

## Tossups

- 1. The Capsian people lived in the northern foothills of this mountain range. This range, whose easternmost subrange is the Aures Mountains, was home to an extinct species of bear, the only bear native to the continent. It is south of the Rif Mountains, and its highest peak, (\*) Jebel Toubkal, is visible from Marrakesh, Morocco. For 10 points--name this North African mountain range named for a Titan who held up the heavens.**  
 Answer: Atlas Mountains
- 2. This work notes that Attila the Hun feels "Heaven's stern justice" in a river of blood named Phlegethon. An inscription in this work reads "Through me you pass into the city of woe," and ends "Abandon all (\*) hope, ye who enter here." A six-winged, three-headed beast tortures Brutus, Cassius, and Judas Iscariot in this work. Virgil guides the author through the nine circles of Hell in, for 10 points, what first section of Dante's *Divine Comedy*?**  
 Answer: Inferno (accept Hell before mention; prompt on *The Divine Comedy* before mention)
- 3. Experiments at Super-Kamiokande have attempted to study the decay of this particle, but it has not been observed due to its extreme stability. It is accelerated alone in the LHC, and along with its antiparticle in the Tevatron. (\*) Cosmic rays are primarily this particle that contains one down quark and two up quarks, and their quantity determines atomic number. For 10 points, name this positively-charged particle found in atomic nuclei.**  
 Answer: proton
- 4. A hiking trail to this site goes through "Dead Woman's Pass," and this site includes the Room of the Three Windows. This site, built as an estate for Pachacuti in the 15th century northwest of the capital city Cuzco, is situated high in a (\*) Peruvian mountain range. For 10 points, name this "lost city of the Incan Empire" introduced to New World scholars by Hiram Bingham in 1911.**  
 Answer: Machu Picchu
- 5. In *Journey to the West*, a character named for this creature wields a nine-toothed rake. A child of incest is born with the tail of this animal to Aureliano Buendia in *One Hundred Years of Solitude*. Simon becomes obsessed with the (\*) head of one of these animals in *Lord of the Flies*, and one of these animals is saved by a spider who writes words in her webs. For 10 Points, name this kind of animal exemplified by Wilbur from *Charlotte's Web*.**  
 ANSWER: pigs (accept swine; accept boar until "Fern Arable" is read)
- 6. As rocket fuel, the metastable metallic form of this element would produce a specific impulse 3 times greater than the Space Shuttle main engine. The fuel hydrazine features four atoms of this element surrounding a pair of (\*) nitrogen atoms, and the external tank of a Space Shuttle held liquid forms of oxygen and this diatomic gas. The most abundant element in the universe is, for 10 points, what element with atomic number 1 and atomic symbol H?**  
 Answer: Hydrogen
- 7. This mathematician names the theorem that for a hexagon inscribed in a conic, opposite sides' extensions' intersections are collinear. He corresponded with Pierre de Fermat [fair-mah] to develop probability theory, although that work is unrelated to a theological (\*) wager named for him. He also lends his name to a structure whose rows add up to powers of two. Binomial coefficients are found in, for 10 points, what French mathematician and philosopher's namesake "triangle"?**  
 ANSWER: Blaise Pascal

8. **One sect of this religion emphasizes focus on questions recorded in the Blue Cliff Record, known as koans. Another sect focuses on attaining the “pure land” in the afterlife, and is part of the “greater vehicle” division of this religion. The (\*) Four Noble Truths are sacred to this religion, whose founder notably sat under a bodhi tree. For 10 points, Mahayana and Theravada are two primary division of this Indian religion founded by Gautama.**  
Answer: **Buddhism** (accept word forms)
9. **One of this composer's works, subtitled "The Dance in the Village Inn," did not use the Goethe text that inspired his earlier *Faust Symphony*. He challenged practicing pianists with works like “Mazeppa” and “Feux Follets,” and this composer of the (\*) *Mephisto Waltzes* invented the symphonic poem with works like *Les Preludes*. For 10 points, name this virtuoso pianist, the composer of the *Transcendental Etudes* and 19 *Hungarian Rhapsodies*.**  
Answer: Franz **Liszt**
10. **Ernest Cherrington and Wayne Wheeler were leaders of one lobbying organization in favor of this concept. Eliot Ness's "Untouchables" attempted to enforce this concept via the Volstead Act. This "Noble Experiment" was made constitutional by the (\*) 18th Amendment but revoked by the 21st Amendment in 1933. Bootleggers supplied illegal speakeasies in opposition to, for 10 points, what American ban on the sale of alcohol?**  
Answer: **Prohibition** (prompt on "temperance;" prompt on descriptions of "banning alcohol" before mentioned at the end)

