



1. In this novel, crows fly about when the main character's third child, a daughter, is born. This book's main character discovers his uncle is the second-in-command of a group of robbers, which allows him to prevent the looting of his farm. This novel's central character acquires a slave named Pear Blossom. Earlier in this novel, the protagonist's wife, O-lan, dies of a stomach ailment. For 10 points, name this novel about the Chinese farmer Wang Lung, a work by Pearl S. Buck.

ANSWER: *The **Good Earth***

088-12-54-05101

2. In 1828, Friedrich Wohler reacted this compound with cyanic (sigh-YAN-ick) acid to synthesize urea. The primary process for manufacturing this compound originally used an osmium catalyst, but today an iron catalyst is more common. That process uses high pressure to drive synthesis of this compound and is known as the Haber-Bosch process. This compound has a strong odor and is used to make many fertilizers. For 10 points, name this basic, colorless gas with formula  $\text{NH}_3$ .

ANSWER: **ammonia** [accept **NH<sub>3</sub>** before it is mentioned]

132-12-54-05102

3. The narrator of this work muses that one title character's paintings remind him of Henry Fuseli. The narrator of this short story reads the protagonist a work of Sir Launcelot Canning entitled "The Mad Trist" in order to calm him, which backfires when the protagonist hears "her first feeble movements in the hollow coffin." After being buried alive, Madeline kills her twin brother Roderick. For 10 points, name this short story which ends with the collapse of the title structure, a work of Edgar Allan Poe.

ANSWER: "The **Fall of the House of Usher**"

131-12-54-05103

4. This man thwarted an assassination attempt by Maximian by having a eunuch sleep in his bed. This ruler beat Maxentius in battle when a bridge collapsed into the Tiber. This ruler had his wife Fausta and son Crispus executed for unclear reasons in 326. This man's wars with Licinius (lie-SIN-ee-us) were preceded by their joint issuance of the Edict of Milan, which granted religious toleration. For 10 points, name this Roman emperor who won the Battle of Milvian Bridge and was the first to convert to Christianity.

ANSWER: **Constantine the Great** [or **Constantine I**; or **Flavius Valerius Constantinus**; prompt on **Constantine**]

088-12-54-05104

5. One of this author's poems describes the title figures, "headpiece filled with straw," and ends by repeating, "this is the way the world ends" three times before concluding, "not with a bang but a whimper." Another poem by this author of "The Hollow Men" describes Phlebas the Phoenician in its fourth section. That poem begins with the section "The Burial of the Dead." For 10 points, name this modernist poet who wrote, "April is the cruellest month" in "The Waste Land."

ANSWER: Thomas Stearns **Eliot**

141-12-54-05105

6. One victory for this man saw his forces charge up the central Pratzen Heights and led to the Treaty of Pressburg and dissolution of the Holy Roman Empire. This ruler put Spain under the control of his brother Joseph until he was forced out by guerilla fighters and the British. This ruler won at Borodino, but was forced to retreat in a failed invasion of Russia. He was exiled to Elba following his defeat by Wellington. For 10 points, name this French general and emperor who lost at Waterloo.

ANSWER: **Napoleon** Bonaparte [or **Napoleon** I; prompt on **Bonaparte**]

141-12-54-05106

7. During his infancy, this figure was saved by the fisherman Dictys. Late in life, he fulfilled a prophecy when he accidentally killed his grandfather Acrisius (uh-CHRIS-ee-uss) with a discus. He killed Phineus, a suitor to his wife, soon after defeating the monster Cetus (SEA-tus). This man embarked on his most famous journey when he learned of Polydectes' (paul-ee-DECK-tees) desire for this man's mother Danae, and on that journey he was given help by Athena and Hermes. For 10 points, name the Greek hero who married Andromeda and slew Medusa.

ANSWER: **Perseus**

140-12-54-05107

8. A controversial method for predicting these events by detecting electric signals is called the VAN method. These events can produce Rayleigh and Love waves. They occur at unusually high depths in subduction zones due to the presence of submerged lithosphere. The moment magnitude scale is used to measure large examples of these events, superseding the older Richter scale. For 10 points, name these violent releases of energy that cause movement in the Earth's crust.

ANSWER: **earthquakes**

132-12-54-05108

9. This politician twice introduced a bill to require an analysis of the benefits of incandescent light bulbs over fluorescent ones. She mistakenly stated that Waterloo, Iowa was the home of John Wayne, and suggested that the HPV vaccine caused mental retardation after a debate. Her husband Marcus runs a controversial Christian counseling clinic. For 10 points, name this Minnesota politician who ran for the Republican presidential nomination in 2011.

