patroclus were killed.
ANSWER: **Troy** [or **Ilium** or **Ilion**] <AH>

5. The Charney-Drazin criterion prevents small wavelength Rossby waves from propagating in this layer and is thus responsible for preventing forcing from the layer below this one. The quasi-biennial oscillation develops in and

propagates downwards from this layer. The Brewer-Dobson circulation is responsible for horizontal mixing in this layer, whose upper regions are the site of the Chapman cycle. This atmospheric layer is the lower of two exhibiting temperature inversion and it contains the ozone layer. For 10 points what is this layer of the atmosphere whose name is a result of its lack of vertical mixing that lies between the troposphere and the mesosphere?
ANSWER: **stratosphere** [do not prompt on "ozone layer"] <JR>

6. One unfortunate character in this series lost an eye in an accident and after going bankrupt became a milkman, while another character, Kate Madikane, gives birth to their daughter Phoebe in a tipi at Glastonbury. A confrontation over an affair in this series controversially took place in a spin-off episode, rather than the main series. The climax of a storyline in this series saw Helen stab Rob in front of her son Henry. One character in this series was killed by a falling beam in a fire, a death intended to draw attention from the launch of ITV on the same night. The 2012 Olympic opening ceremony featured the theme to this series, 'Barwick Green'. The world's longest-running serial drama, for 10 points name this 'everyday story of country folk' set in Ambridge.
ANSWER: The _**Archers**_ <AP>

7. Samuel Taylor Coleridge names _Oedipus Tyrannus_, _Tom Jones_, and one of this man's works as having the 'three most perfect plots ever planned.' In one play by this writer, Cutbeard and Otter refuse to give Morose grounds to end his marriage, before Dauphine reveals that the titular 'silent woman' is actually a boy. In another play, Dapper meets the 'Queen of Fairy' after being gagged and shoved into a bathroom, but she is actually just Doll Common in disguise. In that play by this author, Epicure Mammon seeks the philosopher's stone, and the title scammer, Subtle, flees Lovewit's house at the play's end. For 10 points, name this Jacobean dramatist of _Epicoene_ [EP-i-seen] and _The Alchemist_.
ANSWER: Ben **Jonson** <DC>

8. A character claims that 'you could wake up tomorrow and all your jobs are in Mexico' in one of these locations in Reading, Pennsylvania. In another play set in one of these locations, Sara leaves a man who practices reciting Byron in front of a mirror in order to be with Simon Harford, a man who has 'a touch of the poet'. In a play in one of these locations, which is also the setting of _Sweat_ by Lynn Nottage, a member of The Movement is put on trial for a bombing and a character confesses to murdering his wife, Evelyn. Hickey comes to one of these locations owned by Harry Hope in one play. For 10 points, _The Iceman Cometh_ is set in what type of drinking establishment?
ANSWER: **bar** [or **tavern** or **pub**, anti-prompt on 'dining room'] <GDC>

9. The father and grandmother of one of these works' protagonists are murdered for refusing to reveal a code, passing on responsibility for the title object to the next generation. The protagonist of another of these works is imprisoned for grave-robbing after his wife's resurrection. Performed outdoors to empty seats during the Ghost Festival, these works feature villains wearing elaborate white face-paint. The most popular form of these works have four main roles of gentleman, woman, rough man, and clown, while _The Legend of the Red Lantern_ was one of these works among the Eight Model Plays. An older example being _The Peony Pavilion_, for 10 points name these works combining music and drama, which include Kunqu [Kun-chu], Cantonese, and Peking forms.
ANSWER: **Chinese operas** [accept **Peking**/(**Beijing**)/**Kunqu**/**Cantonese** before mention] <AP>

10. Description acceptable.
Reversing well-established tendencies of the same type as the three tendencies identified by Elizabeth Traugott is one way of attempting this process. For the area in which this process is most able to be successful, the most dominant approach involves looking for correspondence sets between cognate items: that is the Comparative Method. The Neogrammarian Hypothesis's assumption of regular sound change is fundamental to this process, which often makes use of sound changes that happened between a mother language and its daughter languages. For 10 points, name this process, where linguists attempt to postulate an earlier form of a language or languages, an example result being Proto-Indo-European.

