



2024 Summer Open (T1) – Pack 10

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PACK 10

5-Part Blitz

1. What gas makes up the bubbles in Coca-Cola and most other soft drinks?
A: **carbon dioxide** (accept: **CO2**)
2. Whose S. 464 is a set of piano transcriptions of all 9 Beethoven symphonies?
A: Franz **Liszt**
3. What European empire was responsible for the Herero genocide in present-day Namibia at the start of the 20th century?
A: **German** empire (accept: Imperial **Germany**)
4. Taxes, price ceilings, and quotas all result in what loss of societal welfare because the marginal benefit no longer meets the marginal cost?
A: **deadweight** loss
5. What children's TV show was originally narrated by Ringo Starr, who also voiced Sir Topham Hatt, the "fat controller"?
A: ***Thomas the Tank Engine & Friends*** (accept: ***Thomas & Friends***)

Double Jumps

6. What animals use a waggle dance to communicate nearby sources of nectar to members of their hive?
A: **honey bee** (prompt on: **bee**)
7. While in their larval stage, future queen honey bees are fed exclusively what substance?
A: **royal jelly**
8. After pope Leo III rejected Irene of Athens's claim to the throne because she was a woman, whom did he instead crown as emperor of the Romans on Christmas Day, 800?
A: **Charlemagne** (accept: **Charles the Great, Carolus Magnus**) (prompt on: **Charles**)
9. What treaty, signed between Charlemagne's grandsons, divided the Frankish empire into West Francia, Middle Francia, and East Francia?
A: Treaty of **Verdun**

Set of 4

10. Earth's atmosphere contained very little oxygen until about 2.5 billion years ago, when cyanobacteria evolved what process that produces oxygen as a byproduct?
A: **photosynthesis**
11. Besides oxygen, what carbohydrate is the other product of photosynthesis?
A: **glucose** (accept: **C6H12O6**)
12. What colour is found in the name of a hypothesis stating that the first photosynthetic organisms on Earth used retinal instead of chlorophyll to absorb light energy?
A: **purple**
13. Specialized plant cells form out of what kind of undifferentiated cells?
A: **meristematic** cells

Jackpot

14. Part 1: What player once broke their nose in a game against Germany, but scored later in that game and played the rest of the tournament wearing a protective facemask?
15. Part 2: In their most famous game, this player scored a hat trick, but their team lost in extra time after a controversial delay of game call against their goalie.
16. Part 3: Since the team's founding in 2013, this player has captained the Portland Thorns of the NWSL.
17. Part 4: This player has scored the most goals ever in international women's soccer.
A: Christine **Sinclair** (prompt on: Sincy)

Set of 3: *Black Mirror*

18. Video game designer Stefan Butler is the protagonist of what choose-your-own-adventure *Black Mirror* movie?
A: *Black Mirror*: **Bandersnatch**
19. While *Black Mirror* originally ran on the British Channel 4, it is now owned and produced by what streaming platform?
A: **Netflix**
20. In the episode "Rachel Jack and Ashley Too", pop star Ashley O is played by what former Disney actress?
A: Miley **Cyrus**

5-Part Blitz

21. Who wrote a female-centric retelling of the *Odyssey* called the *Penelopiad*?
A: Margaret **Atwood**
22. Often depicted sitting on a lotus flower throne, what Hindu goddess is Vishnu's wife?
A: **Lakshmi** (accept: **Shri**)
23. The square of what trigonometric ratio is equal to the secant squared minus one?
A: **tangent**
24. What word precedes "Alpha" in the name of a popular mathematical computation engine and is also an alternate name for tungsten?
A: **wolfram**
25. What French comic series written by René Goscinny concerns a Gaulish hero who uses Getafix's magic potion to beat up Romans?
A: *The Adventures of* **Asterix**

END OF FIRST QUARTER

SECOND QUARTER

Splits: Military Video Games & Relativity

Military Video Games

26. What series produced two free-to-play battle royale games known as *Warzone*?
A: **Call of Duty** (accept: **COD**)
27. Developed by DICE, what series's most recent entry is set in and named for the year 2042?
A: **Battlefield**
28. What conflict is the setting for games like *Day of Defeat*, *Red Orchestra*, and *Medal of Honor: Allied Assault*?
A: **World War II** (accept: **Second World War**)

29. What series, in which players progress through national focus trees, is Paradox Interactive's main strategy series set during World War II?
A: **Hearts of Iron**

Relativity

30. Special relativity states that what has the same speed for all observers, regardless of their motion?
A: speed of **light**
31. What term refers to all of the paths that light can take through spacetime from a starting event?
A: **light cone** (prompt on: cone)
32. General relativity redefined what force as the warping of spacetime by bodies with mass?
A: **gravity**
33. Gravitational effects can be calculated from the distribution of mass and the curvature of spacetime by using what set of equations?
A: **Einstein's** field equations (accept: **EFEs**)