Half Time

11. **In one story by this author, Harry reflects on everything he has failed to write about while dying of an infected leg in Africa. This man's short story “The Killers” features Nick Adams, and is collected in *The (\*) Snows of Kilimanjaro*. This man wrote about a bullfight witnessed by Jake Barnes and Lady Brett Ashley, and about the struggles of the fisherman Santiago. For 10 points, name this author of *The Sun Also Rises* and *The Old Man and the Sea*.**  
Answer: Ernest Miller **Hemingway**
12. **In this war, Gordon Drummond captured Fort Niagara, turning momentum after Oliver Hazard Perry's victory at the Battle of Lake Erie allowed Detroit to be re-taken. The Battle of Bladensburg led to the burning of (\*) Washington, D.C during this war, which included the defense of Fort McHenry that inspired Francis Scott Key's "Star Spangled Banner." For 10 points, name this war between the U.S. and Great Britain that ended in 1815.**  
Answer: **War of 1812**
13. **This team's first Super Bowl loss saw Tony Eason fail to complete a pass. In its second Super Bowl loss, return man Desmond Howard was named MVP and Drew Bledsoe was intercepted 4 times. David Tyree's (\*) "helmet catch" set up another Super Bowl loss for this team, which had been undefeated that season until meeting the Giants. Eli Manning has won two Super Bowls against, for 10 points, what NFL team led by Tom Brady?**  
Answer: **New England Patriots** (accept either underlined portion)

14. **In this novel, a Christmas guest drinks brandy diluted with tar-water and takes the protagonist to Satis House. This novel's main character befriends Herbert Pocket after moving to London with the help of Mr. (\*) Jagers, who acts as the agent of a mysterious benefactor. The jilted Miss Havisham cares for Estella and a convict named Abel Magwitch provides for Philip Pirrip in, for 10 points, what rags-to-riches novel about Pip, written by Charles Dickens?**  
Answer: Great Expectations
15. **Ketoglutarate becomes succinate when this molecule is lost, and the absence of this molecule causes alkalosis. Hemoglobin absorbs more oxygen when this compound is present in blood. It is bubbled through water to form carbonic acid, and it is fixed by (\*) chloroplasts in the dark reactions. After water, it is the most significant greenhouse gas. Used in photosynthesis, for 10 points, name this compound exhaled by humans, abbreviated CO2.**  
Answer: Carbon Dioxide (accept CO2 before mentioned)
16. **In one work by this artist, a man in gray pants reads a newspaper, and two men stand at a table, inspecting the title commodity. In another work by this artist, a woman looks down at a glass of green liquid. In addition to *The (\*) New Orleans Cotton Exchange* and *The Absinthe Drinker*, this artist painted a man with a cane overseeing girls in tutus, *The Dance Class*. For 10 points, name this French impressionist who painted many ballet dancers.**  
Answer: Edgar Degas [day-GAH]
17. **This quantity's potential value decreases by 2% as unemployment increases by 1%, according to the gap version of Okun's Law. The expenditure approach to calculating this quantity adds (\*) consumption, investments, government spending, and net exports. For 10 points, name this economic quantity, the total market value of all goods and services produced in a country, contrasted with a similar "national" quantity.**  
Answer: Gross Domestic Product (do not accept or prompt "gross national product" or "GNP")
18. **As the creator of the Hippocrene fountain, this mythological figure was closely related to the Muses. He was stung by a gadfly as he attempted to reach the peak of Mount Olympus, and was captured with Athena's help in Corinth. This creature was born from the (\*) severed head of Medusa, and he aided in the slaying of the Chimera after Bellerophon used a golden bridle to train him. For 10 points, name this winged horse from Greek mythology.**  
Answer: Pegasus
19. **A circular arrangement of zinc sulfide screens was used to detect particles in this experiment. Geiger and Marsden carried out the work of this experiment, in which a sample of radon was placed in a lead box with a hole from which (\*) alpha particles were fired at a thin metal sheet. Backward scattering was observed in, for 10 points, what experiment that disproved the plum pudding model, leading to the discovery of the atomic nucleus by Ernest Rutherford?**  
Answer: Ernest Rutherford's gold foil experiment (accept Geiger-Marsden experiment, before mentioned; prompt on Rutherford experiment before mentioned)
20. **This city's Stadelheim Prison saw the execution of Ernst Rohm and dozens of SA Brownshirts. This city's Brown House was headquarters for the Nazi Party, and this city was the site of a 1938 agreement in which the (\*) Sudetenland was ceded by Neville Chamberlain in exchange for "peace in our time." The Night of the Long Knives occurred in, for 10 points, what capital of Bavaria, in which Adolf Hitler staged a failed 1923 coup d'etat in a beer hall?**  
Answer: Munich, Germany