ANSWER: linguistic **reconstruction** [accept **reconstructing** any specific (proto-)language; prompt on Comparative Method before mention] <EL>

11. In general coordinates on an arbitrary manifold, this quantity is equal to the standard form of this quantity plus a Christoffel symbol multiplied by a product of two generalised velocities. When the proper form of this quantity is constant, the distance to a photon as measured in the instantaneous rest frame is constant. That proper form of this quantity is equal to the speed of light times the derivative with respect to proper time of rapidity. The derivative with respect to time of the angular velocity of the frame crossed with position is the Euler form of this quantity, whereas the centripetal form is equal to radius times angular velocity squared. For 10 points, name this quantity, the second derivative of position with respect to time.
ANSWER: **acceleration** <LW>

12. This man unsuccessfully opposed the repeal of the *lex Oppia*, before serving as military tribune in the defeat of Antiochus III at Thermopylae. According to one biography, this man warned that 'the animal known as king is by nature carnivorous'. The only surviving text of this man opens by describing how his ancestors would praise someone as 'good husbandman, good farmer'. In one role, this man removed Lucius Flamininus from the Senate and led political attacks on both Scipio Asiagenes and his brother Scipio Africanus. The author of the first Roman history composed in Latin, the *Origines*, for 10 points, name this man, who supposedly concluded every speech 'I advise that Carthage must be destroyed'.
ANSWER: Marcus Porcius **Cato** **Priscus** or the **Elder** [accept the **Censor**; prompt on Cato alone; do not accept 'the Younger' or 'Uticensis'] <OSC>

13. One poet from this country wrote of 'a single post, a point of rusting tin in the sky marks the fated place we move to, he and I' which refers to the last walk they had with a lover. A modern poet from this country wrote 'I have studied the science of departures' in their collection *Tristia*. One poet wrote that their lover was a 'traitor [...] for a green island' because their lover Anrep had left this country for England. That poet from this country wrote a poem whose 'Crucifixion' section begins 'Weep not for me, mother', about her son imprisoned for 17 months. Osip Mandelstam is from this country. For 10 points, name this country where Anna Akhmatova critiqued the Soviet regime.
ANSWER: **Russia** [accept **USSR**] <GDC>

14. In 1 Corinthians, Paul asks his addressees if they had this condition 'when you were called?' while Jesus compares his followers to people in this state when they are torn between God and wealth. One person with this condition thanked God when her baby was born in time for her execution by animal in Carthage, while another became the bishop of Ephesus after spending his early life in Colossae with Philemon. In addition to Felicity and Onesimus, a person of this kind named Rhoda is not believed when she announces Peter's release from prison. Luke is the only gospel that records Jesus healing one of these people after his ear was cut off. For 10 points, name this condition, people in which are often instructed in the New Testament to obey their masters.
ANSWER: **enslavement** [accept **enslaved person,** accept **slaves**, accept **slavery**] <CJ>

15. A 1981 election in another country was lost partly because one candidate was implicated with a leader of this country in the 'diamonds affair'. That leader introduced a law to this country stating that thieves would have an ear cut off for the first two offenses they committed and a hand for the third. A president of this country was removed from power for the second time by General Andre Kolingba; that man, who served as both the first and third president of this country, was David Dacko. For 10 points, name this landlocked African country which between 1976 and 1979 was briefly made an empire under Jean-Bédel Bokassa and whose present-day capital is Bangui.
ANSWER: **Central African Republic** [or **CAR**; or **Ködörösêse tî Bêafrîka**; or **République centrafricaine**; or **Centrafrique**] <FL>

16. In *Arabidopsis*, this substance is acquired by soil acidification, reduction by F·R·O·2 and uptake in the roots via I·R·T·1, and deficiencies in this substance can cause chlorosis. In humans, hereditary pathological overload of this element is associated with mutations in the H·F·E gene. The High-Pathogenicity Island of *Yersinia* is responsible for the synthesis of siderophores which sequester this substance, often limited in host tissues. Phytates bind strongly to this metal preventing intestinal absorption; this metal also forms clusters with sulphur in proteins such as ferredoxin. For 10 points, name this metal which is surrounded by alpha and beta subunits in haemoglobin.
ANSWER: **iron** <LC>