ANSWER: Michelle **Bachmann**

015-12-54-05109

10. In one play by this author, an attempt to hang a wreath causes Halvard Solness to fall to his death. In another play by this author, the discovery of contamination in the town's baths results in the ostracism of Dr. Thomas Stockmann, who is given the title label. This playwright of *The Master Builder* also created Nils Krogstad, who blackmails Torvald's wife, Nora Helmer. For 10 points, name this Norwegian playwright of *An Enemy of the People* and *A Doll's House*.

ANSWER: Henrik **Ibsen**

088-12-54-05110

11. This country received Bill Clinton in August 2009 when he negotiated for the release of two female U.S. journalists. Jimmy Carter reportedly sent his condolences to this nation's current leader after the death of his predecessor from "fatigue" on a train ride, which made ice crack and the sky turn red. For 10 points, identify this Asian nation which bombed its southern neighbor's Yeonpyeong (ye-on-pie-yong) Island in 2010 and whose leader Kim Jong Il died in December 2011.

ANSWER: **North Korea** [or **DPRK**; or **Democratic People's Republic of Korea**; or **Choson-minjujuui-inmin-konghwaguk**; prompt on **Choson**; do not accept or prompt on "Korea"; do not accept or prompt on "Republic of Korea"]

126-12-54-05111

12. In one novel by this author, the title characters include a student of Father Zosima and the lover of Grushenka (groo-SHEN-kuh), who is framed for the murder of his father, Fyodor. In another novel by this author, the protagonist attempts to keep Svidrigailov (suh-vid-ree-GUY-lov) away from his sister. That character is friends with Razumikhin (ra-ZOOM-ih-kin) and is pursued by Porfiry Petrovich after he murders a pawnbroker with an axe. For 10 points, name this Russian novelist of *The Brother Karamazov* and *Crime and Punishment*.

ANSWER: Fyodor Mikhaylovich **Dostoevsky**

141-12-54-05112

13. The Amalthea (al-muh-THAY-uh) and Thebes gossamer rings are part of this planet's ring system. Pioneer 10 was the first probe to explore this planet in 1973. In *Cosmos*, Carl Sagan imagined the possibility of "floaters" living on this planet. This planet was hit by the Shoemaker-Levy 9 comet. Two storms in this planet's atmosphere are Oval BA and the Great Red Spot. Io and Europa are two of the Galilean moons that orbit this planet. For 10 points, name the largest planet in our solar system.

ANSWER: **Jupiter**

149-12-54-05113

14. Lady Mary Wortley Montagu worked to prevent this disease in Britain through inoculation. A later method of inoculation against this disease involved infecting people with a similar disease that affected cows; that vaccination process was popularized by Edward Jenner. This disease, caused by the *Variola* (va-ree-OH-lah) virus, was declared eradicated by the World Health Organization in 1979. For 10 points, name this viral disease, which devastated the Americas during the years of European colonialism.

ANSWER: **smallpox**

140-12-54-05114

15. Chew manufactures eyes in the film, and an origami unicorn features prominently in the director's cut. The Voight-Kampff machine is used to test Leon in this movie before he says, "Let me tell you about my mother" and shoots Holden. Roy Batty and Pris seek shelter with Sebastian because they are runaway Nexus-6 models made by the Tyrell Corporation in, for 10 points, what 1982 Ridley Scott film starring Harrison Ford as Rick Deckard, the title hunter of replicants?

ANSWER: **Blade Runner**

127-12-54-05115



1A. Identify the Yale professor and American literary critic who wrote *The Anxiety of Influence* and *The Western Canon*.

ANSWER: Harold **Bloom**

1B. What MMORPG takes place in the land of Azeroth and requires one to pay allegiance to either the Alliance or the Horde when creating a character?

ANSWER: ***World of Warcraft***

2A. This is a 10-second calculation question. What is the median of the data set {18, 103, 15, 3, 7, 10, 4}?

ANSWER: **10**

2B. This is a 10-second calculation question. What is the tangent of pi over 2?

ANSWER: **undefined** [or **1/0**]

3A. What Impressionist composer wrote *Prelude to the Afternoon of a Faun* and *Suite Bergamasque* (berg-a-"MASK")?

ANSWER: Claude **Debussy**

3B. What Flemish artist is known for his landscapes, such as *Hunters in the Snow* and *Landscape with the Fall of Icarus*?