## Bonuses

1. Trilobites first appeared in this time period. For 10 points each,  
[10] Name this geological period that saw an increase in species in a namesake “explosion” roughly 530 million years ago.  
Answer: **Cambrian** period  
[10] Cambrian period fossils are often found encased in this mud-based rock, as found in the Burgess and Emu Bay formations.  
Answer: **shale**  
[10] Shale is classified as this type of rock, formed in layers by the depositing of minerals and other particles. Other examples include conglomerates and sandstones.  
Answer: (clastic) **sedimentary** rock
2. This man wears his friend's armor in battle, kills Sarpedon, and drives the enemy back to the gates of Troy before being killed by Hector. For 10 points each,  
[10] Name this Greek hero, whose death inspires his friend to resume fighting in the Trojan War.  
Answer: **Patroclus**  
[10] This Greek friend of Patroclus was dipped into the river Styx by his mother, Thetis, rendering all but his heels invulnerable to attack.  
Answer: **Achilles**  
[10] The story of Patroclus' death is found in Book 16 of this epic poem about the Trojan War, written by Homer.  
Answer: The **Iliad**
3. Prior to this event, its subject was mockingly dressed in a purple robe and crowned with thorns. For 10 points each,  
[10] A sign declaring Jesus to be “King of the Jews” was hung above him during this event at Golgotha, during which Jesus asked, “My God, why have you forsaken me?”  
Answer: **crucifixion** of Jesus Christ (accept word forms; grudgingly accept the **Passion** of (Jesus) Christ; prompt on “death of Christ” or similar; do not accept the Agony of (Jesus) Christ)  
[10] This Roman Governor symbolically washed his hands of the responsibility for Jesus’s death when a crowd demanded that Barabbas be released and Jesus be crucified.  
Answer: Pontius **Pilate**  
[10] Though not mentioned in John, the other gospels relate that this man from Cyrene was ordered to carry the cross behind Jesus on the way to Golgotha.  
Answer: **Simon** of Cyrene
4. Many Egyptian gods were represented with the heads of animals. For 10 points each,  
[10] This god was a judge of the dead. He had the head of a jackal and presided over embalmings.  
Answer: **Anubis**  
[10] This falcon-headed god represented the sky and was closely related to the Pharaoh in Egyptian thought.  
Answer: **Horus**  
[10] This “Celestial Cow,” the goddess of womanhood, was depicted crowned with horns, or with a cow’s head.  
Answer: **Hathor**