17. This man spent his whole life snubbing Thomas Clarkson, an ally in the cause this man is known for championing. During a period of religious introspection, this man consulted John Newton, the rector of St. Mary Woolnoth, and joined the Clapham Saints under John Venn. While studying at St. John's College, Cambridge, this man became politicized by fellow student William Pitt the Younger, who inspired him to run as MP for Kingston Upon Hull in 1780. This man's 'Africa! Africa!' speech failed to achieve its goal due to the powerful West Indian lobby. For 10 points, name this Methodist parliamentarian who is remembered for advocating the abolition of slavery.
ANSWER: William **Wilberforce** <FL>

18. A socially conscious nine-member band whose name is often mistranslated as 'Witches' Eyes' has attempted to meld this genre with hip-hop. A blacksmith who used the pseudonym 'Planet' incorporated a hammer and anvil into this genre as percussion instruments. Melody in this genre is characterized by microtonality, use of an enharmonic scale, and baroque ornamentation. Rhythmic cycles known as *compas* are typical for this genre, whose repertoire comprises over 60 song styles, or *palos*, including *siguiriyas* [sig-wee-REE-yas], *soleares* [soh-lay-ARE-es] and *fandangos*. Federico Garcia Lorca used the word *duende* to describe the soul of, for 10 points, which Iberian style of music which incorporates voice, guitar and dance?
ANSWER: **Flamenco** <FL>

19. In 2005, a Museum about this activity opened in Vienna's Landstraße district as the only one in the German-speaking world. A fictional version of Lothar Malskat, a practitioner of this activity, is a central theme in Günter Grass's novel *The Rat*. In 1984 a man named Eric Hebborn was assassinated in Rome after publishing a Handbook on this activity. The Dutch painter and portraitist Han van Meegeren is often considered one of the most skilled practitioners of this activity, the most successful product of which was a 1937 version of *Supper at Emmaus*. For 10 points, name this criminal activity which involves creating and selling works credited to other, more famous artists.
ANSWER: art **forgery** [accept **faking**, **falsifying**, and other obvious equivalents] <FL>

20. Two possible solutions to one of these equations are independent if their Wronskian is not identically zero. The Picard-Lindelof theorem gives conditions for these equations to have a unique solution. Variation of parameters is a method of reducing the order of these equations. Rodrigues' style formulas provide the solution to the Sturm-Liouville examples of these equations. Using an integrating factor solves all first order linear examples of these equations. To find a specific solution to these problems one needs to be given initial value or boundary value data. For 10 points name these equations that feature derivatives in them.
ANSWER: Ordinary **Differential Equations** [accept **ODEs** or **DEs**] <JR>

Bonuses:

1. This conflict marked the death of the Megali Idea that envisioned one country as 'of Two Continents and Five Seas' after that side suffered a loss at the Battle of Sakarya and could not stop the Great Offensive. For 10 points each:
[10] Name this war, after which Mustafa Kemal and Eleftherios Venizelos agreed to exchange the Christian population of Asia Minor with the Muslims living in the Balkans.
ANSWER: **Greco-Turkish** War [accept **Asia Minor Disaster** or **Catastrophe**, prompt on Turkish War of Independence]
[10] The Greco-Turkish War ended with the signing of a treaty in this Swiss city a year after the population exchange. It replaced the unsatisfactory Treaty of Sévres and established a sovereign Republic of Turkey with enlarged borders.
ANSWER: **Lausanne**
[10] One of the major events of the war was a fire that broke out in this coastal Turkish city, where Greek forces had made their first landing. Hundreds of thousands of Greeks and Armenians crowded into this city's waterfront to escape the fire, while Western eyewitnesses accused the Turkish army of committing atrocities against the refugees.
ANSWER: **Izmir** [accept **Smyrna**] <CJ>

