

OOT 2020: [The Search for a Middle Clue]

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THE ANSWER TO THE LAST TOSS-UP SHOULD HAVE BEEN: Leibniz

Packet 4

Toss-ups:

1. In a short story set on this island, the narrator relates how they let themselves fall from the roof until they bleed and see themselves reflected in fourteen pools. In a novel set on this island, a rambling letter from the title character to the narrator includes a drawing in coloured pencil of that character ‘and the Seven Deadly Sins’ and begins ‘Dear Boss! Mister Capitalist!’. The title character of that novel refers to his lover as Bouboulina, while a widow is publicly beheaded by the inhabitants of this island. On this island, the setting of Borges’s *The House of Asterion*, a nameless narrator opens a lignite mine with the title character of a Kazantzakis novel. For 10 points, name this island, the main setting of *Zorba the Greek* and home of the Minotaur.

ANSWER: Crete <AP>

2. The curved roof of this city’s tallest building conflicts with a 1974 fire ordinance that resulted in many of its other buildings having flat roofs to allow helicopters to land on them. A cathedral in this city features a series of acute and obtuse angles and was called the ‘Rog Mahal’ by critics. The pyramidal tower of a building in this city was built using sand from the 58 counties of the state in which it is located and features on the badge of this city’s police department. A music venue in this city, which is home to the Wilshire Grand Center, was built using stainless steel sheets that mimic the Guggenheim in Bilbao, also designed by Frank Gehry. That venue is the Walt Disney Concert Hall. For 10 points, name this California city home to the Hollywood sign.

ANSWER: Los Angeles <GDC>

3. John Bulwer wrote one work on the education of this group, an early example of which occurred at Littlecote House. Ferdinand Berthier created a national organization for these people in France, while in the eighteenth century, a large community of these people was centered on the town of Chilmark on Martha’s Vineyard. A friendship with Alice Cogswell inspired Thomas Gaulladet to co-found one institution for these people, while a man credited with inventing a system used by these people actually learned it by observing two sisters in a poor Paris neighborhood. Another more controversial educator of these people was the head of the Clarke School, Alexander Graham Bell. For 10 points, name these people who can use sign language to communicate.

ANSWER: Deaf-mute people [prompt on mute people] <CJ>

4. In the Boussinesq [Boo-sin-ESK] approximation, fractional differences in this quantity multiply the gravitational acceleration to give the reduced gravitational acceleration. For two fluids, the difference of this quantity divided by the sum of this property is known as the Atwood number. The Rayleigh-Taylor instability occurs when a fluid with a higher value of this quantity lies above a fluid with a lower value. The speed of sound waves is proportional to the square root of pressure over this quantity. The specific gravity of a

material is equal to its value of this quantity divided by the value of this quantity for water. For 10 points, name this quantity which equals mass per unit volume.

ANSWER: mass **density** [accept **specific gravity** before mention] <JR>

5. Natan P.F. Kellermann examined the epigenetic transmission of this phenomenon. Jennifer Freyd coined a term for a type of this phenomenon relating to betrayal, and Jean-Martin Charcot claimed that all instances of male hysteria were caused by it. A condition caused by this phenomenon can be assessed using the CAPS test. Francine Shapiro created EMDR therapy to deal with this phenomenon. A psychologist broke with Freud after writing a work which claimed that a type of this phenomenon arising from birth was the cause of all anxiety. This phenomenon is a cause of anxiety and stress in a condition that is prevalent in veterans. For 10 points, name this phenomenon, the damage caused to the mind as the result of a distressing event.

ANSWER: **trauma** [accept word forms, accept **PTSD** before 'stress', prompt on it after that with 'what phenomenon causes the stress?'] <GDC>

6. Under one dynasty, only the oldest mosque in this city was allowed to host the *khutbah* in order to undermine the reputation of a mosque established by this city's founder. A failed attempt was made to build a wall around both this city and its predecessor, which had been deliberately burnt in order to deny it to the armies of Amalric. That predecessor city, Fustat, had been burnt by the vizier Shawar. Maimonides settled in this city, where the Al-Azhar Mosque was neglected by a Kurdish general who established a new dynasty in this city and subsequently defeated the Crusader states at Hattin. Founded by the Fatimid Caliph Al-Mu'izz, for 10 points, name this city, the seat of Ayyubid power under Saladin, whose citadel overlooked the Nile.

