

1. US Literature

Though best known as a novelist and essayist, she also wrote plays—most notably *Night of January 16th*. Her first novel is somewhat autobiographical, and the main character is Kira Argounova. Her second novel takes place in a nightmarish future where individuality is outlawed. Name this Objectivist who wrote *We The Living*, *Anthem*, *The Fountainhead*, and *Atlas Shrugged*.

ANSWER: (Ayn) Rand (or (Alisa) Rosenbaum)

2. Calculus/Combinatorics (30 Seconds)

Somebody decides to toss a coin repeatedly until heads comes up two times. What is the probability that it takes exactly three tosses to get two heads?

ANSWER: $\frac{1}{4}$ (or .25 or 25%) (do not accept $\frac{3}{8}$, .375, or 37.5%)

3. Music

His first symphony is nicknamed Titan, his second Resurrection, his sixth Tragic, and his eighth Symphony of a Thousand. He feared that, like Beethoven, he would never complete his tenth symphony, and he actually did die while working on it at the age of fifty in 1911. Name this popular conductor and composer who wrote *Kindertotenlieder*, *The Song of the Earth*, and *Songs of a Wayfarer*.

ANSWER: (Gustav) Mahler

4. Chemistry (10 Seconds)

This is the brand name for material made of polyparaphenylene terephthalamide. It was created by Stephanie Kwolek and Herbert Blades in 1965. It is five times stronger than steel on a same weight basis but is flexible. Name this substance trademarked by DuPont used in bullet-proof vests.

ANSWER: Kevlar

5. Religion/Mythology

In Asia, these creatures were generally believed to bring good luck and invoked during New Year celebrations to scare off evil spirits. In Europe, they were believed to be evil and live in far off caves protecting treasures. According to legends, both Marco Polo and Saint George killed them. Name these large scaled creatures that sometimes have wings or breathe fire.

ANSWER: Dragon(s)

6. Algebra (30 Seconds)

Find the point of intersection of the lines $y=3x-2$ and $2x+y=13$

ANSWER: (3,7) (or $x=3$ and $y=7$, both parts should be given without prompt)

7. World History

It lasted for about eleven months, ending on the ninth day of Thermidor during Year Two of their calendar, and it was described as nothing other than prompt, severe, and inflexible justice. Rules were made by The Committee of Public Safety, including the rule that the only trial verdicts allowed were Innocence or Death. Name this stage of The French Revolution which took the lives of about thirty thousand people, many by guillotine.

ANSWER: (The Reign of) Terror (accept La Terreur) (do not accept French Revolution)

8. Technology

His boss was Mike Sendall, and one of the students who helped him was Nicola Pellow. He wrote a famous program with a twelve-letter name that originally ran on NeXT computers and was used by high energy physicists. He now oversees a consortium which continues the work he started in the 1980s. Name this former CERN programmer credited with the invention of the World Wide Web.

ANSWER: (Tim) Berners-Lee

9. Pop Culture

This character has been portrayed by Gene Hackman, John Shea, Michael Rosenbaum, and Kevin Spacey. Many of his weapons have been captured and placed on display in the Fortress of Solitude. In a recent appearance, he tried to create a new landmass East of the United States. Name this bald scientific genius who causes trouble for Superman.

ANSWER: (Alexander Joseph Lex) Luthor

10. World Literature

This 1920 poem contains the line: "Hardly are those words out when a vast image out of Spiritus Mundi troubles my sight." It also states: "The best lack all conviction, while the worst are full of passionate intensity." Another phrase was used for the title of Chinua Achebe's most popular novel. Name this work by William Butler Yeats.

ANSWER: (The) Second Coming

11. Biology

Most of this man's observations were published by the Royal Society of England in the late 17th and early 18th centuries. One of his inspirations was Robert Hooke, who confirmed his most important experiment. This experiment involved leaving peppercorns in water and then observing the bacteria that grew. Name this Dutch tradesman sometimes called the Father of Microbiology.