2. Raimund Gregorius takes a 'Night Train' to this city in search of the doctor Amadeu [ah-mah-DAY-ooh] do Prado in a 2004 novel. For 10 points each:
[10] Name this European city. In another novel, an author's heretonym returns to it from Brazil and calmly follows him to a graveyard after spending most of the book reading *The God of the Labyrinth*.
ANSWER: **Lisbon**
[10] The author and protagonist of *Night Train to Lisbon* are both from this country. While in Lisbon, Gregorius begins to panic because he can no longer remember what it feels like to walk on the Bubenplatz in its city of Bern.
ANSWER: **Switzerland**
[10] The epigraph of *Night Train to Lisbon* is from *The Book of Disquiet*, a volume of poetry published under the name of this heteronym of Fernando Pessoa. Pessoa considered this man to most closely resemble his own personality, describing him as 'myself, without the ratiocination and affectivity'.
ANSWER: **Bernardo Soares** [accept either underline part] <CJ>

3. This philosopher's most famous work was a reaction to the way in which rural life and scenery was described at Cambridge differed from his experiences in the Welsh countryside. For 10 points each:
[10] This philosopher's work *The Country and the City* attempts to debunk 'a myth functioning as a memory' which holds that rural life is simple and unadulterated.
ANSWER: Raymond **Williams**
[10] In *Television: Technology and Cultural Form*, Williams critiqued this influential media theorist, who coined the term 'the medium is the message' in his work *Understanding Media*.
ANSWER: Marshall **McLuhan**
[10] McLuhan also coined the term 'global village', a concept where the entire world is reduced to a single village, which is sometimes seen as having predicted the rise of this information space where documents and other resources are identified by URLs.
ANSWER: **World Wide Web** [accept the **Internet** and reasonable equivalents] <GDC>

4. This polity was once led by the female ruler Razia, and it began to decline as a result of the rise of Vijayangara [vij-ya-na-GA-ra]. For 10 points each:
[10] Name this empire of northern India whose Khalji dynasty fought off an invasion by the Chagatai Khanate and whose last ruler was defeated at the Battle of Panipat.

ANSWER: **Sultanate of Delhi**
[10] The origins of the Sultanate of Delhi can arguably be traced back to the tenth-century raids into India of Mahmud, a ruler of this Central Asian dynasty that declared its independence from the Samanids and relocated its capital to Lahore.
ANSWER: **Ghaznavid** [accept **Ghazni**]
[10] The Ghaznavid and Delhi sultanates were both founded by these Turkic slave soldiers, various groups of whom established states across the Islamic world after the Abbasids popularized their use, including one in Egypt that replaced Saladin's Ayyubid dynasty.
ANSWER: **mamluks** <CJ>

5. In this novel, the narrator's parents are coerced into having a Christian wedding, which the narrator refuses to attend. For 10 points each:
[10] Name this novel. In this novel, a character becomes bulimic and repeatedly yells 'No, I am not a good girl,' while her cousin is conflicted about attending the Sacred Heart convent school.
ANSWER: *Nervous Conditions*
[10] *Nervous Conditions,* the first novel published in English by a black Zimbabwean woman, is named for a line in Jean-Paul Sartre's introduction to *The Wretched of the Earth*, a work by this Martinican psychiatrist and theorist.
ANSWER: Frantz **Fanon**
[10] This author's character, Anna Wulf, writes about her experiences in then-Rhodesia during WWII in one of her four 'notebooks'. This author of *The Golden Notebook* won the Nobel Prize in Literature in 2007.
ANSWER: Doris **Lessing** <DC>

6. This work began life as a piano four-hands suite to be performed by children before its composer orchestrated it and expanded it into a ballet. For 10 points each:
[10] Name this ballet based on fairy tales, whose numbers include 'The Empress of Pagodas', 'Conversations of Beauty and the Beast', and 'The Fairy Garden'.
ANSWER: *Ma mère l'Oye* [or *Mother Goose*]
[10] *Ma mère l'Oye* is by this composer, more famous for an orchestral piece adapted from a ballet commissioned by Ida Rubinstein, *Boléro.*
ANSWER: Maurice **Ravel**
[10] Ravel also composed this ballet based off a tale of two shepherds by Greek author Longus, which employs a wordless chorus and a wind machine, and ends with a bacchanal.
ANSWER: *Daphnis et Chloé* <GB>

