



1. The reaction that breaks down this compound is catalyzed by certain free radicals like elemental chlorine. Measurements for this entity can range from one hundred to three hundred Dobson units. Compounds known as chlorofluorocarbons (clor-oh-FLOR-oh-car-bons), or CFC's, were banned because of their role in breaking down this compound. This molecule is an allotrope consisting of three oxygen atoms. For 10 points, name this pale blue gas that absorbs solar ultraviolet radiation by forming a namesake layer in the atmosphere.

ANSWER: ozone [accept O₃ before oxygen is mentioned]

130-12-54-06101

2. This author's works in the dream-vision genre include *The Parliament of Fowls*, and he wrote *The Legend of Good Women* to compensate for his depiction of women in *Troilus and Criseyde* (Cress-ida). In another work of his, he described the competition for the love of Emily between Palamon and Arcite (AR-sight). That work by this man starts with a "General Prologue" introducing such characters as the Reeve, the Prioress, and the Wife of Bath. For 10 points, name this author of the *Canterbury Tales*.

ANSWER: Geoffrey Chaucer

142-12-54-06102

3. One mountain range in the north of this country is the Dolomite range. Its largest lake lies in the extreme north and is called Lake Garda. To the south of this country lies the Ionian Sea, which includes the Gulf of Taranto. The longest river in this country is the Po, and the Tiber River flows past its capital. The Apennine Mountains are known as the "backbone" of this country, which controls an island home to Mt. Etna and the city of Palermo. For 10 points, name this boot-like country which surrounds the mini-states of San Marino and the Vatican.

ANSWER: Italy [or Italian Republic; or Repubblica Italiana]

141-12-54-06103

4. In one play by this author, Mrs. Arbuthnot refuses to allow her illegitimate son Gerald to become the secretary of Lord Illingworth. This author of *A Woman of No Importance* also wrote a play in which Mrs. Erlynne takes the blame for the presence of the title object in Lord Darlington's rooms. He also created Lady Bracknell, who questions the parentage of Jack Worthing. For 10 points, name this Irish playwright of *Lady Windermere's Fan* and *The Importance of Being Earnest*.

ANSWER: Oscar Fingal O'Flahertie Wills Wilde

014-12-54-06104

5. While at a book signing, this man was stabbed by Izola Curry. This man responded to a statement by eight clergymen titled "A Call for Unity" with his "Letter from Birmingham Jail." Along with Ralph Abernathy and others, this man founded the SCLC and organized the March on Washington. This man gave the "I've Been to the Mountaintop" speech before he was assassinated at the Lorraine Motel by James Earl Ray. For 10 points, name this civil rights activist who gave the "I Have a Dream" speech.

ANSWER: Martin Luther King, Jr.

126-12-54-06105

6. Shortly after an American did so, this man proved that Hilbert's "Decision Problem" was unsolvable. With that same American, he hypothesized that every "effectively calculable" function was also computable, a "thesis" named for him and Alonzo Church. This man also names a device that consists of a finite state machine that runs along an infinite tape, reading, erasing, and writing symbols on the tape. For 10 points, name this British computer scientist whose namesake "machine" is a model of computing.
ANSWER: Alan **Turing**

080-12-54-06106

7. In this novel, the protagonist's mother refuses to see her if she declines a marriage proposal and her father refuses to see her if she accepts. That proposal comes from the clergyman Mr. Collins, who eventually marries Charlotte Lucas. Disaster strikes the main family of this novel when Lydia elopes with a soldier, Mr. Wickham, which is eventually resolved by Mr. Darcy, who himself wants to obtain the hand of the main character, Elizabeth. For 10 points, name this novel about the Bennet family, by Jane Austen.
ANSWER: **Pride and Prejudice**

040-12-54-06107

8. This colony's third chartering resulted in it gaining the Bermuda Islands. One institution in this colony was established shortly after the arrival of George Yeardley. In 1619, this colony became the first to have black slaves brought to it. This colony was governed during a rebellion by William Berkeley. One settlement in this colony went through a "starving time." For 10 points, name this colony that was the location of Bacon's Rebellion, the House of Burgesses, and Jamestown.
ANSWER: **Virginia** Colony [or Dominion and Colony of **Virginia**; or Commonwealth of **Virginia**]

023-12-54-06108

9. One of his novels includes Ogier (oh-ZHER) P., a "self-taught man," and focuses on a man doing research on Marquis de Rollebon. He wrote about a "sweetish sickness" encountered by Antoine Roquentin (roe-kin-TAWN) in that novel. This author included a lesbian postal clerk and a Valet in his play about Estelle, Ines, and Garcin (gar-SAWN). This author of *Nausea* wrote that "hell is other people" in one play. For 10 points, name this French existentialist author of *No Exit*.
ANSWER: Jean-Paul **Sartre**