Double Jumps

34. What term, for a paradox in which the solution to a problem is impossible because of the problem itself, comes from the title of a satirical novel by Joseph Heller?
A: **catch-22**
35. What pilot in *Catch-22* is generally considered to be insane, which would allow him to be released from duty, but cannot ask to be released as that would be a mark of sanity?
A: Lieutenant **Orr**
36. The largest tropical wilderness area in the US is what region of flooded grassland in southern Florida?
A: Florida **Everglades**
37. Water drains into the Everglades from what shallow lake, the largest in Florida?
A: Lake **Okeechobee**

Set of 4: Licence Plates

38. In 2020, which province had to cancel its new licence plates because they proved unreadable at night?
A: **Ontario**
39. What region's licence plates declare "End Taxation Without Representation"?
A: Washington, **District of Columbia** (accept: Washington, **DC**) (prompt on: Washington)
40. Georgia has what three words, taken from a Ray Charles song title, immediately following the state's name on their licence plates?
A: **On My Mind**
41. What word, which can also refer to a dressing table, describes a licence plate with personally chosen, rather than random, characters?
A: **vanity**

Set of 4: Canadian Politicians Who Were Never Prime Minister

42. Canada's universal healthcare system originated under what CCF premier of Saskatchewan?
A: Tommy **Douglas**
43. "The Great Darkness", which saw aggressive persecution of labour unions and religious minorities, and close ties to the Catholic Church, is a nickname for the rule of what premier of Quebec?
A: Maurice **Duplessis**

44. Who shepherded Canadian industrial production during WWII and held various cabinet positions in Liberal governments from 1935 to 1957?
A: C.D. **Howe**
45. Who died of cancer in summer 2011, months after leading the NDP to its best ever federal election result?
A: Jack **Layton**

5-Part Blitz

46. Who reigned for over 72 years as king of France from 1643 to 1715?
A: **Louis XIV** (prompt on: Louis)
47. Germany's Fuggerai is considered the world's oldest operating example of what kind of institution, sometimes known as "Council Estates" in the UK or "the Projects" in the US?
A: **social housing** (accept: **public housing**)
48. What law is the combination of Avogadro's Law, Charles' Law, Boyle's Law, and Gay-Lussac's Law?
A: **ideal gas** law
49. What acronym literally means "which was to be demonstrated" and traditionally appeared at the end of mathematical proofs?
A: **QED**
50. What novelist wrote *The Mill on the Floss* and *Middlemarch*?
A: George **Eliot** (accept: Mary Ann **Cross**, Mary Ann **Evans**)

END OF FIRST HALF

THIRD QUARTER

Splits: American Art & Lakes

American Art

51. In which state did George Caleb Bingham primarily work?
A: **Missouri**
52. What artist combined romanticism and landscape painting as the founder of the Hudson River School, and is known for his works such as *The Titan's Goblet*, *The Voyage of Life*, and *The Course of Empire*?
A: Thomas **Cole**
53. What modernist often mixed skulls and flowers, such as in *White Hollyhock*, *Little Hills*, and *Ram's Head*, and painted many of her works in the desert of New Mexico?
A: Georgia **O'Keeffe**
54. In what painting does a group of doctors dressed in white perform a mastectomy? It was painted 14 years after *The Gross Clinic* by Thomas Eakins.
A: *The **Agnew Clinic***

Lakes

55. What lake is home to the only exclusively freshwater seal and is by volume the world's largest freshwater lake?
A: Lake **Baikal**
56. Located between Gravenhurst and Port Carling, what lake gives its name to an upscale region of Ontario cottage country?
A: Lake **Muskoka**

57. What long lake lies along the middle of Uganda's border with the DRC?
A: Lake **Albert**
58. When a wide meander in a river is cut off, what kind of U-shaped lake is created?
A: **oxbow** lake (accept: **billabong**)

Double Jumps

59. Ocean, Enneagram, and Myers-Briggs are all popular tests for what?
A: **personality** tests
60. Which American state names a widely used test for diagnosing and identifying psychological and mental health disorders, a "multiphasic personality inventory"?
A: **Minnesota**
61. What empire enslaved Christian children and forced them to serve in its army as janissaries, beginning after it conquered much of the Balkans in the 1400s?
A: **Ottoman** Empire (accept: Ottoman **Turkey**)
62. What word refers to the autonomous legal systems that the Ottoman Empire set up for its Christians and other religious minorities?
A: **millet**s

Set of 3: Before and After

The answers in this category will consist of two names or terms that have been combined based on the letter sequence they share in common. For example, given the question "the first prime minister of Canada and the previous president of the United States", the answer would be "John A. Macdonald Trump".

