

1. One work by this man opens with a Prelude in which the soloist plays arpeggios. Another composition by this man contains several fugues based off a theme given to him by Frederick the Great. This composer of Six Cello Suites and The Musical Offering wrote a cantata often known as "Jesu, Joy of Man's Desiring." Another of his compositions was a group of six (*) concerti written as a gift to a namesake Margrave. For 10 points, name this Baroque composer renowned for his use of counterpoint, whose works include the Goldberg Variations and the Brandenburg Concertos.

ANSWER: J. S. Bach [or Johann Sebastian Bach; prompt on Bach]

140-13-75-04101

2. Some parts of this region are internally divided by the Conrad discontinuity. The prevalence of granitic and basaltic rock separates the continental and oceanic types of this region. Parts of this region can be subducted and it is broken up into units called (*) tectonic plates. The Mohorovicic (moe-hoe-ROV-itch-itch) discontinuity separates this region from the asthenosphere, with which it forms the lithosphere. For 10 points, name this outermost layer of the Earth, which is located above the mantle. ANSWER: the <u>crust</u> [prompt on <u>lithosphere</u> until it is read]

052-13-75-04102

3. In a short story by this author, a soldier named Zokov arrests a soldier whom he believes to be a German spy. This author of "An Incident at Krechetovka Station" wrote a novel in which the protagonist is permanently exiled to Uzbekistan and decides to forgo the opportunity of starting a relationship with Vera. In his first novel, this author described the life of (*) prisoners in group 104 through the eyes of Shukhov. For 10 points, name this Soviet author of *Cancer Ward* and *One Day in the Life of Ivan Denisovich*.

ANSWER: Aleksandr Solzhenitsyn [or Aleksandr Isayevich Solzhenitsyn]

140-13-75-04103

4. One proponent of this perspective, Clark Hull, used its principles to develop his drive-reduction theory. Edward Thorndike used this perspective to formulate his Law of Effect. The "radical" type of this perspective focuses on producing schedules of reinforcement through (*) operant conditioning. It was largely replaced by the "cognitive revolution" in psychology, and was pioneered by John Watson. For 10 points, name this movement in psychology which ignored mental states in favor of observing responses to stimuli.

ANSWER: behaviorism

147-13-75-04104

5. The Climax mine in this mountain range was once the world's largest producer of molybdenum. The northern border of this mountain range is marked by the Liard river. The highest peak in this mountain range is Mount (*) Elbert. This range is part of the delineator known as the Continental Divide, which separates watersheds that drain into the Pacific and those that drain into the Atlantic. For 10 points, identify this mountain range in western North America that stretches from Canada to New Mexico. ANSWER: Rocky Mountains [or the Rockies]

6. Henry Percy testified against a figure with this first name in a royal adultery trial. A ruler of this name got a thirty-year contract to supply slaves to New Spain called the asiento. That ruler with this name sent victorious troops to Malplaquet under the Duke of Marlborough. The last Stuart monarch, Britain's queen during the War of (*) Spanish Succession, shares this name with a woman beheaded in 1536, who had supplanted Catherine of Aragon. For 10 points, give this first name of Henry VIII's second wife, Boleyn.

ANSWER: **Anne** [or **Anne** Boleyn]

104-13-75-04106

7. The narrator of this book eats a little scroll, which tastes sweet but causes pain in his stomach. Events in this book include the falling of the star Wormwood and the pouring of seven bowls. Supposedly written on Patmos, this book introduces a woman called the (*) Whore of Babylon, and in it, 144,000 people are marked as servants of God. Angels blow seven trumpets and seven seals are broken in this book, which features the appearance of Four Horsemen. 10 points, name this book traditionally attributed to John, the last canonical book of the Bible.

ANSWER: Book of **Revelation** [do not accept "Book of Revelations"]

192-13-75-04107

8. This is the number of radial nodes possessed by a 4p orbital or a 5d orbital, and in molecular orbital theory, the bond order is calculated by finding the difference between bonding and non-bonding pairs and dividing by this number. A p-orbital has this many lobes, and the value of the (*) spin quantum number can take on exactly this many different values. The principal quantum number, or n, is this value for lithium, beryllium, and neon. For 10 points, identify this number that is the atomic number of Helium.