ANSWER: (Anton Thonius Philips van) Leeuwenhoek

12. Language Arts

This term can refer to a particular type of haircut or a small signboard. More commonly, it refers to a small piece of building material with one end thicker than the other laid in overlapping rows to cover a roof. Name this word which, when an S is added to the end, can refer to herpes zoster.

ANSWER: Shingle(s)

13. Geography/Astronomy/Earth Science

Examples include the Floridan, Lloyd, Ogallala, Mahomet, and Guarani. Confined ones are typically below unconfined ones. Give this term for groups of rocks that easily transmit water to wells or springs.

ANSWER: Aquifer(s)

14. Current Events

The Democratic nominee for Governor in this state was Chris Bell, but he received only thirty percent of the vote. Independent Carole Keeton Strayhorn tried to appeal to Conservative voters, but she only got eighteen percent. Adding humor to the race was the candidacy of country singer Kinky Friedman. Name this state where Republican Rick Perry will serve his second term since replacing George Walker Bush.

ANSWER: Texas

15. Geometry/Trigonometry (30 Seconds)

Include units in your answer. What is the length of a thirty degree arc around a circle with a radius of twenty-four centimeters?

ANSWER: 4π centimeters (do not accept answers missing pi or centimeters)

16. British Literature

Some of his memorable characters are Septimus Harding, Obadiah Slope, Doctor Wortle, and Harry Hotspur. This nineteenth century author wrote close to fifty novels and was very popular during his lifetime. Name this author of the Palliser Novels and the Chronicles of Barsetshire who wrote *Barchester Towers* and *Orley Farm*.

ANSWER: (Anthony) Trollope

17. Nonfiction

This naval administrator helped bring Charles the Second back to England. Every day for a decade, he wrote down approximately a paragraph, and this writing has been used by historians to learn about the Great Fire of London and the Great Plague. Name this diarist from the 1660s.

ANSWER: (Samuel) Pepys

18. Physics (10 Seconds)

If you make a simplifying assumption in a differential equation, this quantity can be given as m times g divided by k . For one type of graph, this quantity is the horizontal asymptote. It is much lower if the moving object is in a liquid or is spread out. Name this quantity which is reached when the drag force cancels out the force of gravity, causing an object to fall at constant speed.

ANSWER: Terminal Velocity (accept Sedimentation Velocity or Speed in place of Velocity, prompt Final Velocity or End Velocity)

19. Art/Architecture

This fifteenth century drawing is based on the work of a First Century BC architect. It has both a circle and a square going around it, has a number line below it, and has mirror writing above and below. The person in the drawing has two right feet, which are both facing forward, and two left feet, which are both pointed outward. Name this Leonardo da Vinci work that is supposed to show the proportions of man.

ANSWER: Vitruvian Man (accept Proportions of Man or Canon of Proportions on an early buzz)

20. US History

He said: "In my dreams I hear again the crash of guns, the rattle of musketry, the strange, mournful mutter of the battlefield. But in the evening of my memory I come back to West Point. Always there echoes and re-echoes: Duty, Honor, Country." The most decorated soldier in World War One, he later served as Allied Commander in the Philippines and Supreme Commander of the Allied Powers. Name this General who clashed with President Truman during the Korean War.

ANSWER: (General Douglas) MacArthur

Tiebreakers: (If you need to replace a question, take one from the Replacement Packet.) Use these questions in the order given if you need to break a tie. The first correct answer wins the match.

(30 Seconds)

Find the cotangent of the quantity 7π over 4.

ANSWER: -1 (do not accept 1)

In The Bible, this person was told by God, "Be fruitful and increase in number and fill the earth." He was the son of Lamech and the father of Shem, Japheth, and Ham. Name this man, described in Chapters Five through Nine of Genesis, who landed in the mountains of Ararat after the flood.

ANSWER: Noah

Which state contains the towns of Elsmere, Seaford, New Castle, Wilmington, and Dover?

ANSWER: Delaware