ANSWER: Pieter **Brueghel the Elder**

4A. What is the name of both the only metal that is liquid under standard conditions and the smallest planet in our solar system?

ANSWER: **Mercury**

4B. According to Sigmund Freud, what part of a person's mind is made of instinctive drives and is controlled by the pleasure principle?

ANSWER: the **id**

5A. What "Iron Chancellor" was able to, through wars with Denmark, Austria, and France, unify the German states under the rule of the Prussian king?

ANSWER: Otto Eduard Leopold von **Bismarck**

5B. What fourth-largest city in Texas is the largest American city on the Mexican border and lies across the Rio Grande from Ciudad Juarez, Mexico?

ANSWER: **El Paso**

6A. This is a 20-second calculation question. In simplest form, what are the roots of the quadratic equation  $x^2 + 2x + 2$ ?

ANSWER: **-1 plus or minus i** [or **-1 + i** and **-1 - i**; accept in either order, both answers are required]

6B. This is a 20-second calculation question. In simplest form, what is the surface area of a regular tetrahedron with sides of length 6?

ANSWER: **36** square **root** of **3**

7A. What letter denotes orbitals that are partially filled in transition metals such as chromium and nickel?

ANSWER: **d** orbitals

7B. What American playwright depicted the suicide of Willy Loman in *Death of a Salesman*?

ANSWER: Arthur Asher **Miller**

8A. Who planned to include pieces such as *Ugolino (ooh-go-LEE-no) and his Children*, *The Kiss*, and *The Thinker* in his unfinished sculpture group *The Gates of Hell*?

ANSWER: Francois-Auguste-Rene **Rodin** (row-DAN)

8B. Name the NBA team that lost to the Dallas Mavericks in the 2011 Western Conference finals and features James Harden, Russell Westbrook, and Kevin Durant.

ANSWER: Oklahoma City **Thunder** [or **Oklahoma City**]

9A. This is a 30-second calculation question. Susan has a container of 10 Waffleletten and 10 Petit Ecolier. In simplest form, what is the probability that she will withdraw, without replacement, and thus be able to eat, 5 Waffleletten in a row?

ANSWER: **21/1292**

9B. This is a 30-second calculation question. What is the focus of a parabola with the equation  $y = x^2$ ?

ANSWER: **(0, 1/4)**

10A. In what language do some dialects use "vos" as the familiar second-person singular while others use "tú"?

ANSWER: **Spanish** [or **español**]

10B. What goddess resurrected her husband Osiris after he was killed by Set?

ANSWER: **Isis** [or **Aset**]



1. One polymer found in this structure consists of N-acetylglucosamine (ah-see-tull-glue-KOH-suh-meen) and N-acetylmuramic (ah-see-tull-mer-AH-mick) acid. One form of this structure is composed of xylan (ZIE-lan) and lignin. It is composed of chitin (KIE-tin) in fungi, and it is divided into the middle lamella, primary, and secondary components. Gram-positive bacteria have peptidoglycan (pep-tih-dog-GLY-kan) in these structures. Protozoa do not have these structures, but fungi, algae, and bacteria do. For 10 points, name this outer cellular covering lacking in animals.

ANSWER: cell walls

020-12-54-05117

2. Richard Lawrence claimed to be Richard III after failing to assassinate this man. This man replaced most of his Cabinet after the Petticoat Affair when he found out their wives were snubbing Peggy Eaton, and relied on his Kitchen Cabinet instead. By refusing to extend its charter and pulling out federal funds, this man effectively destroyed the Second Bank of the United States. For 10 points, name this Democratic President who was followed by his second Vice President, Martin Van Buren.

ANSWER: Andrew Jackson

121-12-54-05118

3. One form of this process uses non-homologous end joining to generate B and T cell receptor diversity. It's not sexual reproduction, but the worst form of Muller's ratchet occurs in species that do not undergo this process. Entities that have undergone it are called "chimeric," like plasmids that take in foreign material. It happens at a frequency correlated with map distance during prophase I as a result of crossing over. Meiosis (my-OH-sis) involves, for 10 points, what mixing between different pieces of genetic information?

ANSWER: genetic recombination [or V(D)J recombination]

020-12-54-05119

4. A force led by Barry St. Leger (le-ZHEY) was unable to participate in this battle due to being defeated at Fort Stanwix. Fought in two parts named after Freeman's Farm and Bemis Heights, this battle saw one side weakened at the earlier Battle of Bennington. This battle included Benedict Arnold getting wounded and ended in John Burgoyne's surrender to Horatio Gates' army. For 10 points, name this turning-point battle in the American Revolution, which convinced France to ally with the colonies.

