

OOT 2020: [The Search for a Middle Clue]

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**THIS IS A FINALS PACKET. DO NOT READ IT.**

THE ANSWER TO THE LAST TOSS-UP SHOULD HAVE BEEN: Ghent Altarpiece

### Packet 12 - Finals I

#### Toss-ups:

1. A keyboard work by this composer repeats the notes E and F to commemorate the marriage of a couple with those initials. That work was published in the same volume as this composer's *Fantasia of Four Parts* and a *Pavan and Galliard* in A minor later popularized by Glenn Gould. This composer's son had pupils like John Blow, who like this composer served as organist of Westminster Abbey. One vocal work by this composer for tenor solo and choir depicts the prophecy of John the Baptist, while a different secular piece laments there being 'more fools than wise' while describing the death of the title animal. For 10 points, name this English Renaissance composer of the madrigal *The Silver Swan*.

ANSWER: Orlando **Gibbons** <CJ>

2. Matti Bunzl wrote a book titled for this thinker 'and the Humboldtian tradition'. This thinker claimed that 'if the willingness of man to suffer should disappear', then man would too. The last chapter of one work by this thinker decries 'attempts to impress one pattern of thought upon whole nations' and is entitled 'the race problem in modern society'. This thinker was the first to systematically study the language of the Kwakiutl people of Vancouver Island, and they trained a number of prominent students including Zora Neale Hurston and Margaret Mead. For 10 points, name this early American anthropologist, the author of *The Mind of Primitive Man*.

ANSWER: Franz **Boas** <GDC>

3. Hyperphosphorylation of tau proteins leads to the disassembly of one component of this structure in Alzheimer's disease. One theory of consciousness posits that EEG rhythms originate in quantum vibrations within this structure. FtsZ, MreB and crescentin are prokaryotic homologues of the three main components of this structure in eukaryotic cells. Rho signalling can induce the formation of lamellipodia and filopodia by reorganising this structure. Dyneins walk toward the minus-end of one of the types of protein filament that make up this structure. For 10 points, name this network of actin filaments, intermediate filaments, and microtubules that gives cells their shape.

ANSWER: **cytoskeleton** [anti-prompt on microtubules, actin filaments, microfilaments, or intermediate filaments before 'types of protein filament'] <ML>

4. Following this event, Tate Britain announced that one artwork would be exhibited in the gallery's 'Memorials' section to commemorate Khadija Saye. The most senior official in charge of the investigation into this event, Michael Dowden, reported that he was 'consumed by sensory overload'. The first victim of this event was Mohammed Al-Haj Ali, a Syrian refugee, though many of its survivors were Muslims who had

been awake for the pre-dawn meal of *subur*. John McDonnell claimed on *The Andrew Marr Show* that the victims of this event's deaths were caused by 'social murder'. For 10 points, name this 2017 tragedy in which flammable cladding on a London residential block exacerbated a house fire and caused the deaths of 72 people.

ANSWER: **Grenfell** Tower Fire <BP>

5. The family of Henry Taylor Blow became allies of this person, and this person worked in the law office of Roswell Field. Samuel Russell falsely claimed to have hired this person, who along with Harriet Robinson had accompanied Irene Emerson to Illinois and the Wisconsin Territory in violation of the Northwest Ordinance. It was established a century after this person's death that they had no legal relationship with John Sanford. In the best-known event involving this person, Roger Taney [TAW-nee] nullified the principle of 'once free, always free' and ruled that this man was not a U.S. citizen because of his race. For 10 points, name this enslaved African-American man whose freedom suit was struck down in 1857 by the Supreme Court.

ANSWER: Dred **Scott** <CJ>

6. Li Gonglin was an antiquarian painter inspired by Tang-dynasty originals to create renowned depictions of these figures. One sculpture including one of these figures is the only one of 22 'magni' examples of these figures that survives from late antique Rome. A painting of one of these creatures is Han Gan's *Night-Shining White*. That depiction of one of these animals painted it in monochrome with an exaggeratedly round body and short legs. A sculpture including one of these animals now housed in the Capitoline Museum was often misidentified as Constantine rather than Marcus Aurelius, who in it is not shown using stirrups. For 10 points name these animals that feature in the Terracotta army pulling chariots.