020-12-54-06109

10. This Chief Justice ruled in favor of imprisoning a newspaper editor in Wisconsin in *Ableman v. Booth*. The contract clause of the Constitution was significantly affected by this man's decision to not infer rights from a document in *Charles River Bridge v. Warren Bridge*. This Chief Justice decided a case involving the late John Emerson's slave, who sued for freedom based on time spent in Minnesota and Illinois. For 10 points, name this Chief Justice who made the Dred Scott decision.
ANSWER: Roger Brooke **Taney**

130-12-54-06110

11. This composer's name was used as a nationalistic acronym during the unification of his country, and one myth tells of nationalistic audiences in Milan demanding an encore of "Va, pensiero (pen-see-AY-roh)." This composer of *Nabucco* (na-BOO-ko) wrote an aria in which the claim that "woman is fickle" is made by the Duke of Mantua in the opera *Rigoletto* (rig-oh-LET-oh). Radames (ra-DAH-mays) is buried with a princess who sings "Ritorna vincitor (ri-"TORN"-ah vin-chi-TOHR)" and "O patria mia" in an opera by this man. For 10 points, name this Italian composer of *Aida*.
ANSWER: Giuseppe **Verdi**

002-12-54-06111

12. After stealing a laptop from a fellow student, this football player transferred to Blinn College during his sophomore year at Florida. During the 2010 regular season, this quarterback overcame a twenty-four to zero deficit at halftime to lead a comeback win against Alabama. He defeated the Oregon Ducks to win the 2011 BCS National Championship Game for Auburn. For 10 points, name this quarterback, who was drafted number one overall in the 2011 NFL Draft by the Carolina Panthers.

ANSWER: Cameron Jerrell **Newton**

130-12-54-06112

13. During this war, the Treaty of Lübeck resulted in the withdrawal of Danish forces. Battles in this war were fought at Breitenfeld (BRIGHT-in-feld) and Lützen (LOOT-zen), where commanders included men such as Tilly, Albrecht von Wallenstein (VALL-en-stine), and Gustavus Adolphus. This war started when Bohemian noblemen rebelled against the rule of Holy Roman Emperor Ferdinand II and committed the Deneffestration of Prague. For 10 points, the Peace of Westphalia of 1648 ended what early seventeenth century European war?

ANSWER: **Thirty Years' War**

140-12-54-06113

14. In Operation Vijay, India annexed what had been this country's colony of Goa. This country's Carnation Revolution overthrew Marcelo Caetano, who had succeeded its longtime dictator Antonio Salazar. A revolution in 1910 deposed this country's last monarch of the House of Braganza. When Napoleon invaded this country, the Braganzas fled to one of its colonies and relocated the capital of the empire to Rio de Janeiro. For 10 points, name this European country that once controlled Brazil.

ANSWER: **Portugal** [or **Portuguese Republic**; or **Republica Portuguesa**]

121-12-54-06114

15. This country was governed by the Ninth of May Constitution from 1948 to 1960. Leaders of this country include Gustav Husak and Antonin Novotny (no-VOT-nee), whose fall from power led to a Soviet invasion of this country. Vaclav Havel governed this country before it was dissolved in the 1993 Velvet Divorce. Alexander Dubcek (DOOB-check) was removed from power in this country in 1969 after a brief period of reforms. For 10 points, name this former central European country where the Prague Spring occurred.

ANSWER: **Czechoslovakia** [do not accept "Czech Republic" or "Slovakia" at any point]

131-12-54-06115



1A. Deuterium (doo-TEAR-eeh-um) and tritium (TRIH-tee-um), which have one and two neutrons respectively, are isotopes of what lightest element?

ANSWER: **hydrogen** [prompt on **H**]

1B. What term describes a sequence in which each term is multiplied by the same number, or common ratio, to produce the subsequent term?

ANSWER: **geometric** sequence

2A. What British author wrote about Sherlock Holmes in novels such as *The Hound of the Baskervilles* and *The Sign of Four*?

ANSWER: Arthur Conan **Doyle**

2B. What artist painted two men standing near shelves with a globe and lute with the image of a distorted skull underneath them in *The Ambassadors*?

ANSWER: Hans **Holbein** the Younger

3A. This is a 10-second calculation question. What is the focal length of an ellipse with equation x^2 over 25 plus y^2 over 16 equals one?