7. These substances are produced by an animal in order to harm another without itself being eaten, and are produced from the salivary and brachial glands of the slow loris. For 10 points each:
[10] Name these substances. In snakes these substances are produced by glands regulated by striated muscles and in bees these substances are mostly composed of melittin and is produced from modified ovipositors.
 ANSWER: **venom** [prompt on poison]
[10] The crural glands of males of this species produces venom only in the breeding season, and is released from heel spurs. As adults, this mammal species loses the teeth and replaces them with keratinous pads, and have electroreceptors in canals on the bill.
ANSWER: **platypus** or *Ornithorhynchus anatinus*
[10] This compound forms part of the venom of species including the blue-ringed octopus, though it is produced by symbiotic bacteria including *Vibrio* species. This compound acts by binding to sensitive fast voltage-gated sodium channels.
ANSWER: **tetrodotoxin** / TTX <LC>

8. Works considered spurious are listed in this catalogue's Appendix C, while its Appendix A lists works that its subject transcribed from other composers. For 10 points each:
[10] Name this catalogue which aims to list a particular composer's works in chronological order and was comprehensively revised for its third edition by Alfred Einstein.
ANSWER: **Köchel** catalogue
[10] The Köchel catalogue is the list of this composer's works, with its highest number, K. 626, referring to this composer's unfinished *Requiem*. Forty-one symphonies are attributed to this composer, including the *Prague* and the *Jupiter*.
ANSWER: Wolfgang Amadeus **Mozart**
[10] Mozart's misattributed Symphony No. 37 is actually this composer's Symphony No. 25, to which Mozart added a slow introduction. This composer is perhaps best known for his C-major concerto for the natural trumpet.
ANSWER: Johann **M**ichael **Haydn** [prompt on Haydn] <AP>

9. The Wigner-Seitz [VIG-nuh z-EYE-ts] unit cell of this construct is the Brillouin zone. For a BCC crystal this construct is FCC and vice versa. For 10 points each:
[10] Name this construct obtained by Fourier transforming the direct lattice.
ANSWER: **Reciprocal lattice** [accept **reciprocal space**; prompt on k space]
[10] The points in reciprocal space represent this quantity, often symbolised lowercase 'k'. Multiplying this quantity by 'h bar' gives the crystal momentum. This quantity is equal to two pi over wavelength and thus has units of inverse centimetres.
ANSWER: **wave-vectors** [accept **wavenumbers** or **spatial frequencies**; anti-prompt on reciprocal lattice vectors]
[10] Reciprocal space is important due to this theorem that states electron eigenstates are a unit-cell periodic function multiplied by a plane wave, which implies they can be labelled by a band index as well as a crystal momentum.
ANSWER: **Bloch's Theorem** <JR>

10. A series of poems in this poet's first collection, *A Way of Looking*, describe Florence as set in 'one bowl, one valley / Assisted by hills to peace'. For 10 points each:
[10] Name this poet who defined 'Forgiveness' as 'the word which we surrender by' and 'the language where we have to live' in their collection *Moments of Grace*.
ANSWER: Elizabeth **Jennings**
[10] This contemporary of Jennings considered 'a phrase applicable to no one' in 'Maiden Name', collected in *New Lines*. They also described 'the toad *work*' in 'Toads' and how 'a dozen marriages got under way' in 'The Whitsun Weddings'.
ANSWER: Philip **Larkin**
[10] This Larkin poem posits a paradise with 'everyone young going down the long slide / To happiness', and ends by considering the 'deep blue air' which is 'Nothing, and is nowhere, and is endless'.
ANSWER: **'High Windows'** <AP>

11. If you want a wide readership, poetry's generally not the wisest field to choose, but these writers made it work. Answer these bonuses about poetry bestsellers, for 10 points each:
[10] If anyone has a claim to be the best-selling poet ever, it's this thirteenth-century Persian poet, scholar and Sufi mystic, whose works include the *Masnavi* or 'Spiritual Couplets'.
ANSWER: **Rumi**
[10] This nineteenth-century English poet was immensely popular in both England and America. Though pigeonholed as a 'children's poet', they are remembered for their collection *Records of Woman*, their origination of the term 'stately home', and a poem beginning 'The boy stood on the burning deck'.
ANSWER: Felicia **Hemans**

[10] *milk and honey*, the debut poetry collection of this divisive Instagram-based poet, is a rare contemporary poetry bestseller, spending over a year on the *New York Times* bestseller list. Parodies of this poet's distinctive style include 'now i know / why guac / costs extra / it is because / you were never / enough'. [AN: PLEASE EMPHASISE THE LINE BREAKS WHILE READING]
ANSWER: Rupi **Kaur** <DC>

