

## Tossups

- A scripture about this deity takes the form of a discussion between Maitreya and Parashara, and describes this god rising from the sea inside Brahmanda, an enormous egg. An incarnation of this deity appears to Arjun in the (\*) Bhagavad Gita. Rama and Krishna are two of the ten avatars of this god, who often appears blue and with four arms. For 10 points, name this Hindu preserver god, who forms the Trimurti with Brahma and Shiva.**  
 Answer: Vishnu
- Gyroscopic precession may be induced by or free of this physical quantity, which is dotted with angular velocity in one expression for power. It is measured in units equivalent to joules but named differently, as newton-meters. This quantity is calculated as (\*) radius cross force, with its direction found using the right-hand rule. For 10 points, identify this quantity which describes the tendency of a force to cause rotation about a fixed axis.**  
 Answer: torque (accept moment of force or couple; prompt on moment)
- Regions of hydrogen ions known as HII [H two] may be found in the emission type of this object. A red giant's outer layers can be ionized by the star's core to form its planetary type, and these may also form from the remnant ionized gases of a (\*) supernova, such as the 1054 supernova that created one of these nicknamed Crab. The Pillars of Creation and the Horsehead are examples of, for 10 points, what interstellar clouds of dust and gas?**  
 Answer: Nebula
- This composer began one work with the playing of Woglinde, Wellgunde, and Flosshilde, three water maidens; in that work, Mime [MEEM] is forced to create Tarnhelm, a helmet that makes Alberich invisible. Another of his works ends with (\*) Brünnhilde riding into a funeral pyre that burns Valhalla. *Das Rheingold* and *Götterdämmerung* are by, for 10 points, what German composer of the *Ring of the Nibelung* cycle of operas?**  
 Answer: Richard Wagner
- In this work, Fiammetta describes the courtship of Federigo, who offers to cook his last possession, a falcon, for his unrequited love. Another story sees Gualtieri test the patience of his wife, Griselda, by ordering their children killed; that story is told by Dioneo, one of (\*) ten young adults avoiding the Black Death in a villa outside Florence. For 10 points, name this 100-story collection written by Giovanni Boccaccio.**  
 Answer: The Decameron
- This organization targeted Lawrence Plamondon with an illegal "black bag job," and it employed COINTELPRO against "subversives" like Martin Luther King, Jr. One of its Associate Directors, Mark Felt, was the true identity of (\*) "Deep Throat," and one of its secretaries, Helen Gandy, destroyed files after the death of her boss, J. Edgar Hoover. For 10 points, name this unit of the Department of Justice that has jurisdiction over most federal crime.**  
 Answer: Federal Bureau of Investigation or FBI
- Azides and amines are functional groups composed of this element, whose diatomic form is used as a modified atmosphere to preserve foods. This element is fixed in the Haber process and bonds with carbon to form cyanide. This element with (\*) five valence electrons is the central atom in ammonia. 78% of the volume of Earth's atmosphere is, for 10 points, what element with atomic number seven and chemical symbol N?**  
 Answer: Nitrogen (accept N before mentioned)

8. **In this work, two characters argue over muffins, and one man hypocritically eats cucumber sandwiches made for his Aunt Augusta. In this play, Cecily falls in love with a man she's never met and a cigarette case exposes a (\*) "Bunburyist."** Lady Bracknell reveals that, because of Miss Prism's mistake, Jack is a Moncrieff and may marry Gwendolyn Fairfax. For 10 points, name this play about Jack Worthing and Algernon Moncrieff, written by Oscar Wilde.  
Answer: The Importance of Being Earnest
9. **In one film, this character notes "Some days, you just can't get rid of a bomb!" before Burt Ward's character finds him in rubble. This opponent of the gangsters Carmine Falcone and Sal Maroni has an unrequited love for Rachel Dawes, kills (\*) Harvey Dent, and has his back broken by Bane in a Christopher Nolan-directed film trilogy. Adam West and Christian Bale have portrayed, for 10 points, what "Dark Knight" whose secret identity is Bruce Wayne?**  
Answer: Batman (prompt on Dark Knight or Bruce Wayne before mentioned; prompt on Caped Crusader)
10. **Lord Cobham conspired with this governor of Jersey in the Main Plot against James I, after which he spent 13 years in the Tower of London. Virginia Dare was born into a colony that this man established on (\*) Roanoke Island that became "lost" after possibly relocating to Croatoan Island. English use of tobacco was made popular by, for 10 points, what English explorer, later honored as the namesake of the capital of North Carolina?**  
Answer: Sir Walter Raleigh