63. Female sex hormone and a book of the Bible.
A: **estrogenesis**
64. The activist who was the first leader of the Southern Christian Leadership Conference and a Kendrick Lamar song named for the main character of *Roots*.
A: **Martin Luther King Kunta**
65. The protagonist of the *Twilight* series and a ballet by Peter Tchaikovsky.
A: **Bella Swan Lake**

Set of 4: Cats

66. "Woman", "You Right", and "Say So" are all hits by what musician?
A: **Doja Cat** (accept: Amala **Dlamini**)
67. What poet's works are the basis for the musical *Cats*?
A: T.S. **Eliot**
68. What Canadian cat breed is notable for its lack of fur?
A: **sphynx** cat
69. CAT is the short form for what Fortune 100 company?
A: **Caterpillar** Inc.

Linked Set of 6

70. In what kind of buildings did Ancient Romans sit in a tepidarium, a caldarium, and a frigidarium before using strigils to scrape off oil that they had applied to their body?
A: public **baths** (accept: **bathhouses**, **thermae**)

71. According to an idiom, what should you not throw out with the bathwater?
A: the **baby**
72. Who collaborated with Ludacris on his 2010 superhit "Baby"?
A: Justin **Bieber**
73. What is the maiden name of Justin Bieber's wife?
A: **Baldwin**
74. What musical instrument is produced by the Baldwin company?
A: **piano**
75. What is the meaning of the Italian adjective "piano"?
A: **soft** (accept: **quiet**)

END OF THIRD QUARTER

FOURTH QUARTER

Jackpot

76. Part 1: Who argued that much of our beliefs come from associations of ideas with each other, and used this to argue against practices such as maids associating the dark with monsters in the minds of children?
77. Part 2: Robert Nozick coined a "proviso" relating to private ownership that is named for this person. Elsewhere, this person popularized a distinction between "primary" and "secondary" qualities.
78. Part 3: This person argued that people can gain a right to own a part of nature by "mixing their labour" with it in a productive way.
79. Part 4: This author's Two Treatises of Government influenced the American Revolution and inspired Thomas Jefferson's phrase "Life, Liberty and the pursuit of Happiness". This philosopher argued for empiricism by claiming that the mind was a "blank slate" at birth.
A: John **Locke**

Streak

80. Name up to all three of the languages used to write the original texts that make up the Bible.
A: Ancient/Koine **Greek**
A: Ancient **Hebrew**
A: **Aramaic** (reject: Amharic)

Streak

81. Name up to all five colours of mana used in *Magic: the Gathering*.
A: **white**
A: **blue**
A: **black**
A: **red**
A: **green**

Set of 5: Slogans

Given a current or former slogan for a brand, name the brand.

84. Because you're worth it.
A: **L'Oreal** Paris
85. It's finger-lickin' good.
A: **Kentucky Fried Chicken** (accept: **KFC**)
86. Tiny but mighty.
A: **Polly Pocket**
87. The King of Beers.
A: **Budweiser**
88. The best a man can get.
A: **Gillette**

12-Part Blitz

89. What element is diamond?
A: **carbon** (accept: **C**)
90. The first American film to win since *The Tree of Life* in 2011, what Sean Baker film was awarded the Palme d'Or at the 2024 Cannes Film Festival?
A: **Anora**
91. What novel, which follows telepathic characters born at the moment of India's partition in 1947, has won multiple Booker Prizes for Salman Rushdie?
A: **Midnight's Children**
92. What kitchen appliance is used to automate slicing and dicing, and requires less liquid to function than a blender?
A: **food processor** (accept: **food chopper**)
93. What is the closest dwarf planet to the Sun and the largest asteroid in the Solar System?
A: **Ceres**
94. What state's village of East Palestine ["PAL-ess-teen"] saw a February 2023 train derailment that released numerous hazardous chemicals into the environment?
A: **Ohio**
95. What phrase "means no worries for the rest of your days" and is a "problem-free philosophy" according to Timon and Pumbaa?
A: **Hakuna Matata**
96. What city is home to the hub for Delta Air Lines at the busiest airport in the world, Hartsfield-Jackson?
A: **Atlanta**
97. What song opens with Denzel Curry rapping "I am the one / don't weigh a ton / don't need a gun to get respect up on the street"?
A: **"Ultimate"**
98. Who compiled a detailed narrative of the Greco-Persian Wars, leading him to be dubbed "the father of history"?
A: **Herodotus**
99. At the start of Despicable Me, what iconic building does Vector steal?
A: **Great Pyramid** of Giza (prompt on: pyramid of Giza)
100. What adjective describes numbers that are neither deficient nor abundant, such as 6 and 28?
A: **perfect**

END OF GAME