12. In a 1980 book on sculptors in this type of wood, Michael Baxandall describes how an altarpiece at Rothenburg ob der Tauber depicting the Last Supper changes appearance in different light across the day to isolate Judas. For 10 points each:
[10] Name this type of wood worked into elaborate winged altarpieces by sculptors such as Tilman Riemenschneider and Veit Stoss.
ANSWER: **limewood** [accept **Linden**]
[10] Stoss's Angelic Salutation, depicting the Annunciation within a wooden ring, hangs in this German city's church of St Lorenz. This city was also home to Albrecht Dürer, who was commissioned to check on the quality of Stoss's work, as well as the *Meistersinger* Hans Sachs.
ANSWER: **Nuremberg** [**Nürnberg**]
[10] The bottom-left corner of this Dürer engraving features the artist's monogram on a plaque below a skull. A weapon held by one of this work's title figures has a fox's tail wrapped around it, while another holds an hourglass.
ANSWER: *Knight, Death, and the Devil* <AP>

13. Unlike rhodium and palladium, this element acts both as an oxidation and a reduction catalyst in catalytic converters. For 10 points each:
[10] Name this valuable transition metal, whose use as a catalyst in catalytic converters can be limited by its high cost. This metal can also be used in the catalytic reforming of petroleum naphtha. It is one to the left of gold in the periodic table.
ANSWER: **platinum** [accept **Pt**]
[10] Platinum can also be used to manufacture this chemotherapy drug, which contains chlorine and ammonia ligands. The *trans-* stereoisomer of this drug has no comparable pharmacological effect, possibly due to its greater reactivity.
ANSWER: **cisplatin** [accept **cisplatin**um, **platamin**, **neoplatin**, **cismaplat** or **cis-diamminedichloridoplatinum** (II)]
[10] This compound of platinum is used to catalyse hydrogenation and hydrogenolysis reactions in organic synthesis. It is not itself an active catalyst, but is converted to platinum black through exposure to hydrogen.
ANSWER: **Adams' catalyst** [accept **platinum dioxide** or PtO_2] <AH>

14. Everyday life in early modern England could be dangerous. For instance, in 1558 Thomas Alsopp was killed when one of these objects fell onto the wall he was leaning against, knocking a stone onto his head. For 10 points each:
[10] Name these objects, associated with Catholicism and banned in 1644 as a 'Heathenish vanity'. The present church of St-Mary-le-Strand stands on the site of one made to celebrate the Restoration.
ANSWER: **maypole**
[10] Seven people were killed in 1583 when the scaffolding for spectators at one of these events at Paris Garden in Southwark collapsed. Elizabeth I overruled Parliament's attempts to ban this activity on Sundays; it would not be outlawed until 1835.
ANSWER: **bear-baiting** [accept **boar-baiting**]
[10] William Hall drowned while attempting to ride one of these animals across a creek in Essex. These animals were increasingly common in early modern England as the policy of enclosure made farming them more profitable.
ANSWER: **ram** or **sheep** <AP>

15. John Baldwin's *Masters, Princes, and Merchants* presents Peter the Chanter at the centre of a group at this university including Stephen Langton and Innocent III which sought to relate theology to practical ethics. For 10 points each:
[10] Name this university. Studying Aristotle was banned at this university in 1210, while the condemnations of 1277 applied at this university included criticism of the doctrines of Thomas Aquinas, who had been its regent.
ANSWER: University of **Paris**
[10] Peter the Chanter's *Summa de Sacramentis et Animae Consiliis* is an early example of this ethical practice, which attempts to extend ethical rules from established paradigms to other, similar, instances.
ANSWER: **casuistry**
[10] This French polymath excoriated casuistry in their *Provincial Letters*. This author also articulated their namesake Wager in their *Pensées*, arguing that it was better to believe in God than not, based solely on the possible benefits.
ANSWER: Blaise **Pascal** <AP>