Half Time

11. **One of these conflicts was ended by the Battle of Munda. Sulla fought two of these conflicts against Gaius Marius, and the Battle of Actium decided another of these wars for Octavian. One of these wars took place after a campaign in (\*) Gaul; that one, against Pompey, began with the crossing of the Rubicon by Julius Caesar. For 10 points, name these conflicts that pitted armies of an ancient Italian republic against each other.**  
Answer: Roman Civil wars (accept word forms like Civil wars in Rome or in the Roman Republic; prompt on partial answers like "civil wars" or "Roman wars;" do not accept mentions of the Roman Empire)
12. **This novel's protagonist declares himself the Black Avenger of the Spanish Main, causing his sweetheart to mourn for the andiron [and-"iron"] knob he had used to propose to her. In this novel, Joe Harper witnesses his own (\*) funeral with two of his friends, and Muff Potter believes he is guilty of a murder committed by Injun Joe. For 10 points, name this novel by Mark Twain about the title friend of Huckleberry Finn.**  
Answer: The Adventures of Tom Sawyer
13. **This architect proposed a never built mile-high skyscraper called The Illinois. This man's homes in Arizona and Wisconsin were both named for the Welsh bard Taliesin. This architect used Roman brick to emphasize horizontal lines in the exterior of (\*) Hyde Park's Robie House. This man designed a Pennsylvania home for Edgar Kaufmann that is cantilevered over a waterfall. For 10 points, name this Prairie House architect of Fallingwater.**  
Answer: Frank Lloyd Wright

14. **This mythical resident of Lemnos was born parthenogenetically, and built a trick throne to ensnare his mother. This figure created the first woman, Pandora, and split Zeus's head open to release Athena. This god created a fine net to trap (\*) Ares and this god's wife, Aphrodite, in his lair beneath a volcano. For 10 points, name this son of Hera, the deformed Greek god of fire and patron of smiths.**  
 Answer: Hephaestus (accept Vulcan until "Greek" is read)
15. **Ukraine is controversially planning to reopen the Bystroe Channel by digging out wetlands in this river's delta. This river passes through the Devin Gate and, downstream, the Iron Gate gorge on the Romanian-Serbian border. This river, which empties into the (\*) Black Sea, passes through Vienna, Bratislava, Budapest, and Belgrade--the most capital cities of any river. For 10 points, name this central European river, the second-longest in Europe.**  
 Answer: Danube River
16. **One book of this type uses zuihitsu [zoo-ee-hee-tsoo] style to describe "Annoying Things" in the imperial court during the Heian [hay-ahn] period, and is known as *The Pillow Book of Sei Shonagon* [say "show"-nah-gon]. Another work in this literary genre uses a unique code to discuss the (\*) 1666 Fire of London. Yet another book in this genre describes the author's life in hiding during the Nazi occupation of Amsterdam. For 10 points, name this nonfiction literary style used by Samuel Pepys [peeps] and Anne Frank.**  
 Answer: diary (accept journal; accept Pillow Book before mention; accept Makura no Shoshi or nikki before "Pillow Book" is mentioned; prompt on nonfiction before it is read)
17. **George Grenville proposed this tax, which could not be paid in colonial paper money. Nine colonies sent delegates to a namesake Congress opposing this act. When it was repealed, Parliament simultaneously passed the (\*) Declaratory Act to maintain taxation rights over the colonies, even though the colonies were "without representation." For 10 points, name this British colonial tax on printed materials.**  
 Answer: Stamp Act of 1765
18. **Oseltamivir is a treatment for this virus, whose genome's eight segments can undergo reassortment. This virus, a member of family *Orthomyxoviridae*, can trigger upper respiratory conditions like croup and cause tissue damage in the (\*) lungs. The types of hemagglutinin and neuraminidase proteins are used to name strains of this virus, like the H5N1 strain. For 10 points, name this common virus that has bird and swine varieties.**  
 Answer: Influenza virus (accept the flu virus)
19. **This work notes that the "natural progress of opulence" occurs at different rates in different countries. It notes that workers are naturally inspired to work for the domestic industry that allows them to produce the most for society; as a result, this work argues that (\*) protectionist tariffs are unnecessary, angering mercantilists. An "invisible hand" guiding market behavior is described in, for 10 points, what 1776 economic work written by Adam Smith?**  
 Answer: An Inquiry into the Nature and Causes of the Wealth of Nations
20. **Exactly three of these numbers appear in the Fibonacci sequence. Lagrange proved that all positive integers can be written as sums of four of them. They have an odd number of positive divisors, and the  $n$ th one equals the sum of the (\*) first  $n$  odd natural numbers. The prime factorizations of these numbers have all even exponents. For 10 points, name these numbers found by multiplying integers by themselves, such as 4, 9, and 16.**  
 Answer: perfect squares (accept square numbers; do not accept "square roots")