3B. This is a 10-second calculation question. What is the greatest common factor of any two primes?

ANSWER: **1**

4A. What set of four acts were passed by the British in response to the Boston Tea Party as a punishment on the American colonies?

ANSWER: **Intolerable** Acts [or **Coercive** Acts]

4B. Identify the weather phenomenon whose damage is measured on the Enhanced Fujita Scale.

ANSWER: **tornadoes**

5A. This is a 20-second calculation question. What is the variance of the numbers {3, 4, 5, 6, 7, 8, 9}?

ANSWER: **4**

5B. This is a 20-second calculation question. Express your answer in terms of pi. What is the volume of a regular cone with radius 3 and height 4?

ANSWER: **12 pi**

6A. David Hume championed what school of epistemological thought, which claims that knowledge can come only from sensory evidence?

ANSWER: **empiricism**

6B. What French sociologist popularized the term "anomie" in his study, *Suicide*?

ANSWER: Emile **Durkheim**

7A. This is a 30-second calculation question. How many arrangements can be made if one selects four apples from a bin of fifteen apples and order does not matter?

ANSWER: **1365**

7B. This is a 30-second calculation question. What is the cosine of the arctangent of -1?

ANSWER: **square root of 2 over 2** [or **one over the square root of 2**; or **.707**]

8A. What Al Pacino character becomes more involved in "the family business" after his mob boss father Vito's shooting in *The Godfather*?

ANSWER: Don **Michael** Corleone [prompt on **Corleone**]

8B. What European city contains a spiraling building called the Gherkin, a Ferris wheel called its namesake "Eye," and the ad-heavy Piccadilly Circus?

ANSWER: **London**, England

9A. What is the name used by Japanese speakers for Chinese characters which are memorized to write words independently of *hiragana* or *katakana* letters?

ANSWER: **kanji** [or **hanzi**]

9B. Name the successor to Dingiswayo (din-gee-SWY-oh) as leader of the Zulu who united many of the Nguni (en-GOO-nee) people.

ANSWER: **Shaka** Zulu [or **Shaka** kaSenzangakhona]

10A. What French composer wrote *Harold in Italy* for Niccolò Paganini and composed *Symphonie Fantastique* ("Symphony" fan-ta-STEELK)?

ANSWER: Hector **Berlioz**

10B. What Polish author wrote about his experience in Auschwitz in the book *Night*?

ANSWER: Eliezer **Wiesel**



1. This author fictionalized himself as a failed poet "whose true Penelope was Flaubert." This author of "Hugh Selwyn Mauberley" wrote a poem reading, "The apparitions of these faces in the crowd; petals on a wet, black bough." That poem, "In a Station of the Metro," demonstrated his ideal of "Imagism." His translations of Chinese poems prepared him for his most famous work, part of which was written in Pisa. For 10 points, name this American expatriate and friend of T. S. Eliot who wrote *The Cantos*.

ANSWER: Ezra Loomis **Pound**

020-12-54-06117

2. Characters in this work include Miss Henderson, who runs a prostitution ring, and the hotel owner Tommy Hind. In this novel, the protagonist's son Antanas drowns in a mud puddle, and his wife is propositioned by Phil Connor. Early in this novel, the protagonist racks up a one hundred dollar debt at a bar in Packingtown for his wedding to Ona. For 10 points, name this novel about Lithuanian immigrant Jurgis Rudkus's experiences in the Chicago meatpacking industry, a work of Upton Sinclair.

ANSWER: *The **Jungle***

131-12-54-06118

3. This deity's daughter, Kebechet, has the form of an ostrich and provides water to her father. Im-yut is one of this god's epithets. This god's cult was centered at Cynopolis (sigh-NAW-pul-iss). In one of his roles, this god fed hearts to Ammit if they were heavier than the feather of Ma'at. Ra sent Thoth and this god to mummify Osiris after Set killed him. For 10 points, name this jackal-headed Egyptian god of embalming.

ANSWER: **Anubis** [or **Inpu** or **Ienpw** or **Anup**]

131-12-54-06119

4. This character is described as "a son of God -- a phrase which, if it means anything, means just that." Later in that novel, a friend tells this character that he's "worth the whole damn bunch put together." This character's funeral is attended by Owl Eyes after he is shot by Wilson in his pool. This character lives in a mansion in West Egg, and before reviving his relationship with Daisy Buchanan, he befriends his neighbor Nick Carraway. For 10 points, name this title character of an F. Scott Fitzgerald novel.