ANSWER: **horses** <OSC>

7. Jonathan Iwegbu makes £150 working in this industry in *Civil Peace*. In one play, a man who works in this industry calls his son 'Mr. Unfit To Live Amongst Society'. In that play about this industry, a character's attempts to buy a house for Rena are misconstrued as an affair by Turnbo. In another play that centres on this industry, Henry Fatt claims that he is rallying his coworkers at the behest of his wife Edna. After the title character of that play about this industry is found shot dead, Agate [a-GAYT] leads a call of 'Strike! Strike!' by workers in this industry. For 10 points, name this industry, the focal points of both *Jitney* by August Wilson and *Waiting for Lefty* by Clifford Odets.

ANSWER: **taxi** industry <GDC>

8. A method named for this scientist was superseded by that of Pariser, Parr and Pople. Frost circles can be used to apply this scientist's eponymous rule. This scientist used a linearised Poisson-Boltzmann law to find the activity coefficients of ions in a non-ideal solution in a theory co-named for Peter Debye. Research by Schleyer et al in 2004 showed that the equal bond lengths predicted by this scientist's eponymous rule are not necessary for the increased stability of cyclic molecules that it predicts. For 10 points, name this scientist who proposed a simple method for constructing molecular orbitals from a linear combination of atomic orbitals, as well as a 'four-n-plus-two' rule of aromaticity.

ANSWER: Erich **Hückel** <AG>

9. It's not copper, but the family of Catherine Cornaro made its fortune exporting this good from one island. Guy of Lusignan encouraged the settlement on Cyprus of experts in the production of this good, which Renaud Fauconnier was given the right to produce by Baldwin III of Jerusalem. Genoese traders invested in

the production of this good after the Treaty of Alcaçovas allowed for the spread of its cultivation to an island previously colonised under the auspices of Henry the Navigator. Imports from Madeira and the Azores undercut Sicilian production of this good, which was introduced to Western Europe by crusaders as a replacement for honey. For 10 points, name this foodstuff produced by milling its namesake cane.

ANSWER: sugar <OSC>

10. A poem by this author describes a 'wishing-tree' from which young women get wine, gems, and cosmetics. This author wrote a poem in which a man says that it will only be four months until he and his wife can be together again to a figure described in Arthur Ryder's translation as 'a dark nipple on Earth's bosom white.' This author wrote that poem about an exiled yaksha, a servant of the god Kubera, as well as a work in which a king falls in love with a hermit's daughter while hunting. That woman is later rejected when presented at court, and Dushyanta only realises his mistake when a fisherman discovers a lost ring in a fish's belly. For 10 points, *Cloud-Messenger* and *The Recognition of Shakuntala* are works by which author who wrote in Classical Sanskrit?

ANSWER: Kalidasa <AH>

11. The Lazarus effect affects the semiconductor type of these devices and means that that type of these devices can be used at low temperatures even after suffering from heavy doses of radiation. Many types of these devices use a Townsend avalanche to generate a current. The RICH type of these devices measures Cherenkov radiation to perform their task. These devices often contain a strong magnetic field in order to be able to measure momenta from track curvature. Early types of these devices include wire chambers, spark chambers and bubble chambers. For 10 points, name these devices that measure entities produced in high-energy physics experiments like the Large Hadron Collider.

ANSWER: particle detectors [accept radiation detectors before 'magnetic'] <LW>

12. A representative of this religion named Mihr-Ohrmazd met with Wu Zetian, while its main figure was syncretised as an incarnation of Laozi. This non-Islam faith was the main religion denigrated by the Tang Dynasty as *chicai shimo* or 'vegetarian devil-worshippers', and this was also the religion of the Uighur Khaganate. This religion posits that there were five Shekhnas, or 'Great Ones', that assisted in the three creations of the world by the Father of Greatness. A representative of this religion's 'hearers', Faustus, at first convinces, then disappoints, St. Augustine. In this religion, the non-omnipotent God takes part in the constant struggle between light and dark. For 10 points, name this dualistic religion founded by a namesake Persian prophet.