## Bonuses

1. This process occurs via differential reproduction and is contrasted with selective breeding, as seen in animal husbandry. For 10 points each,
  - [10] Give this two-word phrase, used by Charles Darwin to describe the non-random process that determines which traits are common or rare in a population.  
Answer: **natural selection** (prompt partial answers)
  - [10] This type of non-random selection is used by adults to choose a mate based on physical characteristics such as peacock feathers and stag antlers.  
Answer: **sexual** selection
  - [10] While in the Galapagos, Darwin studied differences in this species of birds. He noted that the beaks of these birds were adapted to their food source.  
Answer: **finches**
  
2. For 10 points each, give the following about America's most famous pamphleteer, Thomas Paine.
  - [10] The British politician Edmund Burke published a collection of *Reflections on [this event]* that had begun in 1789; Paine responded in the book *Rights of Man*, defending the proceedings of this event.  
ANSWER: **French Revolution** (accept word forms; accept **Reflections on the Revolution in France**)
  - [10] In *The Age of Reason*, Paine argued against revelation and the divinity of the Bible. Instead, Paine advocated this religious philosophy that holds that the creator does not intervene in physical affairs.  
ANSWER: **Deism** (accept word forms)
  - [10] This 1776 work by Paine argues that no mother should treat her children as horribly as Britain had treated the American colonies; therefore, the colonies should declare independence.  
ANSWER: **Common Sense**
  
3. He created an equestrian statue of Gattamelata. For 10 points each,
  - [10] Name this Renaissance sculptor whose works include a bronze David standing on the head of a slain Goliath.  
Answer: Donato "**Donatello**" (di Nicolò) di Betto Bardi
  - [10] Donatello also created a statue of this Christian saint with a kite-shaped shield. He is often depicted slaying a dragon.  
Answer: Saint **George**
  - [10] This High Renaissance artist painted *St. George and the Dragon* as well as *La Disputa*. This artist also depicted Plato, Aristotle, and many other Greek philosophers in *The School of Athens*.  
Answer: **Raphaello** Sanzio
  