ANSWER: Battle of Saratoga

140-12-54-05120

5. The activity of these cells can be regulated by the catabolic activity of monoamine (MAH-noh-ah-meen) oxidase (ACKS-sih-days). Purkinje (purr-KIN-jay) cells are very large examples of these cells that respond to GABA. These cells are activated when their hillock reaches a threshold potential of around minus 55 millivolts, generating an action potential. The terminal ends of these cells are separated from the dendrites of their neighbors by synapses. For 10 points, name these cells that transmit signals through the nervous system.

ANSWER: neurons

132-12-54-05121

6. This legislation was a response to a proposal made by James Tallmadge, who cited the Northwest Ordinance. This agreement was supported in Abraham Lincoln's "Peoria Speech." A proposal by Jesse Thomas added to this provision prohibited slavery in Louisiana Purchase territories north of 36 30. Maine was added to the Union as part of this agreement. Overturned by the Kansas-Nebraska Act, for 10 points, name this 1820 compromise that preserved slavery in its namesake Midwestern state.

ANSWER: **Missouri** Compromise [or Compromise of **1820** before read]

131-12-54-05122

7. The active stratovolcano El Misti overlooks this country's second most populous city, Arequipa (arr-ey-KEE-pah). Massive pictorial arrangements called the Nazca lines can be found here. The part of the Andes that runs through this country is home to ancient Incan sites at Cuzco and Machu Picchu. This country is bordered to the north by Ecuador and Colombia, and shares Lake Titicaca with its eastern neighbor, Bolivia. For 10 points, name this South American country that has its capital at Lima.

ANSWER: Republic of **Peru** [or Republica del **Peru**]

015-12-54-05123

8. Democrats called Bucktails in this state opposed DeWitt Clinton as governor. Many of those Bucktails were members of the Regency, a machine led by Martin van Buren that ran this state for about a decade. William Leggett was a spokesman for the Locofocos, another faction that opposed the political machine that ran this state's largest city. That machine was run by men called "sachems" who included Boss Tweed. For 10 points, name this state home to the Erie Canal and Tammany Hall.

ANSWER: **New York**

121-12-54-05124

9. One range of inactive volcanoes located in this country is the Tibesti Mountains. The tallest mountain in this country, Emi Koussi, is also the tallest in the Sahara region. Part of this country's border with Cameroon is formed by the Logone River, and this country is bordered by Libya to the north. This nation's second-largest city is Moundou. For 10 points, identify this landlocked African country, with capital N'Djamena, (en-JUH-mee-na) which shares its name with a large lake.

ANSWER: Republic of **Chad** [or Republique du **Tchad**; or Jumhuriyat **Tshad**]

126-12-54-05125

10. In one scene in this novel, Henry, who had been building sand castles with Johnny and Percival, has stones thrown all around him by Roger. Later in this novel, Roger causes the death of a character with asthma when he rolls a boulder onto Piggy. A group of choirboys is organized into hunters in this novel by their leader Jack, who struggles for control with Ralph. For 10 points, name this novel about boys who survive after a plane crash and become savage, a work of William Golding.

ANSWER: **Lord of the Flies**

023-12-54-05126

11. In one of this man's operas, Guglielmo (goo-lee-EHL-moh) and Ferrando (fe-RAHN-do) disguise themselves as Albanians and try to seduce each other's girlfriends. In another of his operas, Susanna dresses Cherubino (ker-u-BEE-no) up as a girl. He also wrote an opera in which Sarastro (suh-RAS-tro) protects Pamina (puh-MEEN-uh) from her mother and prepares her to meet her future husband Tamino (tuh-MEE-no), who must thwart the plans of the Queen of the Night. For 10 points, name this composer of *Così fan tutte* (ko-SEE fan TOO-tay), *The Marriage of Figaro*, and *The Magic Flute*.

ANSWER: Wolfgang Amadeus **Mozart**

131-12-54-05127

12. In one poem by this writer, the speaker notes, "where ignorance is bliss, 'tis folly to be wise." In another poem by this writer, the speaker claims, "Full many a flower is born to blush unseen," and notes that "the paths of glory lead but to the grave." That poem begins, "The curfew tolls the knell of parting day." For 10 points, name this English poet who wrote "Ode on a Distant Prospect of Eton College" and "Elegy Written in a Country Churchyard."