5. The political world is more exciting in Shakespeare's plays. Answer the following about Shakespearean assassinations, for 10 points each.
- [10] The old king of Denmark dies before the start of this play, in which a struggle between Claudius and the title prince leads to the deaths of Polonius, Laertes, Gertrude, and Ophelia.  
Answer: The Tragedy of **Hamlet**, Prince of Denmark
- [10] Mark Antony sarcastically describes this character as an "honorable man" after Cassius draws this man into a plot to assassinate Julius Caesar.  
Answer: **Brutus**
- [10] Lady Macbeth orders her husband to kill this king, whose son Malcolm avenges this man's death to become the next king of Scotland.  
Answer: King **Duncan**
6. These people ruled England from 1016 to 1035 under Canute. For 10 points each,
- [10] Name these Norse explorers and warriors who did not actually wear horned helmets.  
Answer: **Vikings** (accept **Norsemen** or **Northmen**)
- [10] Earlier, this ruler successfully repelled a Viking invasion of England. He is the only English ruler with the epithet "The Great."  
Answer: **Alfred** the Great
- [10] Alfred ruled this kingdom, which competed with neighboring Mercia for hegemony of the English isle prior to the unification of England in 1066.  
Answer: Kingdom of **Wessex**
7. This man pioneered cubism with Georges Braque [jh or jh brahk]. For 10 points each,
- [10] Name this Spanish artist who painted an old man with a guitar during his Blue Period.  
Answer: Pablo **Picasso**
- [10] This Picasso painting depicts five nude prostitutes in a brothel. Two figures in this painting seem to be wearing African masks.  
Answer: Les **Demoiselles d'Avignon** [lay day-mwah-zells da-veen-yon] (accept The **Young Ladies of Avignon**; accept answers that include a reasonable English equivalent to "young ladies;" accept The **Brothel of Avignon**)
- [10] This large painting by Picasso includes an eye-shaped light bulb above the head of a dying horse. It shows the aftermath of the bombing of the title city during the Spanish Civil War.  
Answer: **Guernica**
8. The spread of this kind of disease usually presents with malignant tumors. For 10 points each.
- [10] Name this group of diseases that includes mesothelioma and leukemia. This type of disease is often treated with chemotherapy.  
Answer: **Cancer** (accept **neoplasm**)
- [10] This term describes the spread of diseases like cancer from one part of the body to another part, usually through the bloodstream or lymphatic system.  
Answer: **Metastasis** (accept word forms)
- [10] Carcinogenesis, the creation of cancer, often occurs when this process of programmed cell death does not occur at a normal rate.  
Answer: **Apoptosis**

9. This party grew in opposition to Andrew Jackson's increases in executive power, and nominated Henry Clay to face James Polk in the election of 1844. For 10 points each,  
[10] Name this political party prominent in the early 19th century whose members included William Henry Harrison and Millard Fillmore.  
Answer: **Whig** Party  
[10] The Whig Party was a predecessor to this party formed by former Whigs who opposed the Kansas-Nebraska Act. This party won the election of 1860 with Abraham Lincoln after the fracturing of the Democratic Party.  
Answer: **Republican** Party  
[10] In the election of 1860, Stephen Douglas earned support from Northern Democrats while this incumbent Vice President and Southern Democrat won 72 electoral votes.  
Answer: John C. **Breckinridge**
10. This work distinguishes between rulers who gain power by virtue, luck, or crime, noting that those who gain power by virtue hold onto power the longest. For 10 points each,  
[10] Name this work of political philosophy, dedicated to Lorenzo de Medici, that serves as advice to the title ruler. This work asserts that it is better for a ruler to be feared than to be loved.  
Answer: *The **Prince*** (accept *Il **Principe***)  
[10] *The Prince* was written by this Renaissance philosopher from Florence, who also wrote *Discourses on Livy*.  
Answer: Niccolo (di Bernardo dei) **Machiavelli**  
[10] Machiavelli's *Discourses on Livy* is a work in this field, the study of past events. Herodotus, Thucydides, and Xenophon were ancient Greeks who worked in this field..  
Answer: **history** (accept word forms)
11. This man's ex-wives include Tammy 1 and Tammy 2, and he reacted to the closing of Charles Mulligan's Steak House by going to a diner and ordering "all the bacon and eggs you have." For 10 points each,  
[10] Name this Pawnee, Indiana government official played by Nick Offerman.  
Answer: **Ron Swanson** (prompt on partial answer)  
[10] Ron Swanson appears in this sitcom, in which Amy Poehler plays Leslie Knope, the director of the title local government department.  
Answer: **Parks and Recreation**  
[10] *Parks and Recreation*, *Community*, *30 Rock*, and *The Office* are among the critically-acclaimed sitcoms produced by this ratings-challenged network.  
Answer: **NBC** (accept **National Broadcasting Company**)
12. This composer's middle-period piano sonatas include Waldstein, Appassionata, and one subtitled "Quasi una fantasia." For 10 points each,  
[10] Name this German composer, whose late period works were written in the midst of increasing deafness.  
Answer: Ludwig van **Beethoven**  
[10] This Beethoven symphony's theme uses three short notes and one long note in the "and-two-and-ONE" rhythm.  
Answer: Symphony No. **5** in C minor (accept Beethoven's **Fifth**)  
[10] This work, Beethoven's ninth violin sonata, is in the key of A --although musicologists disagree on whether the main key is major or minor. This work is played by Pozdnyshev's wife and lover in a Leo Tolstoy work of the same name.  
Answer: **Kreutzer** [kroy-tzer] Sonata