ANSWER: two

189-13-75-04108

9. One man who held this post dismissed riots by comparing it to "when a mighty tree falls." The first man to hold this position described "the stroke of the midnight hour, when the world sleeps" in his inaugural speech named "A Tryst With Destiny." Another politician in this post ordered Operation Blue Star and had a son who succeeded her named (*) Rajiv. That woman in this post was killed by her Sikh bodyguards after ordering a raid on the Golden Temple at Amritsar. For 10 points, name this position once held by Indira Gandhi.

ANSWER: Prime Minister of India [accept equivalent answers such as India's PM]

052-13-75-04109

10. In one play by this writer, one character visits the room of Lord Darlington and is saved from shame by Mrs. Erlynne. This author created the concept of "bunburying" in a work that involves a baby left at Victoria Station by Miss Prism. That play by this man involves (*) Cecily Cardew and Gwendolen Fairfax being coupled with Jack Worthing and Algernon Moncrieff. For 10 points, name this Irish author who wrote the plays Lady Windermere's Fan and The Importance of Being Earnest.

ANSWER: Oscar Wilde [or Oscar Fingal O'Flahertie Wills Wilde]

11. One character in this opera points out the similarities between himself and the title character in "Pari siamo!" Another character in this work takes the pseudonym Gualtier Malde while talking to Gilda, who is served by the nurse Giovanna. This opera opens with the title character mocking Count Ceprano. This work, which includes the (*) assassin Sparafucile, opens with the Duke of Mantua singing its most famous aria, "La donna e mobile." For 10 points, name this Giuseppe Verdi opera whose title character is a hunchbacked court jester.

ANSWER: *Rigoletto*

192-13-75-04111

12. In the quantum equivalent of this physical system, phonons can be used to represent excitations. An RLC circuit is the electrical equivalent of these physical systems. The motion of these systems can be inhibited in a process called (*) damping. In one of these systems, the displacement is directly proportional to the restoring force, which is stated as F equals negative k x in Hooke's law. For 10 points, name this type of physical system exemplified by a mass on a spring.

ANSWER: simple **harmonic oscillator** [or SHO]

014-13-75-04112

13. The narrator of this novella emphasizes the usefulness of geography by pointing out that he can distinguish China and Arizona at a glance. Another of its characters is saddened when he comes upon five thousand roses in a single garden. The narrator of this novella once drew a (*) boa constrictor digesting an elephant, and finds out from a snake that he has crashed in the Sahara desert. Its royal title character lives on an asteroid with a rose. For 10 points, name this novella by Antoine de Saint-Exupery.

ANSWER: The <u>Little Prince</u> [or Le <u>Petit Prince</u>]

189-13-75-04113

14. A 2004 documentary depicted the attempt by students at Tennessee's Whitwell Middle School to collect six million of these objects in order to demonstrate the scope of the Holocaust. The Norwegian Johan Vaaler is often falsely credited with the invention of these objects, which were worn in Norway as a symbol of national resistance to the Nazis. In an (*) operation named for these objects, the OSS created false biographies for Arthur Rudolph, Wernher von Braun, and other Nazi scientists. For 10 points, name this office supply which was used to attach those new biographies to the old personnel files.

ANSWER: paper clips

015-13-75-04114

15. According to Herodotus, one of these objects was commanded by Artemisia of Halicarnassus, a Greek woman serving Xerxes. The periplus and kyklos tactics were perfected using these objects, which were central to the battles of Corcyra and Aegospotami. Two hundred of these objects were built at Piraeus after a vision of a "wall of wood" came to Themistocles. These military implements were often decorated with painted eyes behind a ram at the (*) prow. For 10 points, name this type of ancient military ship with three rows of oars.

ANSWER: **trireme**s [prompt on **ship** or **boat** until "ship" is read]

16. A lock of this figure's hair was given to Sterope by Heracles to protect Tegea. One of this figure's offspring with Poseidon was the giant Chrysaor. This woman was the sister of the immortals Stheno and Euryale. Ovid claimed that this woman was originally beautiful before her rape by Poseidon caused Athena to transform her. This woman became the mother of (*) Pegasus after a successful quest by a man who used Hermes' winged sandals and Athena's shield. For 10 points, name this woman killed by Perseus whose look turned people into stone.