ANSWER: Thomas **Gray**

130-12-54-05128

13. The area of this polygon equals the square root of the product of the semiperimeter (seh-mee-per-IM-eh-ter) and the differences between the semiperimeter and each side length according to Heron's formula. Radical three divided by four multiplied by a side length squared equals the area for the equilateral variety of this polygon. For 10 points, name this polygon defined by three vertices and three sides.

ANSWER: **triangle**

130-12-54-05129

14. One argument against the primary test of this concept is Searle's (SER-ul) Chinese room argument. Distributed versions of this concept are implemented using multi-agent systems. This term was first coined by John McCarthy. A popular technique in this field can use backpropagation (back-prop-uh-gay-shun). Programmers in this field often use LISP. One of the more popular techniques in this branch of computer science is neural networks. For 10 points, name this branch of computer science that attempts to create "thinking" machines.

ANSWER: **AI** [or **artificial intelligence**; accept **neural net**works due to ambiguities]

066-12-54-05130

15. One sequence in this film concludes with an extreme close-up of an eye whose blinks are synchronized with changing color filters. One character in this film sings "Daisy Bell" as he is lobotomized. In this movie, Heywood Floyd investigates TMA-1. At the beginning of this film, a water source is secured by bone-brandishing primates. David Bowman is the lone survivor of his mission after his fellow crewmembers are murdered by the HAL 9000 computer. For 10 points, name this Stanley Kubrick film co-written with Arthur C. Clarke.

ANSWER: **2001: A Space Odyssey**

014-12-54-05131



1. This man killed a lion with his bare hands, then later returned to obtain honey from the bees swarming around its carcass. He once tied firebrands to three hundred foxes and had them run through his enemies' crops. After being blinded and captured, this man toppled the Temple of Dagon and killed numerous Philistines as he died. This man was captured after his lover had a servant cut his hair to take away his legendary strength. For 10 points, name this Biblical judge who was betrayed by Delilah.

ANSWER: Samson

080-12-54-05132

2. The protagonist of this work writes a poem about the "lady of the locust shell" after he fails to seduce her. In this work, a prediction by a Korean sage of the protagonist's future greatness prompts the emperor to make him a commoner. The protagonist of this work pursues Utsusemi (ooh-soo-SAY-mee), Yugao (YOO-gow), and many other women while being married to Princess Aoi (ah-oh-EE). This work is often considered the world's first novel. For 10 points, name this novel about a Japanese prince written by Lady Murasaki (moo-rah-SAH-kee).

ANSWER: *The Tale of Genji* [or *Genji Monogatari*]

131-12-54-05133

3. This leader allowed more freedom of speech in trying to let "a hundred schools of thought contend" during the Hundred Flowers Campaign. After that failed, this man attempted to reorganize his country's agriculture into communes during the Great Leap Forward. The last decade of this man's rule saw the rise in power of the Gang of Four and the institution of the Cultural Revolution. This man's quotations were gathered in the Little Red Book. For 10 points, name this Communist Chairman of China.

ANSWER: Mao Zedong [or Mao Tse-tung]

023-12-54-05134

4. The sign on the charge of these particles can be deduced from the Hall effect. Their mass appears in the denominator of the expression for the Bohr (BORE) radius. Their charge to mass ratio was measured by J. J. Thomson, while the value of their charge was determined in the Millikan (Mill-ee-can) oil drop experiment. Their antimatter equivalents are called positrons. Beams of these particles are called beta radiation. For 10 points, name these very light negatively charged particles which orbit an atom's nucleus.

ANSWER: electrons

132-12-54-05135

5. These entities contain a discrete amount of magnetic flux as understood by the Ginzburg-Landau (GINZ-berg LAND-ow) theory. The energy required to separate Cooper pairs in these entities can be measured experimentally because of BCS theory. The interior of these entities do not have a magnetic field because of the Meissner effect. Strong magnetic fields can cause these entities to revert back to normal levels of resistance. For 10 points, name these entities that completely lack any electrical resistance.

ANSWER: superconductors [or superconductivity]

130-12-54-05136

This is a calculation question. Freshmen make up 25% of a school. If 10% of freshmen and 20% of non-freshmen are failing all their classes, what is the chance a student failing all their classes is a freshman?

ANSWER: 1/7

130-12-54-05137

Weather occurs in what layer of Earth's atmosphere?

ANSWER: **troposphere**

130-12-54-05137