ANSWER: **Cairo** [prompt on Fustat by asking 'which city succeeded it as capital?'] <OSC>

7. In their first appearance, this character is described as 'shaped in an unalterable mould, like Cellini's cast Perseus.' This character has a long white mark from their hairline down their face and under their clothes, the origin of which is never explained in the novel in which they appear. The Parsee Fedallah prophecies that this character can only be killed with hemp. D.H. Lawrence famously had little sympathy for this character, believing that the titular character of their novel should have 'torn off both his legs, and a bit more besides.' In one chapter, this character nails a doubloon to a mast, stating that whoever finds the novel's title character will win it. For 10 points, name this Captain of the *Pequod* and monomaniacal protagonist of *Moby-Dick*.

ANSWER: Captain **Ahab** <SR>

8. The background of a painting depicting this substance contains angled stenciling of the number '50' above a brown table. Upon seeing a painting with this substance in the title, the artist's master retorted, 'it is you who have lost your moral sense'. The figure depicted in that painting named for this substance was later used in *The Old Musician*. One painting depicts a man dressed in black sitting next to a woman staring down at a vessel containing this substance. A painting sometimes known as *Figures at a Café* is alternatively named for this substance, which is depicted in Picasso's *Bottle of Pernod and Glass*. For 10 points, name this green alcoholic substance, the subject of works by Edgar Degas and Édouard Manet.

ANSWER: **absinthe** [accept **Pernod** before mention; prompt on alcohol] <GDC>

9. Proteins that inhibit this process function by an adsorption-inhibition mechanism, and their non-colligative mode of action makes them effective at millimolar concentrations. The activity of proteins that inhibit this process can be measured using a Clifton nanolitre osmometer. One insect species accumulates glucose, erythritol, and trehalose to prevent this process, and can withstand losing 70% of its water content. Other

animals that use thermal hysteresis to survive this process include the longhorn sculpin and the wood frog. Damage to cell membranes by recrystallisation during this process is prevented by cryoprotectants such as glycerol. For 10 points, name this process, which some fish can avoid at temperatures as low as -3.5 degrees.

ANSWER: **freezing** [accept obvious equivalents] <ML>

10. In this city, a 50cm-tall statuette of the Little Princess was inspired by the artist's eldest daughter. A landscape park in this city was created by connecting three islands named for Painter, Bath, and Rabbits; that park is called Margaret Island. Many abandoned buildings in this city are home to 'ruin bars', and a statue complex depicting seven chieftains of a certain tribe can be found in this city's Heroes Square. This city's approximately 80 geothermal springs feed its Szechenyi [say-CHAIN-ye] medicinal baths, the largest in Europe. The building of a chain bridge across the Danube created this city by linking a capital to another town and combined their names in a portmanteau. For 10 points, name this capital of Hungary.

ANSWER: **Budapest** <AH>

11. The narrator of a poem in this language claims that their body is 'tattooed with wounds seen and unseen from... slavery'. In a novel written in this language, Mariamar falls in love with Archie Bullseye, who aids in a hunt for a lion. Muidinga and Tuahir take notebooks from a burnt-out bus in a novel written in this language. This language, the original language of *Confessions of the Lioness*, was used to write a novel in which the majority of voters return blank ballot papers. That novel written in this language is set in the same country as a novel where the 'dog of tears' is cared for by the doctor's wife, the only person not to suffer from the title affliction. For 10 points, name this language used by Noémia de Sousa [SOW-za], Mía Couto [COE-too], and José [ZHO-sey] Saramago.