ANSWER: Manichaeism [accept word forms] <AP>

13. One of this collection's poems describes ambulances as 'Closed like confessionals' and says that each one 'dulls to distance all we are', while another has trouble finding words 'not untrue and not unkind' when 'Talking in Bed'. This collection's last poem focuses on the 'sharp tender shock' of seeing an empty gauntlet, concluding of a joint funerary monument that 'Time has transfigured them into / Untruth'. Girls in 'parodies of fashion' populate this collection's title poem, which features successes 'so huge and wholly farcical' and ends with an image of an arrow-shower 'somewhere becoming rain'. Containing 'An Arundel Tomb', for 10 points, name this Philip Larkin collection whose title poem describes a midsummer train journey.

ANSWER: The Whitsun Weddings <AP>

14. According to Ted Gioia [jee-OY-ah], an early concert in Baton Rouge went so badly that audience members beat this musician unconscious. This musician worked with Ronald Shannon Jackson with their Prime Time band. An album recorded by this musician opens with a song in which the alto sax and cornet enter by simultaneously playing the notes A-D-G-D. That album by this musician featured a quartet that included the drummer Billy Higgins, as well as this musician's long-time collaborator Don Cherry. They're not Charlie Parker, but this musician's early sound is the result of their use of the plastic saxophone. This artist recorded 'Lonely Woman' on a 1959 album. For 10 points, name this free-jazz musician who recorded *The Shape of Jazz to Come*.

ANSWER: Ornette **Coleman** <NC>

15. Four years after this event, one of its main participants was restored to a bishopric by Theodore of Tarsus, having been replaced while traveling in France. The chaplain Romanus represented one side during this event along with another figure who chose not to participate due to their poor English. At a key moment in this event, a ruler inquired about who held the keys to the kingdom of Heaven. One of the triggers of this event was Ahlfrith's appointment of Wilfred after expelling Ionan monks from Ripon, causing King Oswiu to call for a meeting at an abbey founded by St. Hilda. For 10 points, name this 664 event at which Northumbria decided that it would follow the Roman system for determining the date of Easter.

ANSWER: **Synod of Whitby** <CJ>

16. One saint's festival in this country is celebrated by the consumption of bread containing a hidden coin. The Lent fast is broken in this country with a soup made from the offal of the lamb to be eaten the following day. St Basil's Day on 1 January is when that saint brings gifts in this country. Egg-shaped cookies dipped in honey are traditional at Christmas in this country, and at Easter red-dyed eggs are used in a game where players try to break their opponent's first. A cross is thrown into the sea in this country on a day known as *Ta Fota*, which also features the Blessing of the Water as part of the Great Feast of Theophany. For 10 points, name this country, where those celebrations take place at Piraeus, the harbour of Athens.

ANSWER: **Greece** <OSC>

17. The Ornstein isomorphism theorem shows that two processes named for this mathematician are isomorphic if they have equal Kolmogorov entropies. A measure-preserving transform of a Lebesgue space is defined as an automorphism named for this mathematician if it is isomorphic to their namesake 'shift'. If a sequence of variables have a distribution named for this mathematician, then their sum has a binomial distribution. A random variable that equals 1 with probability  $p$  and 0 with probability  $1 - p$  has a distribution named for this mathematician. While analysing compound interest, this mathematician discovered the constant  $e$ . For 10 points, name this Swiss mathematician who helped solve the brachistochrone problem with their brother Johann.