4. Lexicographer Samuel Johnson spent nearly a decade completing a British version of this document. For 10 points each,
  - [10] Name this type of work, an alphabetically-listed collection of words with their pronunciations and definitions.  
Answer: **dictionary**
  - [10] This educational reformer published spelling books, as well as *A Compendious Dictionary of the English Language*, that Americanized certain spellings. The Merriam brothers published his work after his death.  
Answer: Noah **Webster**
  - [10] This American satirist wrote *The Devil's Dictionary*, which includes witticisms like "Accordion, noun. An instrument in harmony with the sentiments of an assassin."  
Answer: Ambrose **Bierce**

5. This battle took place a few weeks before the Goliad Massacre; these two events served as inspiration for remaining Texans to resist Santa Anna's forces. For 10 points each,  
 [10] Name this 1836 siege, in which the Mexican army killed all but two defenders of a San Antonio fort.  
 Answer: (Siege or) Battle of the **Alamo**  
 [10] This two-term Congressman from Tennessee, a folk hero known today as the "King of the Wild Frontier," died at the Alamo.  
 Answer: David "Davy" **Crockett**  
 [10] This man commanded Texan forces at the Alamo. During the siege, he wrote open letters to the American people that, after the battle, motivated support for the Texan Revolution.  
 Answer: William **Travis**
6. This city was the target of the Jameson Raid, which was instead stopped at Doornkop. For 10 points each,  
 [10] Name this capital of Gauteng province, the most populous city in South Africa.  
 Answer: **Johannesburg**  
 [10] Johannesburg is not a capital of South Africa; that distinction is instead held by three cities. This city north of Johannesburg serves as the administrative capital, while Cape Town and Bloemfontein serve as the legislative and judicial capitals respectively.  
 Answer: **Pretoria**  
 [10] The Treaty of Vereeniging, which ended the second of these conflicts, was signed in Pretoria. These wars saw the British put down revolts of the Orange Free State and the Transvaal Republic.  
 Answer: **Boer Wars**
7. The dual of this figure is the dodecahedron, and vice versa. For 10 points each,  
 [10] Name this regular polyhedron with 20 congruent faces.  
 Answer: (regular) **icosahedron**  
 [10] Icosahedra are among these five figures, which are the only regular polyhedra and are named for a Greek philosopher.  
 Answer: **Platonic** solids  
 [10] Three of the Platonic solids—icosahedra, octahedra, and tetrahedra—use this polygon for their faces.  
 Answer: **equilateral triangles** or **equiangular triangles** or **regular triangles** (prompt on **triangle**)
8. Since 2007, it has been governed by Hamas, a group labeled as a terrorist organization by the United States. For 10 points each,  
 [10] Name this strip of land northeast of Egypt's Sinai Peninsula.  
 Answer: **Gaza** Strip (accept **'aza**)  
 [10] Under Ariel Sharon, this nation disengaged from the Gaza Strip in 2005. In 2009, this nation's Prime Minister, Benjamin Netanyahu, announced conditional support for a Palestinian state bordering this nation.  
 Answer: State of **Israel**  
 [10] Israel first occupied the Gaza Strip after this short June 1967 conflict. This war began with a surprise air attack on the grounded Egyptian Air Force.  
 Answer: **Six Day** War