ANSWER: **Portuguese** <GDC>

12. Following World War I, rival governments in this modern-day country were established in its Left Bank and Right Bank regions, where a non-Hungarian Black Army defended the anarchist 'Free Territory'. The coiner of the term 'genocide', Raphael Lemkin, believed that one event in this country merited the term, as does the historian Timothy Snyder. Stepan Bandera led an independence movement in this country that carried out ethnic cleansing against Poles in Volhynia and Eastern Galicia. The borders of this modern-day country were sealed in early 1933 to stop travel 'for bread', as hundreds of thousands of peasants fled a famine created by Stalinist policies. For 10 points, name this country that suffered the Holodomor.

ANSWER: **Ukraine** <OSC>

13. *Type of piece and instrument required.* It doesn't involve the piano, but a work in this genre was sold by the Sutro sisters without their sending its destitute composer any money. The third movement of a piece in this genre begins, after a fourteen-bar transitional passage, with repeated trumpet fanfares interspersed by a quick ascending solo motif. The composer of that work in this genre stated that its 'beginning [...] gives me no peace'. The third movement of a work in this genre begins with the soloist playing B [pause] B C B [pause] B [pause] B C B; that G-minor piece was written by Max Bruch. Mendelssohn wrote an E-minor work in this genre often performed by Hilary Hahn. For 10 points, give this genre in which the highest string instrument is accompanied by an orchestra.

ANSWER: **violin concerto** [prompt on concerto] <AH>

14. A character in this play says that they '[converse] more with the buttock of the night than with the forehead / of the morning'. This play's protagonist names their home as 'the city of kites and crows' while

trying to gain entry to an enemy's house in Antium. The mother of this play's title character is pleased when her son is wounded and criticises her daughter-in-law Virgilia for fearing for his safety. To defuse a grain riot, a speech in this play comparing the belly to the Roman Senate is given by Menenius. Aufidius kills this play's title character after they are convinced by their mother Volumnia to spare Rome. For 10 points, name this Shakespearean play about the soldier Caius Martius.

ANSWER: Coriolanus <AP>

15. Johnson's algorithm for this task adds a temporary point, then uses two other algorithms for this task. A 'fringe' algorithm for this task serves as a middle ground between another algorithm for this task and its 'iterative deepening' variety. The Floyd-Warshall algorithm can carry out this task if there are no negative cycles present, while the Bellman-Ford algorithm can perform this task in the presence of negative weights. A heuristic function is used by the A* [a-star] algorithm for this task. Nodes are classified as 'visited' and 'unvisited' in an algorithm developed by Edsger Dijkstra [DIKE-stra] for this task. For 10 points, the travelling salesman problem revolves around what task of developing a route between a start and end point?

ANSWER: pathfinding [accept clear equivalents; accept answers related to finding a shortest path; accept answers related to traversing or searching a tree or graph; prompt on searching with 'searching for what?'] <LM>

16. This thinker defended their distinction between 'veridical and non-veridical perception' in a response to JL Austin's criticism of their theory of perception. This thinker claimed that 'Caesar is necessarily a human' is not true, because they could have called their dog 'Caesar'. This thinker rejected Gettier's critique of their work, *The Problem of Knowledge*, and asserted that 'in all sentences of the form 'p is true', the phrase 'is true' is logically superfluous. This thinker argued that all metaphysical arguments are nonsense on the basis of a criteria of meaning which distinguished between weak and strong versions of verification. For 10 points, name this British philosopher who spent time with the Vienna Circle and wrote *Language, Truth, and Logic*.

ANSWER: A.J. 'Freddie' Ayer <GDC>

17. A 1989 study by Camp and Jenkins concluded that one of these reactions had an equilibrium mixture of a phosphorane and an oxyphosphonium salt as intermediates. Another reaction of this type unusually does not give out water, due to the use of D.C.C., which is also used as a coupling agent in peptide synthesis. When these reactions occur in an intramolecular fashion, they form lactones. A classic synthesis of Aspirin is an example of the simplest of these reactions, in which an alcohol is heated under reflux with a carboxylic acid. With examples named for Mitsunobu, Steglich, and Fischer, for 10 points, name these reactions, which produce a particularly fragrant class of molecules known for their 'fruity' aromas.