ANSWER: Jacob **Bernoulli** <GDC>

18. This work argues that Western conceptions of austerity are organized around four themes: health, marriage, boys, and truth. According to this work, the practice of *chresis* to control *aphrodisia* was central to the Greek 'aesthetics of existence'. A fourth volume of this work was released posthumously in 2018 and is entitled 'Confessions of the Flesh'. One volume of this work points to confessions to refute the 'Repressive Hypothesis' held by 'We Other Victorians' and argues that states make use of 'biopower' to control their populations. This work's first part is titled 'Will to Knowledge'. For 10 points, name this four-volume work examining the development of erotic desire in western society by Michel Foucault.

ANSWER: The *History of Sexuality* [or *L'Histoire de la Sexualité*] <NC>

19. In a novel set in this country, a police officer calls the horoscope-obsessed protagonist a 'mad old crone' for reporting the mistreatment of a dog by a character she calls the Big Foot. The narrator of a novel by an author from this country recalls the 'timid tourism' she experienced in the family Škoda as a child. A prince betrays this country in a trilogy of novels whose protagonist is the 'small knight' Micha. It's not Italy, but an author from this country also created a giant who breaks the neck of an auroch, allowing Lygia and Vincius to live on Sicily without being persecuted as Christians. For 10 points, *Flights* and *Quo Vadis* are both novels by authors from which country, home to Olga Tokarczuk ['to-CAR-tsook'] and Henryk Sienkiewicz ['shen-KYAY-vits']?

ANSWER: **Poland** [or **Polska**] <GDC>

20. This city was the only one to appoint an official war artist during World War II, giving the post to Frederick Farrell. The Polish ship *Piorun* helped defend this city from the Blitz. Percy Sillitoe was a pioneering Chief Constable of this city, where one criminal organization was founded by a man who also started a branch of the British Union of Fascists here. This city was the subject of the Bruce Report. The term 'ninety-minute bigots' was coined to describe football fans in this city who still sing the namesake song of a group that terrorized this city's Irish Catholics and called themselves the 'Brigton Billy Boys'. Razor gangs were active in, for 10 points, what Scottish city whose sectarian divide is today reflected in the rivalry between Celtic and Rangers?

ANSWER: **Glasgow** <CJ>

**Bonuses:**

1. This unit played a major role in the counter-attack during the Battle of Teruel, despite temperatures reaching -18 degrees Celsius. For 10 points each:

[10] Name this unit, commanded by Hugo Sperrle. Its success in winning air superiority and acting as close air support were major factors in victories at Bilbao and Santander, ending the War in the North.

ANSWER: **Condor Legion**

[10] Unlike the Condor Legion's most notorious bombing campaign against Guernica, which did not deliberately target civilians, Italian planes based on Mallorca carried out three days of terror bombing in March 1938 on this city, which became the Republican capital after the government evacuated Valencia.

ANSWER: **Barcelona**

[10] A few days after the bombing of Guernica, this event saw street fighting in Barcelona between the forces of the Republican and Catalanian governments on the one side, and the anarcho-sindicalist CNT-FAI Union and anti-Stalinist POUM on the other.

ANSWER: **May Days** [**May Days**, **May Events**, **Jornadas de Mayo**, **Sucesos de Mayo**, **Hechos de Mayo**] <OSC>

2. This equation led its discoverer to predict the existence of positrons four years before their experimental discovery. For 10 points each:

[10] Name this relativistic quantum wave equation that describes fermionic particles such as electrons. It can be written as  $i\hbar \not{\partial} \psi = 0$ .

ANSWER: **Dirac** equation

[10] The solution to the Dirac equation takes the form of this type of object, which carries dotted and undotted indices in the Van der Waerden [VAIR-den] notation. These objects are projective representations of the special orthogonal group, so in three dimensions are representations of  $SU(2)$  [s-u-two].

ANSWER: **spinors**

[10] Particles described by the Dirac equation, such as electrons, quarks, and protons, have this value of spin, which is the smallest non-zero spin that particles can have. One plus twice this number gives two, the number of spin states of particles with this value of spin.