9. Natsume Soseki wrote a novel titled "I am" one of these creatures. For 10 points each,  
 [10] Name these animals, whose lives were described at length in T.S. Eliot's poetry collection, *Old Possum's Book of Practical* "these creatures."  
 Answer: domestic **cats** (accept **felines**; accept house **cats** or domestic **cats**; accept **felis** (silvestris) **catus**)  
 [10] Alice plays with black and white kittens and encounters a grinning Cheshire cat in the novels of this English author.  
 Answer: Lewis **Carroll** (accept Charles Lutwidge **Dodgson**)  
 [10] "Town of Cats" is a chapter in *1Q84* [one "Q" eighty-four], a recent novel by this Japanese author, who wrote about the cat Mackerel in *The Wind-Up Bird Chronicle*.  
 Answer: **Murakami** Haruki (accept Haruki **Murakami**)
10. This god created the fifth cycle of humanity and introduced maize and culture to his people. For 10 points each,  
 [10] Name this twin of Xolotl [zoh-LAH-tul], the chief "feathered serpent" god of Aztec mythology.  
 Answer: **Quetzalcoatl**  
 [10] Quetzalcoatl's [keh-tsah-koh-AH-tul's] nemesis, Tezcatlipoca [tets-kaht-lee-POH-kah], was represented by a "smoking" one of these reflective objects, which are usually made of silver-backed glass.  
 Answer: **mirrors**  
 [10] This Shinto sun goddess hid in a cave to escape her brother, Susanoo, but was drawn out when she saw her reflection in a mirror.  
 Answer: **Amaterasu**
11. In this novel, Colonel Brandon reveals that Willoughby has seduced Brandon's ward, Eliza, and is unsuitable for Marianne. For 10 points each,  
 [10] Name this novel, in which Marianne marries Colonel Brandon and her sister, Elinore Dashwood, weds Edward Ferrars.  
 Answer: **Sense and Sensibility**  
 [10] *Sense and Sensibility* is by this British author of *Northanger Abbey* and *Pride and Prejudice*.  
 Answer: Jane **Austen**  
 [10] This other Austen novel concerns a titular would-be matchmaker, who tries to help Jane Fairfax and Harriet Smith, and ends up marrying Mr. Knightly.  
 Answer: **Emma**
12. For 10 points each, give the following about consolidation of talent in the 2012 NBA offseason.  
 [10] This team replaced point guard Ramon Seesions with Steve Nash and traded Andrew Bynum to receive Dwight Howard, thus giving Kobe Bryant help in his quest for a sixth NBA title.  
 Answer: **Los Angeles Lakers** (prompt on Los Angeles, do not accept Clippers)  
 [10] The Brooklyn Nets were interested in acquiring Dwight Howard, but instead traded for this Atlanta Hawks guard, who is signed to a \$119 million contract.  
 Answer: Joe **Johnson**  
 [10] After five years with Paul Pierce and Kevin Garnett in Boston, this shooting guard took less money to sign with the defending champion Miami Heat.  
 Answer: Ray **Allen**

13. Higher concentration and temperature often increase it because more collisions occur between molecules. For 10 points each,  
[10] Studied in chemical kinetics, name this quantity describing the speed of a reaction. It is measured in moles per liter per second.  
Answer: reaction **rate**  
[10] If the reaction rates for forward and reverse reactions are equal, the reaction is said to be in this state, where the concentrations of reactants and products remain at their present levels.  
Answer: (dynamic or chemical) **equilibrium**  
[10] The reaction rate is inversely related to this quantity, the minimum energy barrier that must be overcome for a chemical reaction to occur.  
Answer: **activation energy**
14. One man to serve in this position, Paul Volcker, attempt to end a period of stagflation by allowing the federal funds rate and prime rate to reach 20%. For 10 points each,  
[10] Name this Presidentially appointed position, the leader of a group that conducts monetary policy.  
Answer: **Chairman** of (the Board of Governors of) the **Federal Reserve** (System) (both underlined portions required)  
[10] This economist is the current Chairman of the Federal Reserve, having succeeded Alan Greenspan in 2006.  
Answer: Ben **Bernanke**  
[10] Some analysts have blamed the housing bubble and ensuing recession on Greenspan's support for the subprime type of this financial product. These long-term loans are purchased on the secondary market by Fannie Mae and Freddie Mac.  
Answer: **mortgages** (prompt on "home loan(s)")
15. Like the standard mass, these musical works often include the Kyrie and Sanctus sections, but it can also include a sequence beginning "Dies irae," or "Day of wrath." For 10 points each,  
[10] Name this type of mass for the dead, often played at funerals. Mozart died while writing his work of this type.  
Answer: **requiem** mass  
[10] This German composer used the Luther Bible for the text of his *German Requiem*. His other works include the *Academic Festival Overture* and a famous lullaby.  
Answer: Johannes **Brahms**  
[10] This 20th century composer's *War Requiem* is set to poems by Wilfred Owen. His other works include the opera *Peter Grimes*.  
Answer: Benjamin **Britten**
16. Creatures of this type appeared to Abram and Zechariah to announce the impending births of Isaac and John the Baptist. For 10 points each,  
[10] Name these holy messengers of God in Judeo-Christian tradition.  
Answer: **angels** (accept **Malak**)  
[10] An archangel like Michael, this figure explained the dreams of Daniel and announced the birth of Jesus to Mary.  
Answer: **Gabriel** (accept **Jibreel**)  
[10] Catholicism recognizes nine of these classifications of angels, including the seraphim, cherubim, and thrones.  
Answer: heavenly **choirs** of angels