ANSWER: esterifications [accept forming esters or equivalent] <AG>

18. An essay by Tobias Carroll compares the work of this artist with the Stephen Crane essay 'On the Boardwalk'. Amiri Baraka claimed that this artist knows that 'he is not Joe Turner' in a 1985 Spin cover story. Dermot Bolger argued that this artist spoke to 'my working class Dublin' in a song that asks 'Is a dream a lie if it don't come true / Or is it something worse?'. A song by this musician talks of riding 'suicide machines' past 'mansions of glory'. An early album by this artist was entitled 'Greeting from Asbury Park' and is named for a location in this singer's home state of New Jersey. For 10 points, name this singer of 'The River' and 'Born To Run'.

ANSWER: Bruce Springsteen <GDC>

19. A medieval version of this text called the *Targum Shevi* added a story about the Queen of Sheba asking King Solomon riddles. One work about this text describes the central figure as 'greenish', while in another they have seven servants named after the days of the week in order to remember Shabbat. The version of this book in the Septuagint added prayers in order to include the name of God, which does not appear in the form of this text known as the *megillah* and read aloud on the evening and next morning of one holiday. The name of this book's title character was changed from 'Hadassah' in order to hide her Jewish origins from Ahasuerus. For 10 points, name this book of the Old Testament probably written to explain the origins of Purim.

ANSWER: Book of **Esther** <CJ>

20. One thinker active during this dynasty devised the philosophy of the 'investigation of things'. A policy enacted by this dynasty organized groups of ten families into community watches. This dynasty failed to pass the Qingli [ching-lee] Reforms after it was forced to sign the Chanyuan Treaty by its northern neighbor. During this dynasty, a court faction led by the author of the *Comprehensive Mirror to Aid in Government* exiled another official who had spearheaded the Neo-Confucian New Policies, and this dynasty saw the writing of the first formula for gunpowder. The feud between Sima Guang and Wang Anshi took place in this dynasty's capital of Kaifeng during its 'Northern' period. For 10 points, name this Chinese dynasty that followed the Tang.

ANSWER: Northern **Song** dynasty [do NOT accept 'Southern Song'] <CJ>

Bonuses:

1. In one model, this field causes its namesake phenomenon through the effect of a slow-roll potential. For 10 points each:

[10] Name this hypothetical scalar field whose false vacuum state has a positive energy density. Tunnelling of that false vacuum to a true vacuum would lead to the creation of excitations of this field, whose existence has been posited to explain the observed validity of the cosmological principle.

ANSWER: **inflaton** [prompt on inflation; prompt on dark energy]

[10] Another mechanism for the accelerating expansion of the universe is the addition of this term to the Einstein field equations, which is symbolised lambda times the metric tensor. Einstein called the inclusion of this term in his equations his 'biggest blunder', but it has since been shown to be necessary after all.

ANSWER: **cosmological constant** [prompt on vacuum energy; prompt on dark energy]

[10] Inflationary theory is required to explain the observed homogeneity and isotropy of this radiation. This radiation is the light that was scattered when the universe became transparent to photons, and it has since been redshifted to a temperature of 3 Kelvin.

ANSWER: **Cosmic Microwave Background radiation** <LW>

2. For 10 points each, name the following about some novels whose titles have something in common:

[10] In this novel, John and Mona emerge from a bunker to find a mass grave, while earlier a nation puts on an air show celebrating the 'Hundred Martyrs to Democracy'.

ANSWER: ***Cat's Cradle***

[10] This Canadian author wrote about the artist Elaine Risley looking back over her life in *Cat's Eye* and in 2019 published the sequel to *The Handmaid's Tale*.

ANSWER: Margaret **Atwood**

[10] This other author's novel *Cat's Table* tells the story of Michael's voyage from Sri Lanka to England aboard the ocean liner *Oronsay*. The title character of another of this author's novels falls in love with Katherine Clifton when she reads Herodotus aloud.