ANSWER: Medusa

023-13-75-04116

17. In this novel, Skeet MacGowan cheats one member of the central family by selling her fraudulent abortion drugs. Reverend Whitfield fathers an illegitimate child in this work, which has a chapter consisting solely of the sentence, "My mother is a (*) fish." The children of this novel's central family include Jewel, Vardaman, and Dewey Dell. For 10 points, name this William Faulkner novel about the Bundren family's attempts to have Addie buried.

ANSWER: As I Lay Dying

192-13-75-04117

18. This man led the decoy forces during the Fetterman Fight and the Wagon Box Fight. This man was the brother of Little Hawk and a cousin of the chief Touch the Clouds. Fatally wounded at Camp Robinson for allegedly resisting his imprisonment, this man had earlier joined Chief Gall and another man in defeating the (*) Seventh U.S. Cavalry Regiment. For 10 points, name this leader of the Oglala Lakota who wiped out the forces of George Custer at the Battle of Little Bighorn while fighting with Sitting Bull.

ANSWER: Crazy Horse [or Tasunko-witko]

201-13-75-04118

19. This artist was the eldest son of a man who illustrated a 1911 Scribner Classics edition of *Treasure Island*. He painted cows in *Brown Swiss*, a work depicting land in Chadds Ford. This man made over 200 paintings of his neighbor, a German model named Helga Testorf. His best known painting depicts a gray house and a wide (*) field, in which rests the title woman, based on one of his neighbors who suffered from paralysis. For 10 points, name this American painter of *Christina's World*. ANSWER: Andrew Newell <u>Wyeth</u>

052-13-75-04119

20. This scientific model was explicated in a paper responding to biologists such as Udny Yule and was written by a mathematician. Assumptions behind this model include the nonexistence of meiotic drive, non-random mating, and random (*) genetic drift. This model is represented by the equation p-squared plus 2 p q plus q-squared equals 1. For 10 points, name this genetic model proposing an equilibrium of allele frequencies named for an Englishman and a German.

ANSWER: **Hardy-Weinberg** equilibrium

014-13-75-04120

21. Paul Painleve secured funding for this project after its namesake left office. This project's largest components, including Hackenberg, were called ouvrages (oov-RAZH), and those components faced Army Group C. This structure named for a minister of war had a section in (*) Alsace-Lorraine that was completely avoided when tanks moved into the Ardennes Forest, which allowed enemy troops to bypass the domed turrets of this defense. For 10 points, name this anti-German armored defensive line that failed to protect France during World War II.

ANSWER: Maginot Line [or Ligne Maginot]

22. A set of solutions to a differential equations can be shown to be independent using a form of this quantity known as the Wronskian. The solution to a set of linear equations is given in terms of this quantity by Cramer's rule. One way of computing this quantity is cofactor expansion. For a two-by-two (*) matrix with entries a, b; c, d it can be written as a d minus b c. For 10 points, name this function of square matrices that is signified by using vertical bars.

ANSWER: determinant

201-13-75-04122

23. One character in this novel finds that she has had a blanket placed around her shoulders while she watches Maudie Atkinson's house burn down. A mob in this work is broken up after the leader, Mr. Cunningham, talks about his son. A trial in this novel occurs after Mayella (*) Ewell is beaten by her father but the blame is placed on Tom Robinson. Dill visits this work's narrator in Maycomb, where they begin to interact with Boo Radley. For 10 points, name this novel about Scout and Atticus Finch written by Harper Lee.

ANSWER: To Kill a Mockingbird



1. This poem includes Phoebus's declaration that "Fame is no plant that grows on mortal soil" and concludes with the line, "Tomorrow to fresh woods, and pastures new." For 10 points each:

[10] Name this pastoral elegy that instructs the shepherds to "weep no more" for a drowned man who has become "the Genius of the shore."

ANSWER: "Lycidas"

[10] "Lycidas" was written by this blind English poet. His other poems include "Il Penseroso" and a sonnet beginning with the line, "When I consider how my light is spent."

ANSWER: John Milton

[10] Milton is most famous for this twelve-book epic about Satan, God, Adam, and Eve, among others.

ANSWER: Paradise Lost

014-13-75-04201

2. Answer the following about *New Super Mario Bros. U*, for 10 points each.

[10] This device, a large screen-containing controller that ships with the Wii U, can be used by a fifth person to help Mario, Luigi, and two Toads.

