

## Tossups

- A mistranslation of the Vulgate led this artist to create a horned Moses for the tomb of Pope Julius II. This artist's only signed work depicts a young Mary cradling a recently (\*) crucified Jesus, and another of this sculptor's works shows a nude youth resting a sling on his shoulder and contemplating his upcoming battle with Goliath. For 10 points, name this Renaissance sculptor of *Pietà* and the marble *David*.**  
 Answer: Michelangelo (di Lodovico) Buonarroti (Simoni)
- This man was nearly captured at Ridgefield when his horse was shot out from under him, injuring his left leg. This general relieved the Siege of Fort Stanwix, but was insulted and temporarily demoted by Horatio Gates at (\*) Saratoga. He later corresponded with Henry Clinton and John Andre, the latter of whom was hanged when found with this man's plans to surrender West Point to the British. For 10 points, name this American Revolutionary traitor.**  
 Answer: General Benedict Arnold
- In one work this poet "reposes" under a "dark sycamore," and in another this poet wrote that "A poet could not but be gay, / In such a jocund company." One of this poet's speakers comments that "five years have passed" since he last visited the title Welsh (\*) monastery, and another sees "a host of golden daffodils." With Coleridge, he published *Lyrical Ballads*. For 10 points, name this poet of "I Wandered Lonely as a Cloud" and "Tintern Abbey."**  
 Answer: William Wordsworth
- The surface of these celestial objects is a solid lattice of nuclei in which "starquakes" can occur, causing these objects to spin faster. If they emit electromagnetic radiation, their spinning causes the radiation to be observed at (\*) regular intervals and these entities are known as pulsars. The core of a supernova can become, for 10 points, what type of very small, super-dense star named for a subatomic particle?**  
 Answer: neutron star (prompt on magnetar or pulsar before mentioned; do not accept neutron)
- This species used Mousterian tools made of flint and may have held burial ceremonies. This species was shorter than Cro-Magnons, with whom they co-existed, but they probably did not interbreed. This species became extinct, possibly due to climate change, roughly 30,000 years ago. (\*) Heavy brows and sloping foreheads were features of, for 10 points, what species closely related to modern humans that was named for a valley in Germany?**  
 Answer: Neanderthals or Neandertals (accept Homo Neanderthalensis; accept Homo Sapiens Neanderthalensis)
- This legendary figure helped Igraine conceive her son and directed the building of Stonehenge. As a child, this man revealed that King Vortigern's castle has been built on a pair of sleeping dragons, and foretold that Britain will be ruled by (\*) Uther Pendragon. Imprisoned by the Lady of the Lake, this wise man is sometimes credited with designing the Round Table. For 10 points, name this wizard, an advisor to King Arthur.**  
 Answer: Merlinus Ambrosius (accept Myrddin Emrys; prompt on Emrys or Ambrosius)
- Like the Golgi body, this organelle consists of subunits called cisternae. Stress of this organelle hinders its ability to fold proteins and transport them in vesicles to destinations including the Golgi body. The cell membrane is linked to the nuclear (\*) envelope by this organelle, one form of which is covered in ribosomes. For 10 points, name this lace-shaped organelle that has "smooth" and "rough" varieties that transport cellular material.**  
 Answer: endoplasmic reticulum (accept ER)

8. **In one work by this author, a sunken Polish minesweeper is salvaged by Joachim Mahlke. He wrote the memoir *Peeling the Onion* to describe his time in the Hitler Youth, and this author of *Cat and Mouse* and *Dog Years* created "the Dusters," a children's gang in the streets of (\*) Danzig led by a boy who stopped growing at the age of three. For 10 points, name this German author who created Oskar Matzerath in *The Tin Drum*.**  
Answer: Günter Grass
9. **This man created the Doctor's Plot to remove Jews from important positions. This leader reacted to the assassination of Sergey Kirov by holding the Moscow Trials and ordering the assassination of Leon (\*) Trotsky in Mexico. This leader during the "Great Purge" centralized his nation's economy via Five-Year Plans, which replaced the New Economic Policy of his predecessor, Vladimir Lenin. For 10 points, name this Soviet Premier during World War II.**  
Answer: Joseph Stalin (accept Joseph Jughashvili)
10. **A function has this property on an interval if its second derivative is positive on that interval. A polygon with this property contains all line segments between any pair of its points. A polygon of this type does not contain an (\*) internal reflex angle, meaning that every internal angle measures less than or equal to 180 degrees. For 10 points, name this property that is contrasted with concave.**  
Answer: convex (accept convexity; accept concave upward)