ANSWER: Michael **Ondaatje** [on-DAH-chee] <CJ>

3. Reasonable Blackman, who had a business trading in this good in the late sixteenth century, is one of the earliest-known financially independent people of African heritage in England. For 10 points each:

[10] Name this good. James I made an unsuccessful attempt to introduce it to England, as part of the gradual European move away from dependence on the trade of its namesake 'Road'.

ANSWER: **silk**

[10] The only Tudor portrait of a known African is of John Blanke, depicted on a painted roll playing the trumpet at one of these events, which had been called to celebrate the birth of Henry VIII's son, who lived only days past its conclusion.

ANSWER: **tournament** [accept **joust**]

[10] People of colour could also be useful allies, as when Francis Drake allied with these people to raid across the Panama Isthmus. These people were escaped slaves resisting the Spanish alongside the native population.

ANSWER: **cimarrons** <AP>

4. Priests and priestesses who undergo initiation in this people's rite of Ifá are known as Babalawo and Iyalawo, respectively. For 10 points each:

[10] Name this ethnic group whose deities Ogun and Oshosi are central to the initiation rite of 'receiving the Warriors' in one faith.

ANSWER: **Yoruba**

[10] One of the main orishas of the Yoruba religion, Yemoja, is the protector of women and the goddess of this domain. Brazil's distinctive commemoration of the New Year is a celebration of Yemoja's power over this entity.

ANSWER: the **ocean** [accept the **sea**; accept **water**; accept **rivers**]

[10] Ogun, the blacksmith and warrior, is also central to this Haitian faith that derives from the beliefs of the Fon people. In this religion, Ogun is one of the loa that serve as intermediaries between humans and Bondye.

ANSWER: Haitian **vodou** <CJ>

5. The players in *Rosencrantz and Guildenstern Are Dead* perform a dramatic re-enactment of the most famous incident involving this group, much to the disgust of the title characters. For 10 points each:

[10] Name this mythical group. Stephen Vincent Benet portrayed the aforementioned incident involving these people in one short story that was later adapted into a musical film starring Howard Keel.

ANSWER: the **Sabine Women** [accept the rape or abduction of the **Sabine Women**]

[10] The rape of the Sabine Women is parodied by Lady Carlotta in 'The Schartz-Metterklume Method', a work by this Edwardian British author of short stories like 'The Open Window'.

ANSWER: **Saki** [or Hector Hugh **Munro**]

[10] This English caricaturist depicted the Sabine women as part of their series *The Comic History of Rome*. They were also the first illustrator of Charles Dickens' *A Christmas Carol*.

ANSWER: Jack **Leech** <GDC>

6. This philosopher distinguished between the phenomenal and access types of a concept that they called 'a mongrel concept'. For 10 points each:

[10] Name this philosopher, who argued against functionalism in the China brain thought experiment using the 'absent qualia' objection.

ANSWER: Ned **Block**

[10] The absent qualia objection revolves around the notion that while the China brain would be functionally equivalent to a human brain, it would lack this concept, the subjective awareness of one's own existence.

ANSWER: **consciousness**

[10] Contrary to Block, this philosopher argued that the China brain would in fact have consciousness. This philosopher argued against the concept of qualia in *Quining Qualia* and characterised thought experiments as 'intuition pumps'.

ANSWER: Daniel **Dennett** <GDC>

7. On rare occasions, the thomson has been used as the unit for this quantity. For 10 points each:

[10] Name this quantity. Magnetic field strength divided by this quantity is equal to gyrofrequency, and classical particles with equal values of this quantity will move along the same path in electromagnetic fields.

ANSWER: **mass-to-charge ratio** [accept **m/Q** ['m over Q' or 'm divided by Q'] or **m/z**; accept **charge-to-mass ratio**, accept (one over the) **specific charge**]

[10] The mass-to-charge ratio of particles is measured by this analytical technique. This technique first ionises the sample, then accelerates the ions and subjects them to an electric or magnetic field.