ANSWER: WiiU GamePad

[10] This hatchling creature exists in three colors; shaking a red one results in it ballooning and lifting the player, while blue ones spit bubbles and glowing ones emit a bright light.

ANSWER: **baby Yoshi**s [accept answers indicating that these **Yoshi**s are either young or small; prompt on **Yoshi**s]

[10] The secret world in *New Super Mario Bros. U* is in this shape, as it was in *New Super Mario Bros. Wii*. In each level, the player can collect three large coins with this shape printed on them.

ANSWER: stars

104-13-75-04202

- 3. Answer the following about the Western Schism, for 10 points each.
- [10] The schism began after the death of Pope Gregory XI, who moved the papacy from this French city back to Rome.

ANSWER: Avignon

[10] This council, which followed the Council of Pisa, resolved the schism. During it, Martin V was made the single Pope, removing the titles of three other Popes.

ANSWER: Council of Constance

[10] Another result of the Council of Constance was declaring the teachings of this group heretical. It was led by a Bohemian who followed the ideas of John Wycliffe.

ANSWER: Hussites

- 4. Name some properties of common mathematical operations, for 10 points each.
- [10] This property states that the order in which two numbers are added does not affect the sum.

ANSWER: commutative property of addition

[10] The number one serves this purpose for multiplication, because multiplying a number by one does not change it.

ANSWER: multiplicative identity

[10] Non-singular square matrices have one of these, as does every real number except for zero.

ANSWER: <u>multiplicative inverse</u> [or <u>reciprocal</u>; prompt on <u>inverse</u>]

174-13-75-04204

5. Answer the following about Ragnarok, for 10 points each.

[10] At Ragnarok, this god is killed while battling the Midgard Serpent. He wields a magic hammer.

ANSWER: Thor

[10] This god is easily killed by Surtr after he gives away his magic sword. While he is skilled with using an antler as a weapon, he is no match for the fire giant.

ANSWER: **Frev**r [do not accept "Freya"]

[10] This watchdog that guards Hel's gate will kill and be killed by Tyr during Ragnarok.

ANSWER: Garmr

052-13-75-04205

6. This director depicted the ethical conflict between Captain Kirby York and Lieutenant Colonel Owen Thursday in *Fort Apache*. For 10 points each:

[10] Name this American director of many genre films, including *Stagecoach* and *My Darling Clementine*. He often collaborated with John Wayne.

ANSWER: John Ford

[10] Ford may be most famous for this film in which Ethan Edwards, played by Wayne, hunts the Comanche chief Scar, who has taken his niece Debbie captive.

ANSWER: The Searchers

[10] *The Searchers* and *Stagecoach* are examples of this film genre that often features cowboys and Indians.

ANSWER: western

014-13-75-04206

- 7. This region, often said to be where civilization first began, was the birthplace of the Akkadian empire. For 10 points each:
- [10] Name this region between the Tigris and Euphrates Rivers that was home to cities such as Uruk and Babylon.

ANSWER: Mesopotamia

[10] Uruk was an important city in this region of southern Mesopotamia. Cuneiform arose from this region, which may have been ruled by Gilgamesh and was first settled by the Ubaid culture.

ANSWER: Sumer

[10] Sumer was eventually conquered by this ruler of the Akkadian empire, who founded the Agade dynasty and conquered all of Mesopotamia.

ANSWER: **Sargon** the Great [or **Sargon** of Akkad]

- 8. This artist included his signature in his paintings *The Procuress*, *The Astronomer*, and *The Geographer*. For 10 points each:
- [10] Name this painter whose 34 known paintings include *The Milkmaid* and *Girl with a Pearl Earring*.

ANSWER: Jan <u>Vermeer</u> [or Johan <u>Vermeer</u>; or Johannes <u>Vermeer</u>]

[10] Vermeer was a major figure in the "golden age" of painting of this modern day country. Another painter, Jacob van Ruisdael, frequently depicted its windmills.

ANSWER: Kingdom of the **Netherlands** [or Koninkrijk der **Nederland**en; or **Holland**; or **Dutch** Republic]

[10] George III purchased this Vermeer painting, in which a bass viol lies unattended behind a woman and her instructor participating in the title activity.