Half Time

11. **The southern side of this state includes Buzzards Bay, and its highest point is Mount Greylock. It includes a former textile hub in its city of Lowell, and this state's city of Waltham is home to (\*) Brandeis University. Its city of Springfield lies on the Connecticut River. This state includes Martha's Vineyard and Nantucket, and its Charles River flows by Harvard. For 10 points, name this state that is home to Cape Cod and Boston.**  
Answer: Massachusetts
12. **Online versions of this game franchise include the locations Alphaville and Littlehaven, and the most recent PC game in this series is set in Sunset Valley. Early games used "personality points" that have been replaced with traits, allowing characters to be (\*) "athletic," "bookworms," or "evil." Characters like Bella Goth use the greeting "susu" [soo-soo] and are marked with plumbobs in, for 10 points, what EA life-simulation video games?**  
Answer: The Sims (accept The Sims Online, The Sims Social, The Sims 2, or The Sims 3; do not accept references to any other EA Sim games, including but not limited to SimCity, SimGolf, or SimCopter)
13. **One concerto for this instrument pairs a handbell with each playing of the rondo theme. *L'estro armonico* and *The Contest Between Harmony and Invention* are sets of concerti for this instrument. One virtuoso player of this instrument wrote 24 caprices for it; that composer of (\*) "La Campanella" is Niccolò Paganini. *La primavera*, or *Spring*, from Vivaldi's *Four Seasons* is a concerto for, for 10 points, what string instrument pitched higher than a viola?**  
Answer: violin

14. **The Smyth Report detailed this operation's history. It competed with a British group named Tube Alloys and was spied against by Klaus Fuchs. Located at sites like Hanford and Oak Ridge, it performed the Trinity test south of its (\*) Los Alamos laboratory, where it produced objects known as Little Boy and Fat Man. J. Robert Oppenheimer oversaw, for 10 points, what World War II program that developed the first atomic bombs?**  
Answer: Manhattan Project
15. **This work's narrator asks the reader to "regard with discreet scrutiny some inconsequential object in the other direction" while the main characters embrace. This work notes that the Queen of (\*) Sheba would be jealous of the main character's most prized possession, which she sells at Madame Sofronie's shop on Christmas Eve. Della Young sells her hair to afford a watch chain for her husband in, for 10 points, what O. Henry short story?**  
Answer: The Gift of the Magi
16. **Changes in this quantity due to mixing are the concern of the Gibbs paradox. Given by Boltzmann's constant times the log of the number of microstates, its changes may equal heat divided by temperature. This state function is zero in a perfect (\*) crystal at 0 Kelvin and it cannot decrease in isolated systems, by the Second Law of Thermodynamics. Denoted S, for 10 points, name this quantity measuring a system's disorder.**  
Answer: entropy (prompt on "S" before mentioned; do not accept "enthalpy")
17. **The "coup from heaven" deposed this country's dictator, Sani Abacha. This country fought a 1960s civil war to prevent the Igbo people from breaking away as the Republic of Biafra. Boko Haram fights to enact Sharia law in this country, which saw riots in (\*) Kano after the 2011 election of Goodluck Jonathan. The most populous country in Africa is, for 10 points, what West African member of OPEC whose capital was moved from Lagos to Abua?**  
Answer: Federal Republic of Nigeria
18. **The title character in one of this author's works discovers that Gerasim is his only true friend. A novel by this author sees Helene Kuragina marry Pierre Bezhukov, and in another of his novels, Kitty rejects (\*) Levin for Count Vronsky, but is spurned in return. This author of *The Death of Ivan Ilyich* explored the impact of the Napoleonic Wars in an enormous novel. For 10 points, name the Russian author of *Anna Karenina* and *War and Peace*.**  
Answer: Leo (or Lev) Nikolayevich Tolstoy
19. **A collection of some of these works, recited on holidays, is called Hallel, and its fifty-first section is known as the "Miserere" [mee-seh-reh-ray]. One passage of this book laments "I have so many enemies" as its author flees his son (\*) Absalom. Another portion reads, "Give thanks to the Lord, for he is good." For 10 points, name this Biblical book, written primarily by David, whose twenty-third section begins, "The Lord is my shepherd."**  
Answer: Book of Psalms (accept Tehillim)
20. **With insufficient oxygen, this chemical process will be incomplete and carbon monoxide will be produced. Bomb calorimeters are used to measure the energy of this reaction, which comes in rapid, (\*) smoldering, and spontaneous types. Water and carbon dioxide are common products of this process, which happens internally in motor engines. For 10 points, name this exothermic reaction that consumes an oxidant and fuel and usually causes a flame.**  
Answer: combustion