ANSWER: **mass spectrometry** [accept **mass spectroscopy**; accept **MS**]

[10] Ions undergo cyclotron motion in this high-resolution form of mass spectrometry, after being held in an excitation field by a Penning trap. This specific analytical technique produces a free induction decay signal.

ANSWER: **FT-ICR** MS [or **Fourier-transform ion cyclotron** resonance mass spectrometry; accept **FTMS**; accept **Fourier-transform** mass spectrometry] <AH>

8. The narrator of one poem from this country says that a character ‘came not, as he was on a journey in the East’, but he returns at the end to give the same warning four times. For 10 points each:

[10] Name this country, whose cycles of mythological and heroic poems are preserved in the Codex Regius.

ANSWER: **Iceland**

[10] This poem forms part of the *Poetic Edda* in the Codex Regius. Thor tells the god whose poetic insults title this poem, ‘Unmanly one, cease, or the mighty hammer, Mjollnir, shall close thy mouth’.

ANSWER: **Lokasenna** [accept **Loki’s Flying** or **The Flyting of Loki**]

[10] Much of Loki’s mockery in the *Lokasenna* comes in the form of foretelling the fates of the other gods at this apocalyptic event. Loki says that Thor will fight Fenrir at this event, though the *Völuspá* suggests he will fight another son of Loki, the Midgard Serpent.

ANSWER: **Ragnarök** <OSC>

9. Louis Slotin died as a result of the two halves of this object coming together after the screwdriver he was using to hold them apart slipped in his hand. For 10 points each:

[10] Name this specific object. Intended for a potential third bomb on Japan, an accident involving it had earlier killed Harry Daghlian, and the Slotin incident put an end to criticality experiments being done by hand.

ANSWER: the **demon core** [accept ‘**Rufus**’]

[10] Those accidents took place at the Los Alamos National Laboratory in New Mexico, the site of most of the research for this project, which culminated in the ‘Trinity’ test.

ANSWER: **Manhattan** Project [prompt on ‘**atomic bomb** project’]

[10] While at Cambridge, this other member of the Manhattan Project attempted to kill Patrick Blackett with a poisoned apple. This person had a relationship with Jean Tatlock and was described as ‘among the second rank of American physicists’ in the Borden letter, which denounced them as an agent of the Soviet Union.

ANSWER: Julius **Robert Oppenheimer** [prompt on **Oppenheimer**] <AP>

10. This artist’s *The Immaculate Conception of Los Venerables* was possibly the most expensive painting in the world when bought by the Louvre from the estate of Marshal Sout. For 10 points each:

[10] Name this Baroque artist, noted for their many depictions of the Immaculate Conception. This artist’s works depicting contemporary life include *The Young Beggar* and *The Little Fruit Seller*.

ANSWER: Bartolomé Esteban **Murillo**

[10] Murillo was influenced by this artist, the leading light of Philip IV’s court. The only surviving nude by this artist of *The Surrender of Breda* is the *Rokeby Venus*.

ANSWER: Diego **Velázquez**

[10] Both Murillo and Velázquez came from this city. Velázquez created three versions of a painting titled for a *Waterseller* of this city, while Murillo painted a *St Isidore* for this city’s cathedral, one of the largest in the world.

ANSWER: **Seville** <OSC>

11. This city declined in importance after King Harsha of the Vardhana dynasty established his capital at nearby Kanauj in the seventh century. For 10 points each:

[10] Name this ancient Indian city, the capital of the Maurya and Gupta dynasties. This city became one of the largest in the world under the Mauryas and was visited by the Greek ambassador Megasthenes.

ANSWER: **Pataliputra**

[10] King Harsha's court was visited by this Chinese monk and traveler, who was sent to India in search of the original versions of Buddhist texts. This man's trip was fictionalized in *Journey to the West*.

ANSWER: **Xuanzang**

[10] Though Harsha's court records describe him as a Hindu, Xuanzang's chronicle asserts that he was a Buddhist who built thousands of stupas along the banks of this sacred Indian river.