ANSWER: **one half** [accept **h bar over two** or clear equivalents] <LW>

3. Opponents of the Obama administration claimed that the release of this film was timed to assist his re-election campaign, and it was heavily criticised for depicting torture in an overly positive light. For 10 points each:

[10] Name this film starring Jessica Chastain as the CIA analyst Maya.

ANSWER: **Zero Dark Thirty**

[10] Kathryn Bigelow, the director of *Zero Dark Thirty*, also directed this film about a maverick bomb disposal specialist during the Iraq War. Despite criticism regarding its authenticity, it was awarded the 2008 Academy Award for Best Picture.

ANSWER: *The* **Hurt Locker**

[10] Mark Boal's script for *The Hurt Locker* was based on research carried out through this journalistic method, in which a reporter is attached to and documents the activity of an active military unit.

ANSWER: **embedded** access journalism <BP>

4. This author wrote a novel in which a woman kills her own son with sleeping pills after she realises her husband has a second wife. For 10 points each:

[10] Name this author, whose most famous novel revolves around a woman writing letters to her best friend during her period of *Iddab*.

ANSWER: Mariama **Ba**

[10] Mariama Ba wrote in this language, the *lingua franca* of her home country of Senegal.

ANSWER: **French**

[10] This other author wrote an account of a railway strike in Senegal in *God's Bits of Wood*. This writer often turned their own work into films, leading some to call him 'the father of African cinema'.

ANSWER: Ousmane **Sembène** <GDC>

5. This opera's composer described Aino Ackté as 'the one and only' interpreter of the title role, though it was created by Marie Wittich. For 10 points each:

[10] Name this opera. A polytonal chord made up of an F-sharp major chord over an A dominant 7th chord plays as the title character kisses a freshly severed head, after which they are crushed to death on the orders of their horrified stepfather.

ANSWER: **Salome** [SAH-lo-may]

[10] *Salome* opens with an ambiguous scale moving between C-sharp major and G major played on this instrument. After the Dance of the Seven Veils, this instrument plays trills dissonant with the vocal line as Salome requests the head of Jochanaan [yo-KA-na-an].

ANSWER: **clarinet**

[10] *Salome* is an opera written by this composer of *Elektra* and *Der Rosenkavalier*, as well as the tone poem *Also sprach Zarathustra*.

ANSWER: **Richard Strauss** <AP>

6. Emily Martin wrote a paper that examines the anthropology and cultural study of this field. For 10 points each:

[10] Name this field, which Sharon Traweck claims involves subfields with 'cultures of no culture'. The Edinburgh school is associated with the 'strong program' of the sociology of this field, which emphasises the importance of understanding its successes as well as its failures.

ANSWER: **science**

[10] According to David Bloor, the first tenet of the 'strong' program of the sociology of science is this concept. Bloor examines the Humean notion of this concept, which Hume claims occurs when the impression of 'one object forms a more lively idea of the other'.

ANSWER: **causation** [or **causality**]

[10] In *Beamtimes and Lifetimes*, Sharon Traweck examined 'myth making' in this major field of the sciences. Traweck noted that scientists of this discipline are generally 'stoic' by analysing the behaviour of those working at the Stanford Linear Accelerator Center.

ANSWER: particle **physics** <GDC>

7. Ironically, the citadel of this city had been designed by French engineers seventy years prior to its assault by a combined Franco-Spanish force. For 10 points each:

[10] Name this city that, after its capture by Admiral de Genouilly, withstood an 11-month siege by 10,000 men from 1860-61 before its relief by the French Far East Squadron and victory at the Battle of Ky Hoa [KEE hwa].

ANSWER: **Saigon**

[10] The Siege of Saigon was a major battle in the conflict between France and the fourth emperor of this Vietnamese dynasty, who had closed off his country from Western and Christian influences, unlike the founder of this dynasty, Gia Long [JEE-ah Long]

ANSWER: **Nguyen** [there are many pronunciations of this name, be generous]

[10] Twenty years after the conquest of Cochinchina, the French launched a campaign to capture this region, now part of northern Vietnam. The Gulf of this region names a later, exaggerated incident involving the USS *Maddox* in 1964.