Bonuses

1. Give the following about enlightenment in Buddhism, for 10 points each.  
[10] This form of Buddhism founded by Bodhidharma focuses on attaining enlightenment through meditation and direct teaching, and is popular in East Asia  
Answer: **Zen** Buddhism  
[10] Through enlightenment, a Buddhist may attain this state of freedom from samsara, the cycle of reincarnation and suffering.  
Answer: **nirvana**  
[10] This term is given to a person who postpones attaining nirvana so they may strive selflessly to achieve enlightenment for all living things.  
Answer: **bodhisattva**
2. The 2010 and 2011 earthquakes in this country were caused by shifts in the Greendale fault. For 10 points each,  
[10] Name this oceanic country with North and South Islands.  
Answer: **New Zealand**  
[10] This largest city of the South Island was devastated by the aforementioned earthquakes.  
Answer: **Christchurch**  
[10] This city on the North Island borders the Cook Strait and serves as New Zealand's capital.  
Answer: **Wellington**
3. The Sieve of Eratosthenes ["air"-uh-TAWS-thuh-neeZ] can be used to identify these types of numbers. For 10 points each,  
[10] Identify these natural numbers that have no positive divisors other than themselves and 1.  
Answer: **prime** numbers (**primes**)  
[10] This theorem states that every natural number greater than 1 can be written as a product of primes in a way that is unique up to the order of the factors.  
Answer: **fundamental theorem of arithmetic**  
[10] The RSA algorithm for performing this type of process requires factoring large composite numbers into primes. It transforms plaintext into more obscure, unreadable information.  
Answer: **encryption** (accept **cryptology**; do not accept **decryption** or **coding**)
4. This play attracted criticism for its cynical treatment of the marriage of Nora and Torvald Helmer. For 10 points each,  
[10] Name this play, in which Nils Krogstad blackmails Nora, who leaves Torvald after discovering that her marriage is a sham.  
Answer: A **Doll's House** (accept Et **Dukkehem**)  
[10] *A Doll's House* is by this Norwegian playwright of *Hedda Gabler*.  
Answer: Henrik **Ibsen**  
[10] This author parodied *A Doll's House* in his short story collection *Married*. This Swedish author also wrote "Miss Julie" and "The Ghost Sonata."  
Answer: (Johan) August **Strindberg**

5. The failed Hundred Days' Reform occurred during this event. For 10 points each,  
[10] Name this uprising against foreigners by the Society of Righteous and Harmonious Fists which saw the Empress Dowager Cixi declare war on an eight nation alliance.  
Answer: **Boxer Rebellion** (also accept **Boxer Uprising** or **Yihetuan Movement**)  
[10] The Boxer Rebellion occurred in this country during the Qing [CHING] Dynasty.  
Answer: **China**  
[10] China's decline during the Boxer Rebellion was blamed on the mass addiction to this imported narcotic. A series of wars named for it saw Hong Kong ceded to the United Kingdom.  
Answer: **opium**
6. This class of molecules is hydrophobic and is a byproduct of crude oil production. For 10 points each,  
[10] Give the collective name for molecules that form the basis of organic chemistry, named for the two elements they all include.  
Answer: **hydrocarbons**  
[10] This organic functional group has a carbon double bonded to an oxygen and single-bonded to another oxygen. Many members of it have a fruit-like odor.  
Answer: **ester** (do not accept "ether")  
[10] Used as a hormone for ripening fruit, this hydrocarbon is the simplest alkene. It has chemical formula C<sub>2</sub>H<sub>2</sub>.  
Answer: **ethene** (accept **ethylene**; do not accept "ethane")
7. He was the most successful third-party candidate since Theodore Roosevelt in 1912. For 10 points each,  
[10] Name this Texas businessman who received 18.9% of the popular vote but no electoral votes in a certain election.  
Answer: H. Ross **Perot**  
[10] That election took place in this year, which saw Bill Clinton defeat incumbent George H.W. Bush.  
Answer: Election of **1992**  
[10] One cause for the failure of Perot's next campaign in 1996 was his vocal opposition to this trade agreement between the US, Canada, and Mexico.  
Answer: **NAFTA** (accept **North American Free Trade Agreement**)
8. Your question writer's favorite movie this year, Joss Whedon's *The Cabin in the Woods*, is rated R, so we can't fairly ask a question about it in a high school packet. Instead, for 10 points each, answer the following about its actors and actresses.  
[10] Chris Hemsworth's 2012 summer included two Joss Whedon films: *Cabin in the Woods* and this film, in which he reprised his role as Thor. Mark Ruffalo played Bruce Banner and Robert Downey Jr. played Tony Stark in this film.  
Answer: The **Avengers**  
[10] This actress, who played Ripley in the *Alien* franchise and Dr. Grace Augustine in *Avatar*, makes a cameo in *Cabin*.  
Answer: Sigourney **Weaver**  
[10] One of *Cabin's* main characters is played by Jesse Williams; he's more famous for playing Dr. Jackson Avery, a character who first appeared in season six of this ABC drama.  
Answer: **Grey's Anatomy**