ANSWER: The <u>Music Lesson</u> [or <u>Lady at the Virginals with a Gentleman</u>]

020-13-75-04208

- 9. In this poem, the speaker describes passing the setting sun and noting "the horses' heads were toward eternity." For 10 points each:
- [10] Name this poem, in which the speaker travels in a carriage whose passengers include Immortality and the title figure.

ANSWER: "Because I could not stop for Death"

[10] "Because I could not stop for Death" is a poem by this reclusive author from Amherst. Her other works include "I felt a funeral in my brain."

ANSWER: Emily **Dickinson**

[10] The speaker of another Dickinson poem describes "the stillness round my form" and how she "could not see to see" after hearing the buzz of this insect.

ANSWER: a fly

140-13-75-04209

- 10. Answer these questions about the eleventh-century Byzantine empire's dealings with marauding armies, for 10 points each.
- [10] The fourth of these campaigns sacked Constantinople. The Byzantine emperor allied with Saladin during the third of these campaigns.

ANSWER: crusades

[10] The Byzantines lost to this nomadic people at Manzikert in 1071. They were eventually supplanted by the Ottomans.

ANSWER: **Seljuk** Turks [prompt on **Turks**]

[10] These people, once led by Tsar Samuel, were the subject of Balkan campaigns by emperor Basil II, who blinded almost 15,000 of their soldiers after the battle of Kleidion.

ANSWER: **Bulgar**s [or **Bulgarian**s]

104-13-75-04210

- 11. In this fairy tale, the title figure wears shoes too big for her and is afraid to go home, since she made no money that day. For 10 points each:
- [10] Name this fairy tale in which the title figure dies in the cold after seeing a vision of her grandmother, whom she reaches out to.

ANSWER: "The Little Match Girl" [or "Den Lille Pige med Svovlstikkeme"]

[10] "The Little Match Girl" is one among many fairy tales by this Danish author.

ANSWER: Hans Christian Andersen

- [10] Andersen's story "Ole Lukoie" is about this figure, who puts children to sleep and gives them dreams.
- E. T. A. Hoffmann wrote a story about this figure in which he is much more sinister.

ANSWER: the **Sandman** [or der **Sandmann**]

- 12. This language was originally developed by James Gosling at Sun Microsystems. For 10 points each:
- [10] Identify this cross-platform programming language that runs in a namesake virtual machine.

ANSWER: Java

[10] The slogan "write [this word], run anywhere" was created by Sun to showcase the cross-platform capabilities of Java.

ANSWER: once

[10] Java is an example of this programming methodology whose namesake instances of classes are associated with methods.

ANSWER: **OOP** [or **object-oriented programming**]

066-13-75-04212

- 13. Answer these questions about practices maintained by the dwindling number of Zoroastrians around the world today, for 10 points each.
- [10] Today's Zoroastrians still worship this good god, who Zoroaster served in his constant struggle against the evil Ahriman.

ANSWER: Ahura Mazda [or Othura Mazda; or Ohrmazd; prompt on Mazda]

[10] Zoroastrian temples still require a sacred one of these things, in front of which prayer occurs. Called *atar* in Avestan, priests offer them frankincense and blocks of sandalwood.

ANSWER: a sacred fire

[10] Mumbai's Zoroastrians try to breed these animals in captivity to ensure that *dakhma*, or Towers of Silence, can still house the dead in the face of these animals' impending extinction from pesticide.

ANSWER: vultures

104-13-75-04213

- 14. This musical work was part of Paul Whiteman's "An Experiment in Modern Music" concert. For 10 points each:
- [10] Identify this 1924 work which includes a characteristic blend of jazz and classical elements. It contains a notable seventeen-note clarinet glissando, and is partially named for a certain color.

ANSWER: Rhapsody in Blue

[10] Rhapsody in Blue is a work by this American composer, whose operatic works include Porgy and Bess.

ANSWER: George Gershwin

[10] This tone poem by Gershwin was composed following his trip to a particular island nation. It was initially titled *Rumba*, and uses Latin American instruments like maracas and bongos.

ANSWER: Cuban Overture

189-13-75-04214

- 15. This economic concept is sometimes known as a spillover. For 10 points each:
- [10] Identify these forms of market failure, which are the costs incurred by a third party that is not directly involved in a transaction. They can be positive or negative, and can be caused by things such as pollution.