ANSWER: **Ganges** <CJ>

12. In 2011, six elk were brought to this area, but all jumped the fence and escaped, adding fuel to the controversy about high death rates in this area. For 10 points each:

[10] Name this Siberian park, in which Sergey and Nikitka Zimov are attempting to reconstruct the conditions of the epoch after which it is named by introducing megafauna. That namesake epoch ended 11,700 years ago and saw over 11 major glaciation events.

ANSWER: **Pleistocene** Park

[10] Pleistocene Park is an example of this movement, which focuses on re-introducing keystone species in order to make ecosystems resemble their pre-human conditions.

ANSWER: **rewilding**

[10] The Bolson species of this type of animal was subject to one of the first rewilding efforts, through breeding programmes and reduction of threats in New Mexico. In the Galápagos, the presence of giant species of these animals acts to maintain highland lakes and reduce the occurrence of *Sphagnum* peat bogs.

ANSWER: **tortoise** [accept giant **tortoises**; accept **Testudinidae**; prompt on **turtles**] <LC>

13. This poem states ominously that 'The martial emperor's dream of expansion has no end' and imagines 'shed blood becom[ing] a sea'. For 10 points each:

[10] Name this poem. This poem claims that it is better to have female than male children, because 'Our girls can still be married' whereas 'Our sons are merely buried amid the grass'.

ANSWER: **Song of the (War) Wagons** [or **bīng chē xíng**; accept **Ballad** instead of *Song*; accept **Chariots** or (*Army*) **Carts** instead of *Wagons*]

[10] This author of *Song of the Wagons* wrote that 'The torch of war has filled three months with fire' in their poem *A Spring Scene in Wartime*. This Tang-dynasty 'Poet Sage' frequently wrote about their thatched hut.

ANSWER: **Du** Fu [or **Zimei**; or **Tu** Fu; or **Du** Shaoling; or **Du** Gongbu]

[10] Du Fu wrote that the wagons stirred up so much dust that one of these structures across the Wei river was hidden. The poet Zhang Ji wrote about a night mooring on a river beside one of these structures.

ANSWER: **bridges** [accept *Night Mooring at Maple* **Bridge** or the Xianyang **bridge**] <AH>

14. Jacques of Liège defended the music of the period described by this term in his *Speculum musicae*, which praised the music of Franco of Cologne. For 10 points each:

[10] Give this term. Johannes de Garlandia was another music theorist of the period described by this term, as was the writer of the manuscript known as *Anonymous IV*.

ANSWER: **ars antiqua** or **ars veterum** or **ars vetus**

[10] Garland's *De mensurabili musica* is the earliest western attempt at creating notation for this aspect of music. It may be contrasted with neumes, which notate relative pitch.

ANSWER: **rhythm** or **rhythmic** mode

[10] The period of the *ars antiqua* focuses on this school of polyphony centred on its namesake Parisian cathedral. The main work associated with this school was the *Magnus Liber*, compiled by composers including Léonin and Pérotin.

ANSWER: **Notre-Dame** school <AP>

15. Johan Bollen *et al.* use a Granger causality analysis to show that the mood on this platform is predictive of the stock market. For 10 points each:

[10] Name this platform. A work titled for a Paul Klee painting claims that this platform has resulted in ‘the theft of the capacity for reverie’. This platform is very popular with social science researchers because it still provides its data via APIs.

ANSWER: **Twitter**

[10] *The Twittering Machine* is a work by this sociologist, who also examined the resurgence of left wing politics in *Corbyn: the Rebirth of Radical Politics*.

ANSWER: Richard **Seymour**

[10] Sociological research into Twitter often employs research techniques that analyse these systems. Twitter and Facebook are often called ‘social’ examples of these systems.

ANSWER: **networks** <GDC>

16. This actor stunned viewers by making a surprise cameo in one film alongside Billy Howle, though the appearance was brief as both characters were killed in flashback by the Jedi hunter Ochi. For 10 points each:

[10] Name this actress who played Rey’s mother in *Star Wars: The Rise of Skywalker*. In another role, this actress’ character is called a ‘demon with no face’.