ANSWER: Jay **Gatsby** [or **Jay** Gatsby; or The Great **Gatsby**]

126-12-54-06120

5. One class of these objects are described by the Tully-Fisher relation or the Faber-Jackson relation. Edwin Hubble developed a classification system for these objects, while the Large and Small Magellanic Clouds are irregular types of these. Some of these objects have a bulge in their center that forms around a supermassive black hole. They are classified based on their shape into elliptical or spiral types. For 10 points, name these stellar objects exemplified by the Andromeda and Milky Way.

ANSWER: **galaxies** [accept spiral **galaxies** before Hubble is mentioned]

140-12-54-06121

6. This location is intersected by the Garlock Fault. One short-lived body of water in this location was Lake Badwater, which is now the Badwater Basin. Located between the Sylvania and Owlshead mountains, this natural feature contains an oasis called Furnace Creek, where the highest recorded temperature in the Western Hemisphere was recorded. For 10 points, name this California location, the lowest point in the United States.

ANSWER: **Death Valley**

141-12-54-06122

7. In November 2011, this man created the People's Guard to deal with his country's rising crime rate. With Sebastián Piñera, he is co-chair of the newly formed Community of Latin American and Caribbean States, which this man stated will replace the OAS. In December 2011, he speculated the United States was responsible for the cancer he and other leaders suffer from. In 2006, this man claimed he could "still smell the sulfur" after his speech followed George W. Bush's at the United Nations. For 10 points, name this current president of Venezuela.

ANSWER: Hugo **Chávez**

121-12-54-06123

8. This author's father James was an actor who became famous for playing the title role in *The Count of Monte Cristo*. This playwright experimented with characters wearing masks onstage in *The Great God Brown* and characters voicing their thoughts to the audience in *Strange Interlude*. He wrote a trilogy updating the Oresteia to the Civil War, as well as an autobiographical play about the Tyrone family. For 10 points, name this American playwright of *Mourning Becomes Electra* and *Long Day's Journey Into Night*.

ANSWER: Eugene Gladstone **O'Neill**

004-12-54-06124

9. Nikola Tesla produced this phenomenon experimentally in the form of bremsstrahlung (BREM-struh-lung). This phenomenon was discovered using a Crookes tube and a screen coated with barium platinocyanide (plah-tih-noh-SIE-yih-nide). Max von Laue won a Nobel Prize for studying the diffraction of this phenomenon. It was first systematically studied by Wilhelm Roentgen (RUNT-gen), though Ivan Pulyui (pool-YOO-ee) was one of the first to apply it to medicine. For 10 points, name this high-energy electromagnetic radiation used to take images of teeth and bones.

ANSWER: **X-rays** [prompt on **electromagnetic radiation** or **radiation** before mention; prompt on **Roentgen radiation** before Roentgen is mentioned]

132-12-54-06125

10. Willard Van Dyke and other artists in this medium formed Group f/64 (eff stop sixty-four). One artist in this medium depicted horses in a city in *The Terminal* and passengers on a ship in *The Steerage*. Another artist in this medium is known for works showing a *Moonrise* over Hernandez, New Mexico, sites in Yosemite National Park, and other scenes of the American West. For 10 points, name this visual medium in which Alfred Stieglitz (STEE-glitz) and Ansel Adams used equipment like tripods and flashbulbs.

ANSWER: **photography** [or **photographs**; or other word forms]

132-12-54-06126

11. Hans Bethe discovered a cycle by which this process occurs and which is named for the three elements which act as catalysts. Pons and Fleischmann (FLYSH-min) erroneously claimed in 1989 that they could achieve this process at room temperature. This process, which takes place via the CNO (see en oh) cycle in massive stars, yields a product which is subsequently used in the triple alpha process. The sun accomplishes this via the proton-proton chain. For 10 points, name this energy-rich process which produces helium from the lightest element.

ANSWER: hydrogen **fusion** [or nuclear **fusion**; or cold **fusion** before "CNO" is read]

014-12-54-06127

12. This color describes a tongue in the title of a Mastodon song. In a song titled after this color, Eddie Vedder sings, "Of what was everything?" Mos Def and Talib Kweli comprise a hip hop duo named for this type of star. Metallica's self-titled album is referred to by this color. "Strange Times" is by a blues rock duo with this color in their name, and "Iron Man" is also by a band with this color in their name. For 10 points, name this color that AC/DC is "back in."