ANSWER: **Tonkin** <OSC>

8. This author attacked one of their literary enemies in their only novel, *El Buscón*, and developed their style of *conceptismo* in verses like 'I am a was, and a will be and an is tired'. For 10 points each:

[10] Name this poet who also brutally satirized their main rival Luis de Góngora in works like 'To a Nose'.

ANSWER: Francisco de **Quevedo**

[10] Quevedo and Góngora belonged to this period of Spanish artistic and literary flowering. This era coincided with the height of the Spanish empire, and its other prominent authors include the playwrights Lope de Vega and Calderón de la Barca.

ANSWER: Spanish **Golden Age** [accept **Siglo de Oro**]

[10] The idea of *memento mori* appears in several of Quevedo's poems like his *Psalm 18*, an escalation of this earlier idea expressed in the work of Renaissance Spanish poets like Garcilaso de la Vega. In visual art, this two-word phrase is sometimes represented by a clock inscribed with the phrase '*tempus fugit*'.

ANSWER: **carpe diem** <CJ>

9. Among one group, this class of people were required to call the spirits to a meeting between clans for three summers before being fully acknowledged. For 10 points each:

[10] Give this general term originating from the language of the Siberian Evenki people, among whom these people can enter a trance while wearing a costume and headdress representing a red deer.

ANSWER: **shaman**

[10] Shamans of these people are known as *noaidi* and accompany the singing of *yoiiks* with painted drums as maps for navigating the three worlds: that of the living, the upper one of the gods, and the afterlife.

ANSWER: **Sami**

[10] *Noaidi* are accompanied by spirits of these animals when travelling in the upper world. Among the Evenki, shamans mount figures of different species of these animals on 20ft high poles.

ANSWER: **birds** <OSC>

10. Initially performing with a choir called the Evening Birds in Johannesburg, this singer is credited with introducing the falsetto main voice into South African a cappella music. For 10 points each:

[10] Name this composer of the song 'Mbube', which has been covered extensively as 'Wimoweh' or 'The Lion Sleeps Tonight'.

ANSWER: Solomon Popoli **Linda** [or Solomon **Ntsele**]

[10] Linda helped to popularise the *isicathamiya* singing style, which evolved from the traditional music of this people, the largest ethnic group in South Africa.

ANSWER: **Zulu**

[10] Founded in 1960 by Joseph Shabalala, this group are the leading contemporary exponents of *isicathamiya*. They achieved global recognition following their collaboration with Paul Simon on the album *Graceland*.

ANSWER: **Ladysmith Black Mambazo** <ML>

11. Aggregate, accounting, and potential methods can all be used in this type of complexity analysis. For 10 points each:

[10] Give this word that prefixes a time complexity to state that it is not the worst case complexity, but instead an estimate of the average performance when a large number of operations is performed.

ANSWER: **amortized** [accept word forms]

[10] The standard example of an operation running in amortized time is appending a value to this data structure, which has a very bad worst case time if this data structure is already full due to time spent allocating memory. This data structure is simply an ordered set of numbers in memory.

ANSWER: dynamic **array** [accept any prefix to array other than 'static'; accept **list**; accept **dynamic table**]

[10] When memory does not need to be freed up, appending an element usually has this time complexity. The worst case complexity of appending is  $O(n)$  [O of n], but has this as its amortized complexity.

ANSWER: **constant** [or **O(1)**] <JR>

12. Mrs Teachum runs a boarding school in a novel by a writer with this surname, in which each child tells a story with a moral lesson over the course of ten days. For 10 points each:

[10] Give this surname shared by the author of the first children's novel, *The Governess*, and their brother, the author of *Tom Jones*.

ANSWER: (Sarah and Henry) **Fielding**

[10] Sarah Fielding was a member of this group, which was financially supported by Elizabeth Montagu and sought to encourage female participation in art and literature.