9. Mark Twain wrote an essay on this author's "Literary Offenses." For 10 points each,  
[10] Name this early 19th century author of *The Prairie* who created Natty Bumppo.  
Answer: James Fenimore **Cooper**  
[10] Cooper wrote this novel that includes the death of Uncas, who is the son of the title character, Chingachgook. It features Natty Bumppo as Hawkeye.  
Answer: The **Last of the Mohicans**  
[10] *The Last of the Mohicans* is part of this series of stories that also includes *The Deerslayer*.  
Answer: The **Leatherstocking Tales**
10. The electromagnetic type of this phenomenon does not require a medium. For 10 points each,  
[10] Name these disturbances that propagate through a medium, such as light or sound.  
Answer: **waves**  
[10] It was once thought that light waves propagated through this medium, but the Michelson-Morley experiment implied that this does not actually exist.  
Answer: luminiferous **aether**  
[10] Another famous wave experiment, Thomas Young's double-slit experiment, provided evidence for this concept holding that light can behave as both a wave and a particle.  
Answer: wave-particle **duality** (accept similar answers mentioning **duality**)
11. The Treaty of Guadalupe Hidalgo ended this war after Santa Anna lost the confidence of his leaders. For 10 points each,  
[10] Name this 1846-1848 war that saw General Winfield Scott siege Chapultepec Castle.  
Answer: **Mexican-American** War  
[10] The Mexican-American War was sparked by the United States' annexation of this republic in 1845.  
Answer: (State or Republic) of **Texas**  
[10] Winfield Scott's advance on Mexico City began with an amphibious landing near this Mexican port city on the Bay of Campeche in the Gulf of Mexico.  
Answer: **Veracruz**
12. This god is the son of Nyame [nee-YAH-may], for whom he captured a python, a leopard, some hornets, and a dwarf. For 10 points each,  
[10] Name this African trickster god, a spider who used a sticky doll to capture the dwarf, Mmoatia [m-moh-ah-tee-ah], and who won the stories of the world when he returned his captives to Nyame.  
Answer: Kwaku **Anansi** [kwah-koo ah-nahn-see] (accept Kwaku **Ananse** [kwah-koo ah-nahn-say])  
[10] Joel Chandler Harris retold that Anansi story as a tale with a "tar baby" and Br'er Rabbit, as narrated by this fictional slave.  
Answer: Uncle **Remus**  
[10] Anansi's father, Nyame [nee-yah-may], is the god of this region. The Egyptian goddess of this location is Nut [noot], who is depicted stretching above Geb [geh], the Earth.  
Answer: **sky** (accept **sky** deities or **sky** god/goddess; prompt on air or air deities)