ANSWER: externalities [or word forms]

[10] The Pigouvian form of this economic concept can be used to rectify negative externalities. Forms of these in the US include inheritance and sales.

ANSWER: taxes

[10] This situation in economics results from parties consuming and enjoying the benefits of goods without contributing to the cost of provision or production. It leads to Pareto inefficiency when it causes under-production of a public good.

ANSWER: **free rider** problem [prompt on **tragedy of the commons**]

- 16. Poems written in this language include *The Wanderer* and *The Seafarer*. For 10 points each:
- [10] Name this language, whose literature includes an epic about a hero who defends Hrothgar's hall, which was discovered in the Nowell Codex.

ANSWER: **Old English** [or **Anglo-Saxon**]

[10] This aforementioned epic follows the slayer of Grendel and Grendel's mother.

ANSWER: **Beowulf**

[10] This important manuscript preserved a great body of Old English literature, including *The Wanderer*, *The Seafarer*, and a collection of famous riddles.

ANSWER: Exeter Book

014-13-75-04216

17. Answer some questions relating to the New Deal, for 10 points each.

[10] This President launched the New Deal after the country was faced with the Great Depression. He was elected to the presidency four times.

ANSWER: Franklin Delano Roosevelt [or FDR; prompt on Roosevelt]

[10] This New Deal initiative sought to reduce crop surpluses in order to boost prices.

ANSWER: Agricultural Adjustment Acts [or AAA; or Agricultural Adjustment Administration]

[10] This initiative harnessed the floodwaters of a particular river and its tributaries and used them for electricity. It ultimately provided over four billion dollars worth of power to 2.9 million consumers annually.

ANSWER: Tennessee Valley Authority [or TVA]

189-13-75-04217

18. This electrical quantity is equal to charge divided by time. For 10 points each:

[10] Identify this electrical quantity which is equal to voltage when multiplied by resistance, according to Ohm's law. It is symbolized I.

ANSWER: electric current

[10] Multiplying the current by the voltage yields the electrical form of this quantity. Substitution using Ohm's law reveals that the square of the current times resistance also equals this quantity.

ANSWER: electrical **power**

[10] Kirchhoff's junction rule states that the current entering a junction must sum to this number. It is also the total potential difference across all elements in a loop according to Kirchhoff's loop rule.

ANSWER: zero

189-13-75-04218

- 19. Answer the following about model organisms for 10 points each.
- [10] Thomas Hunt Morgan frequently used *Drosophila melanogaster* in his experiments. Drosophila is a type of this insect, whose order is diptera and which lays many eggs.

ANSWER: fruit flies

[10] Closely related to the mustard plant, this popular model plant was the first to have its genome sequenced.

ANSWER: *Arabidopsis* thaliana [or *A. thaliana*]

[10] The important model organism *Danio rerio* is noted for its ability to regenerate body parts like fins.

What animal, part of the minnow family, is *Danio rerio*?

ANSWER: **zebrafish** [prompt on **fish**]

20. This country's city of Ciudad Bolivar lies on the Orinoco River. For 10 points each:

[10] Name this South American country located west of Guyana. Its largest city, Caracas, lies in a valley.

ANSWER: Venezuela

[10] This lake, the largest in Venezuela, is fed by the Catatumbo River. It is actually connected to the Gulf of Venezuela and the Caribbean Sea by the Tablazo Strait.

ANSWER: Lake Maracaibo

[10] The Guiana Highlands contain many tepui, a name for this type of landform defined by flat land surrounded by cliffs.

ANSWER: mesas [or table top mountains; prompt on plateaus]

140-13-75-04220

21. Answer the following questions relating to ferromagnetism. For 10 points each:

[10] Ferromagnetism is found naturally in iron, cobalt and this element with atomic number 28 and chemical symbol Ni.

ANSWER: nickel

[10] Ferrmomagnetic materials are made up of these microscopic regions, within which all magnetic moments are aligned. In an unmagnetized sample, these entities are randomly oriented.

ANSWER: magnetic **domain**s [or Weiss **domain**s]

[10] Above this temperature, a ferromagnetic material loses its magnetization and becomes paramagnetic.

ANSWER: <u>Curie</u> point [or <u>Curie</u> temperature]