ANSWER: **Blue Stocking** Society

[10] This writer satirised the Blue Stockings in the play *The Witlings*, despite being a member themselves. The title character of one of this writer's novels marries Mortimer Delvile over the objections of his proud and prejudiced father.

ANSWER: Frances 'Fanny' **Burney** <AP>

13. The discovery of this paradox led to the development of Zermelo-Fraenkel set theory. For 10 points each:

[10] Name this paradox, which centres on the set of all sets that are not members of themselves. This paradox showed that some formulations of Cantor's naive set theory lead to a contradiction.

ANSWER: **Russell's** paradox

[10] Graham Priest was inspired by a comparison of Russell's Paradox to the head of Janus to formulate this unusual philosophical view, which accepts that a proposition and its negation can both be true.

ANSWER: **Dialetheism** [prompt on **paraconsistency**]

[10] Priest employs dialetheism to resolve the Sorites paradox, which is often illustrated by using *modus ponens* to argue that a million grains of sand do not form one of these things if a single grain of sand does not.

ANSWER: **heap** [accept **pile**] <NC>

14. In  $n$  dimensions, this is the set of all rays through the origin of  $n$  plus one dimensional space. For 10 points each:

[10] Name this space, whose elements are often given by homogeneous coordinates at least one of which is non zero, and which describe the same point if they are related by scalar multiplication. These spaces are equivalently defined as spheres with antipodal points identified.

ANSWER: **projective space** [accept **real projective space**; accept **complex projective space**; accept  **$\mathbb{R}P^n$** ,  **$\mathbb{C}P^n$** , or  **$P^n$** ; accept **projective plane**]

[10] The real projective line is a one-dimensional topological space that can be identified with this simpler shape. This shape is the set of all points in a two-dimensional plane that have the same distance from the origin, and so can be defined by the equation  $x^2 + y^2 = r^2$ .

ANSWER: **circle**

[10] While the circle has an infinite fundamental group, all higher real projective spaces have this group as their fundamental group, which can be seen using the projection map from the sphere to the projective space.

ANSWER:  **$\mathbb{Z}_2$**  [accept  **$C_2$**  or **'the cyclic group of order 2'**; accept **' $\mathbb{Z}/2\mathbb{Z}$ '** or **' $\mathbb{Z} \bmod 2\mathbb{Z}$ , or  $\mathbb{Z}$  quotient  $2\mathbb{Z}$ '**] <JR>

15. Herodotus and Aristotle tell the same tale about two individuals of this class, but with their roles reversed. For 10 points each:

[10] Name this class of Greek rulers who seized power through extra-legal means, exemplified by men such as Periander of Corinth and Thrasybulus of Miletus.

ANSWER: **tyrants** [accept **tyrannoi**]

[10] Claims deriving 'tyrant' from the language of this kingdom are uncertain, but the first Greek use of the term was applied by the poet Archilochus to Gyges, ruler of this Anatolian kingdom. Herodotus suggests that Thrasybulus secured peace with another king of this kingdom, Alyattes.

ANSWER: **Lydia**

[10] Herodotus' interest in tyrants also led to him relating many stories about Polycrates, who ruled this island in the sixth century. Under his rule, Pythagoras left this island as an exile and moved to Croton.

ANSWER: **Samos** <OSC>

16. In June 2019, Oxford academic Dirk Obbink was accused of stealing a large number of papyri from the Egypt Exploration Society and selling them to this foundation. For 10 points each:

[10] Name this tourist attraction in Washington, D.C., owned by the evangelical Green family, who acquired papyri from Obbink through their company Hobby Lobby.

ANSWER: **Museum of the Bible**

[10] Obbink allegedly sold a papyrus fragment of this book of the Bible, likely the oldest surviving New Testament manuscript. Considered the oldest of the gospels, this book has two variant endings and is the main text in which Jesus keeps his Messianic status secret.