ANSWER: **black**

127-12-54-06128

13. Brunner's glands are found within one part of this organ. Cholecystokinin (koh-leh-sis-toh-KIE-nin) is a hormone that allows enzymes from the pancreas to enter this organ, in which tapeworms attach to a human host. Nutrients are absorbed into the bloodstream here at small protrusions called villi. It is divided into the duodenum (doo-AH-deh-num), jejunum (JOO-jeh-num), and ileum (EE-lee-um). For 10 points, name this organ of the digestive system, which lies between the stomach and the large intestine.

ANSWER: **small intestine** [prompt on **intestine**]

140-12-54-06129

14. A university in this state recently partnered with the Technion-Israel Institute of Technology to announce plans for a new science college in its largest city. In December 2011, a politician in this state, Carl Kruger, pled guilty to bribery and corruption charges. This state legalized same-sex marriage in June 2011. In 2010, Carl Paladino lost the election for its governorship to Andrew Cuomo. For 10 points, name this state, whose largest city is governed by Mayor Michael Bloomberg.

ANSWER: **New York**

132-12-54-06130

15. The change in this quantity is related to one minus the cosine of the angle of incidence by the equation describing Compton scattering. According to the Rydberg (RIDE-berg) formula, the inverse of this quantity is equal to the difference in the squares of the reciprocals (RE-sip-ro-culls) of the energy levels. This quantity is equal to Planck's (Planks) constant over momentum in the de Broglie (De broly) equation. This quantity is equal to velocity over frequency. For 10 points, name this quantity that is equal to the distance between a wave's crests and often represented by the letter lambda.

ANSWER: **wavelength** [or **lambda** before mention]

149-12-54-06131



1. Members of the phylum Ctenophora (teh-noh-FOR-uh) were once classified under this phylum. One group of members in this phylum, siphonophores (sih-FAH-noh-fores), are actually colonies of specialized organisms. Species in this phylum contain a middle section known as the mesoglea (meh-soh-GLLEE-uh), while many contain nematocysts (neh-MAH-toh-sists), which are responsible for stings. They undergo polyp and medusa life stages. For 10 points, name this phylum that includes sea anemones, coral, and jellyfish.

ANSWER: **Cnidaria** (nih-DARE-ee-uh)

140-12-54-06132

2. This author wrote a short story in which Amasa Delano discovers that the black servant Babo is smarter than he seems when Delano boards the title captain's ship. One character created by this author is the fortune-telling Parsee Fedallah, who is secretly brought aboard a ship that has a crew including Tashtego (tash-TEA-go), Flask, and Starbuck. In that novel by this author of *Benito Cereno* (ser-EE-no), Ishmael participates in Captain Ahab's hunt for the white whale. For 10 points, name this American who wrote *Moby-Dick*.

ANSWER: Herman **Melville**

023-12-54-06133

3. The spectral radiance of these objects is given by Lambert's cosine law. A star's surface temperature is found by using its peak wavelength and treating it as one of these objects. One early attempt to model these objects led to the "ultraviolet catastrophe" and was the Rayleigh-Jeans law. The peak wavelength of these objects is equal to the displacement constant over its temperature by Wien's (WEINZ) law. The power radiated by these objects is given by Planck's law. For 10 points, name these objects that are perfect absorbers.

ANSWER: **blackbody**

149-12-54-06134

4. One genetic disorder affecting this organ causes copper to accumulate in tissues and is known as Wilson's disease. Most gluconeogenesis (gloo-kon-nee-oh-GEH-neh-sis) occurs in this organ which is also the site of bile production. Most of this organ's blood supply is carried by the hepatic portal vein. The bare area of this organ is connected to the diaphragm by areolar (ah-ree-OH-lar) tissue, and alcoholism can lead to cirrhosis (sih-ROH-sis) of this organ. For 10 points, identify this organ which detoxifies the blood.

ANSWER: the **liver**

126-12-54-06135

5. This city was constructed by the Jebusites (JEE-bu-sites), who inhabited it before it was captured by Joab (JOE-ab). A prophet was borne to this city by the horse Buraq during the *Miraj*, or Night Journey, where he saw the Dome of the Rock in this city. This city, the third-holiest in Islam, was also the site of a sacred sanctuary called the Holy of Holies, where the Ark of the Covenant rested in the Temple of Solomon. For 10 points, name this city which served as the capital of the Kingdom of Israel.

ANSWER: **Jerusalem**

104-12-54-06136

This is a calculation question. If the base of a cylinder and a sphere have the same radius of 4, how high would the cylinder have to be for the volumes to be equal?

ANSWER: 16/3 [or 5.33]

104-12-54-06137

What Norse god was the guardian of the Rainbow bridge Bifrost?

ANSWER: Heimdallr

104-12-54-06137