17. This character guesses a coin will land heads up 92 times in a row, and is correct all 92 times, at the beginning of one work. For 10 points each,  
 [10] Name this Shakespearean supporting character, who is featured with his friend Guildenstern in a 20th century play.  
 Answer: **Rosencrantz** (accept **Rosencrantz and Guildenstern Are Dead**)  
 [10] *Rosencrantz and Guildenstern Are Dead* is an adaptation of Hamlet by this Czech-English playwright of the absurd.  
 Answer: Tom **Stoppard** (accept Tomas **Straussler**)  
 [10] In Stoppard's *Arcadia*, Thomasina Coverly learns about this field of study exemplified by the butterfly effect, in which systems like weather are very sensitive to their initial conditions.  
 Answer: **chaos** theory (accept word forms)
18. For 10 points each, answer the following about pollution.  
 [10] Limestone structures often dissolve and crumble after prolonged exposure to this form of precipitation with low pH values.  
 ANSWER: **acid rain**  
 [10] This insecticide was banned in the US in 1972, in part due to an argument that bioaccumulation of this chemical through the food chain was endangering the eagle population.  
 ANSWER: **DDT** (accept **dichlorodiphenyltrichloroethane**)  
 [10] The aforementioned argument against DDT was posed in *Silent Spring*, a work by this biologist who argued for limited use of pesticides rather than a total ban.  
 Answer: Rachel **Carson**
19. The Treaty of Nystad ended this war in 1721, 12 years after a decisive victory over Charles XII at Poltava ended Sweden's time as a European power. For 10 points each,  
 [10] Name this war motivated by one European power's desire for a port city on the Baltic Sea.  
 Answer: **Great Northern** War  
 [10] This empire, led by Peter the Great, defeated Sweden and her allies in the Great Northern War.  
 Answer: **Russia** (accept **Russian** Empire)  
 [10] As part of the Treaty of Nystad, Sweden gave Russia three Baltic territories, including this one north of modern-day Latvia. This territory's capital, Reval, was renamed Tallinn when it became independent of Russia in 1920.  
 Answer: **Estonia** (accept Republic of **Estonia** or Swedish **Estonia** or Russian **Estonia**)
20. The Millikan oil-drop experiment helped determine the quantum, or "elementary" value, of this quantity. For 10 points each,  
 [10] Name this quantity that can be positive or negative and is measured in coulombs. Neutrons have a net value of zero for it.  
 Answer: electrostatic **charge** (accept electric **charge** or similar answers)  
 [10] This law states that the net flux of an electric field through a closed surface is directly proportional to the electric charge enclosed within the surface.  
 Answer: **Gauss's** law (of electrostatics)  
 [10] Gauss's laws for electric and magnetic fields are two of these four fundamental statements of electromagnetism, collected by and named for a Scottish physicist.  
 Answer: **Maxwell's** equations (accept **Heaviside** equations or **Maxwell-Heaviside** equations or similar answers mentioning either or both names)