ANSWER: The Gospel According to **Mark**

[10] Obbink has claimed that the Sappho papyrus he discovered came from one of these objects, a claim which was proven false. Papyri are often used to wrap these preserved dead Egyptians.

ANSWER: **mummies** [or mummy **masks**] <AH>

17. L.D. throws a pickle jar through a window in one story in this collection, while another is a predecessor to the same author's 'A Small, Good Thing'. For 10 points each:

[10] Name this collection whose title story features discussions about an injured elderly couple and the suicide of an abusive ex-boyfriend while Mel, Terri, Laura, and Nick drink gin around a table in Albuquerque.

ANSWER: ***What We Talk About When We Talk About Love***

[10] Raymond Carver, the author of *What We Talk About When We Talk About Love*, received his greatest critical acclaim for the story 'Cathedral', which revolves around the narrator's interaction with a man with this condition. Pozzo is affected by this condition between Act I and Act II of *Waiting for Godot*.

ANSWER: **blindness** [accept being **unable to see**]

[10] In his essay 'On Influence', Carver expressed his admiration for this other author, who wrote short stories like 'A Clean, Well-Lighted Place' and the novella *The Old Man and the Sea*.

ANSWER: Ernest **Hemingway** <CJ>

18. This artist depicted the Lord Mayor's Procession on the river in front of Westminster Bridge. For 10 points each:

[10] Name this artist. Another of their paintings shows a view of London, including St Paul's, framed by an Arch of Westminster Bridge.

ANSWER: **Canaletto** [accept Giovanni Antonio **Canal**]

[10] This British artist made watercolour sketches of a blackened Parliament from the river and produced two oil paintings of *The Burning of the Houses of Lords and Commons*, viewed from across the Thames.

ANSWER: J M W **Turner**

[10] This American artist painted a ghostly silhouette of the rebuilt Parliament during their time in the UK in the early 1880s. Their watercolours painted at Cullercoats near Tynemouth show the development of their maritime style, which they would continue back in the United States with works such as *The Fog Warning*.

ANSWER: Winslow **Homer** <OSC>

19. This dynasty's navy raided several cities of the Srivijaya empire and invaded the Maldives under its king Rajaraja I. For 10 points each:

[10] Name this Indian dynasty that also made major contributions to art and architecture such as the Brihadishvara Temple, with its large *gopuram*, or gateway, built on the banks of the Kaveri River.

ANSWER: **Chola** dynasty

[10] The Chola was a dynasty of this South Indian people, with its heartland mostly contained within a namesake modern state. Some of this language's Five Great Epics were composed during the long period of Chola rule.

ANSWER: **Tamil**

[10] The 'Three Crowned rulers' of the Tamils were the kings of the Chola, Chera, and this other dynasty centered at Madurai, which eventually allied with the Chera and the Sinhala of Sri Lanka to supplant Chola influence.

ANSWER: **Pandya** dynasty <CJ>

20. Sequencing of the ancient form of this molecule revealed that many Neanderthals had red hair, and that the 'Cheddar Man' found in Gough's Cave, Somerset, had blue eyes and dark skin. For 10 points each:

[10] Name this molecule. Sequencing of this molecule extracted from the 'ice man' Ötzi [URT-zee] revealed he was lactose intolerant.

ANSWER: ancient **DNA**

[10] The extraction and sequencing of DNA from the finger bone of a juvenile female found in a Siberian cave led to the first description of this hominid species. The E.PAS.1 allele found in a significant proportion of Tibetans - enabling them to live in low-oxygen conditions - is thought to derive from this species.

ANSWER: **Denisovan**s [accept *Homo denisova*, *Homo altaiensis*, or *Homo sapiens denisova*]

[10] At over 700,000 years old, this hominid species is too old for DNA extraction. The type specimen of this species was discovered by Eugene Dubois at Trinil in Java, while similarities between that specimen and teeth described by Davidson Black were noted by Ernst Mayr, who named this species.

ANSWER: *Homo* **erectus** <LC>