13. For 10 points each, give the following about the nervous system.  
 [10] This organ, largely comprised of gray and white matter, receives sensory information from olfactory, auditory, and optic nerves. It is connected to the spinal cord by a namesake stem.  
 ANSWER: **brain**  
 [10] This part of the brainstem regulates autonomic functions -- that is, involuntary process like breathing and the heartbeat.  
 ANSWER: **medulla oblongata** [prompt on medulla]  
 [10] The spinal cord and brain are covered in this system of protective, connective tissues, divided into the dura mater, arachnoid mater, and pia mater. Infections can cause dangerous inflammation of these tissues.  
 ANSWER: **meninges**
14. Many authors were inspired by living parts of their lives in different countries. For 10 points each,  
 [10] This American who spent time in Europe often focused on the differences between the two continents in works such as *The Portrait of a Lady* and *The Turn of the Screw*.  
 Answer: **Henry James** (prompt on just **James**)  
 [10] This other American used her experiences living in China to write a novel about Wang Lung, *The Good Earth*.  
 Answer: Pearl S. **Buck**  
 [10] This Indian-born British author focused on the Indian subcontinent in works such as *Midnight's Children*. He received a fatwa for *The Satanic Verses*.  
 Answer: Salman **Rushdie**
15. He collaborated with Luis Bunuel on the short film *An Andalusian Dog*, for 10 points each.  
 [10] Name this Spanish surrealist artist who painted soft clocks in *The Persistence of Memory*.  
 Answer: Salvador **Dali**  
 [10] Dali created a telephone whose handpiece is one of these clawed marine arthropods.  
 Answer: **lobster** (accept **nephropidae**)  
 [10] *Lobster Trap and Fish Tail* is a mobile created by this American artist who pioneered the use of mobiles. He also created large "stable" sculptures like Chicago's *Flamingo*.  
 Answer: Alexander (Sandy) **Calder**
16. This poet wrote the radio drama *Under Milk Wood* and implored his father to "rage, rage against the dying of the light" in one poem. For 10 points each,  
 [10] Name this Welsh poet of "Do not go gentle into that good night."  
 Answer: Dylan Marlais **Thomas**  
 [10] Dylan Thomas wrote a short story collection titled *Portrait of the Artist as a Young "this" kind of domestic animal*. Jack London often wrote about the interactions of wolves and these domestic canines.  
 Answer: **dog** (accept **canis lupus familiaris**)  
 [10] The title "Portrait of the Artist as a Young Dog" is taken from the title of this Irish author's first novel. This man also wrote about a day in the life of Leopold Bloom in *Ulysses*.  
 Answer: James Augustine Aloysius **Joyce**

17. It lies between 10 and 50 kilometers above Earth's surface. For 10 points each,  
[10] Name this layer of the earth's atmosphere that is between the troposphere and the mesosphere.  
Answer: **stratosphere**  
[10] Within the stratosphere is this region with a high concentration of triatomic oxygen. It absorbs ultraviolet light and can be depleted by CFCs.  
Answer: **ozone layer**  
[10] This is the name given to the lower boundary of the stratosphere. It is the point where temperature ceases to decrease with height.  
Answer: **tropopause**
18. If contractually-guaranteed pay raises are "pegged" to this concept, it can cause a "wage spiral" that increases the speed at which this phenomenon occurs. For 10 points each,  
[10] Name this economic phenomenon that occurs when the quantity of money in an economy increases. In this phenomenon, money loses some of its value, forcing sellers of goods and services to increase prices.  
Answer: **inflation**  
[10] In the United States, this index measures inflation by calculating the change in price of a "basket" of representative goods and services, such as food, clothing, and rent.  
Answer: **Consumer Price** Index (accept **CPI**)  
[10] In the United States, the Federal Reserve System controls inflation by adjusting this interest rate, the rate that banks charge each other for overnight loans of money held at the Federal Reserve.  
Answer: (target or neutral) **federal funds** rate
19. For 10 points each, name the following Italian cities that were powerful during the Middle Ages and Renaissance.  
[10] This city's merchant fleet helped fund the construction of a bell tower for its cathedral; that tower was built on weak soil and now has a notable lean.  
Answer: **Pisa**  
[10] Under the Doge Enrico Dandolo, this city provided support for troops during the Fourth Crusade.  
Answer: **Venice**  
[10] This birthplace of Christopher Columbus saw its navy ruined by Venice in the War of Chioggia.  
Answer: **Genoa**
20. This singer was backed by the Count Basie Orchestra for a 1963 album, and sang with Louis Armstrong at the Hollywood Bowl in 1957. For 10 points each,  
[10] Name this "Queen of Jazz," famous for her version of "A-Tisket, A-Tasket" and her ability to sing scat.  
Answer: Ella **Fitzgerald**  
[10] Fitzgerald also collaborated with this "Duke," a bandleader whose compositions include "Mood Indigo," "Take the A-Train," and "In a Sentimental Mood."  
Answer: (Edward Kennedy) Duke **Ellington**  
[10] This song, composed by Ellington and famously sung by Fitzgerald, notes that "all you gotta do is" play the title style of music.  
Answer: **It Don't Mean a Thing** (If It Ain't Got That Swing)