16. Answer some questions about the workings of a particular research institution. For 10 points each:
[10] Name this scientific research corporation, a former shower curtain company and bitter rival of the competing institution Black Mesa. It was a key witness in the 1968 Senate hearing on missing astronauts, and its founder died of moon-rock poisoning sometime in the 1980s.
ANSWER: **Aperture Science**
[10] The terrifying company Aperture Science first appears in this 2007 puzzle-platform video game. In this game, you play as Chell, a 'test subject' trying to escape the megalomaniacal computer GLaDOS by using the titular teleportation devices. A popular phrase associated with this game is 'the cake is a lie.'
ANSWER: **Portal** [do not accept or prompt on 'Portal 2']
[10] Portal is made by this video game developer, also known for *Counter-Strike* and *Left 4 Dead*.
ANSWER: **Valve** Corporation <DC>

17. One of these entities was discovered by Michel and Ballard, something which the eccentric Jack Grimm had earlier proposed using a monkey to do. For 10 points each:
[10] Name these entities which can be tracked through the use of ligan. Keith Muckleroy developed a theory of the formation of these entities, as well as compiling an atlas of them.
ANSWER: **shipwrecks** [Michel, Ballard, and Grimm were all looking for the *Titanic*]
[10] This sixteenth-century warship, which sank for uncertain reasons off Portsmouth during the 1545 Battle of the Solent, had been the subject of salvage attempts since the sixteenth century, but was finally raised in 1982.
ANSWER: **Mary Rose**
[10] One of the UK's most hazardous shipwrecks is this ship which sank in the Thames Estuary in 1944, carrying 1400 tons of explosives. It is just one of the many reasons why building an airport in the Thames Estuary might be a bad idea.
ANSWER: SS **Richard Montgomery** <AP>

18. The first, and briefest, part of this author's major work describes the retreat of the Romans from Britain and the invasion of the Saxons which follows. For 10 points each:
[10] Name this author, who describes 'the last of the Romans', Ambrosius Aurelianus, leading the British resistance to the Saxons, before denouncing the rulers of his own day at length, especially Maelgwn Gwynedd [MILE-gun GWY-neth].
ANSWER: **Gildas**
[10] Gildas does not mention this person, who first appears in the *Historia Brittonum* attributed to Nennius. Geoffrey of Monmouth claimed that Ambrosius Aurelianus was the elder brother of this person's father, Uther Pendragon.
ANSWER: King **Arthur**

[10] Gildas's *Ruin of Britain* contains the earliest account of this battle, at which later authors claimed Arthur was killed. Almost nothing is known about it other than that it halted the Saxon expansion into British territory.
ANSWER: Battle of **Badon** Hill [Mons **Badonicus**] <AP>

19. In some applications, the pseudo type of these things may be more useful, as the sequence produced will be the same given the same seed. For 10 points each:
[10] Name these things, which may be generated by measuring the arrival of cosmic rays. Simpler ways of generating them include rolling dice and spinning roulette wheels.
ANSWER: **random number**s
[10] This class of algorithms relies of random numbers to generate random samples of an unknown distribution. These algorithms have a deterministic run time but non-deterministic output. Applications of these algorithms include numerical integration and investigating the behaviour of the Ising model. An example is the Metropolis-Hastings algorithm.
ANSWER: **Monte Carlo** methods or experiments [accept "**Monte Carlo algorithm**s" pointing out that this actually refers to something else]
[10] The Metropolis-Hastings algorithm is a Monte Carlo method which uses this memoryless construct. For methods using this construct, the probability distribution for the next sample is dependent on the current sample but no others.
ANSWER: **Markov chain** [accept **Markov process**] <LW>

20. Jaegwon Kim argued that the 'global' form of this property is nothing but the 'strong individual' form of it but eventually agreed that this is not the case. For 10 points each:
[10] RM Hare used this term to describe the relationship between moral properties and natural properties and Donald Davidson argued that physical characteristics have this property in relation to mental characteristics.
ANSWER: **supervenience**
[10] David Lewis developed a supervenience theory named for this philosopher. This philosopher also wrote *Enquiry Concerning Human Understanding* and *Treatise on Human Nature*.
ANSWER: David **Hume**
[10] David Lewis used the concept of supervenience to formulate this theory. A thought experiment used to argue against this theory is Frank Jackson's 'Mary's Room', that aims to establish the existence of qualia.
ANSWER: **physicalism** <GDC>