ANSWER: Jodie **Comer**

[10] Jodie Comer’s connection to the *Star Wars* universe continued when her red-carpet dress at the 2020 Golden Globes was compared to this memetic character from *The Mandalorian* series by virtue of its protruding shoulders and deep green colour.

ANSWER: **Baby Yoda** [do NOT accept ‘Yoda’]

[10] Comer’s *Killing Eve* colleague Phoebe Waller-Bridge also had a role in a *Star Wars* film playing the social-justice-minded droid L3-37, who sets up a key moment in this film by staging a revolt of enslaved workers on Kessel, where the protagonists have travelled to steal unrefined coaxium.

ANSWER: **Solo: A Star Wars Story** <CJ>

17. This judge criticised the practice by which juries can return a perverse verdict, arguing that it meant that ‘the law shall be, in every particular cause, what any twelve men [...] shall be inclined to think.’ For 10 points each:

[10] Name this judge, who ruled against the property claims of Charles Stewart in his attempt to take James Somerset back to Jamaica.

ANSWER: William **Murray**, Lord **Mansfield** [accept either]

[10] The right of juries to return perverse verdicts was confirmed in Bushel’s Case of 1670, which followed the imprisonment of a jury that had refused to convict some Quakers. Bushel petitioned for this writ reporting unlawful detention, which translates as ‘that you have the body’.

ANSWER: **habeas corpus**

[10] Those Quakers, who had been arrested for breaking the Conventicle Act, were William Mead and this person. This person wrote *No Cross, No Crown* in the Tower of London, died bankrupt, and was buried in the Jordans Burial Ground.

ANSWER: William **Penn** <AP>

18. Though it’s not the *New York Herald*, Michel is offered a copy of this magazine in the street towards the beginning of Jean-Luc Godard’s *Breathless*. For 10 points each:

[10] Name this longest-continuously-published French film magazine founded by André Bazin, in which members of the New Wave developed their theory of the auteur.

ANSWER: ***Cahiers du cinéma*** [ka-YAY doo cinema]

[10] This semi-autobiographical film is dedicated to Bazin's memory and follows Antoine Doinel as he rebels at school and eventually runs away to the sea.

ANSWER: *The 400 Blows* [or *Les Quatre Cents Coups*]

[10] This director of *The 400 Blows* became known as 'The Gravedigger of French Cinema' thanks to the brutal reviews they wrote for *Cahiers*. Other films by this director include *Shoot the Pianist* and *The Last Metro*.

ANSWER: François **Truffaut** <NC>

19. Lady Harpy Harraden is in love with Sir Spaniel Lilyliver in the play 'Where there's a Will there's a Way', a parody of Restoration comedy within a play within this novel. For 10 points each:

[10] Name this novel, in which Miss La Trobe directs a 'pageant of England' that ends with mirrors being held up to the audience while a gramophone recording tells them to consider themselves.

ANSWER: ***Between the Acts***

[10] *Between the Acts* was the last novel by this author, who had previously written about the Ramsay family in *To the Lighthouse*.

ANSWER: Virginia **Woolf**

[10] The penultimate scene of the pageant focuses on a group of people taking part in one of these events. In another novel, Mrs Bates is mocked at one of these events on Box Hill.

ANSWER: **picnic** [prompt on day trip or similar] <AP>

20. Perturbation methods can be used to solve problems where the behaviour changes suddenly in a layer near to these locations. For 10 points each:

[10] Name these locations that define the edge of a domain. The solutions to differential equations are usually specified either by initial conditions, or by their values at these locations.

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

[10] Perturbation methods are used to give solutions that have this property of the ratio of successive terms tending to zero as the small parameter tends to zero. This adjective also describes curves to which functions tend as their argument tends to infinity.

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

[10] *Note to reader: read the quoted part slowly and exactly.* This rule can be used to ensure that the asymptotic expansions in the boundary layer and in the rest of the domain are consistent with each other. It is often stated as 'm terms inner of n terms outer equals n terms outer of m terms inner'.

ANSWER: **van Dyke's** matching rule <LW>