13. This author's fondness for hot air balloons is evident in his *The Mysterious Island* and *Around the World in Eighty Days*. For 10 points each,  
 [10] Name this French author, who wrote about Nemo in one novel, and about a *Journey to the Center of the Earth* in another.  
 Answer: Jules Gabriel **Verne**  
 [10] Captain Nemo appears in this Verne novel, in which Pierre Aronnax boards the *Abraham Lincoln* searching for an enormous whale and ends up aboard Nemo's ship.  
 Answer: **Twenty Thousand Leagues Under the Sea** [accept **Vingt mille lieues sous les mers**]  
 [10] Aronnax spends ten months in this ship built by Nemo. Disguised as a whale and powered by electricity, this submarine allows Nemo to study marine life freely.  
 Answer: **Nautilus**
14. These materials have large band gaps between their conduction and valence bands. For 10 points each,  
 [10] Name these materials in which electrons cannot enter the conduction band, preventing the free flow of charge within them. Examples of these include glass and rubber.  
 Answer: (electric) **insulators** (accept word forms)  
 [10] These materials, often containing silicon or germanium and used to make computer chips, have small band gaps. Their conductivity is between that of insulators and conductors.  
 Answer: **semiconductors**  
 [10] Extrinsic semiconductors are made in this process where impurities like boron or arsenic are added to increase the concentration of charge carriers with electrons or positive "holes."  
 Answer: **doping**
15. In 1978, Georgi Markov died after a ricin-filled pellet was injected into his thigh, probably by an umbrella gun. For 10 points each,  
 [10] The pellet was allegedly designed by this security agency, led at the time by Yuri Andropov.  
 Answer: **KGB** (accept **Komitet Gosudarstvennoy Bezopasnosti**)  
 [10] The KGB was the security agency for this Cold War superpower.  
 Answer: **Soviet Union** (accept **Union of Soviet Socialist Republics**; accept **Sovietsky Soyuz**; accept **Soyuz Sovietskikh Sotsialisticheskikh Respublik** or **C.C.C.P.**; accept **Soviets**)  
 [10] Markov was a dissident from this Eastern European nation, led during much of the Cold War by Todor Zhivkov.  
 Answer: Republic of **Bulgaria**
16. This force, which is not a true bond, gives water a high boiling point. For 10 points each,  
 [10] Name this intermolecular force found between an atom of a specific element and another, highly electronegative atom.  
 Answer: **hydrogen** bond  
 [10] Hydrogen bonds in proteins form this structure, the folding of the protein in space.  
 Answer: **tertiary** structure  
 [10] London dispersion forces and permanent dipole forces combine to form this other electrostatic force named for a Dutch scientist.  
 Answer: **van der Waals** forces

17. Bayes' Theorem can be derived from the definition of this concept, which relates the probability of one event in terms of knowledge of another event's occurrence. For 10 points each,  
[10] Name this concept, often written as "the probability of A given B."  
Answer: **conditional** probability  
[10] The conditional probability of A given B will be equal to the simple probability of A if and only if A and B have this relationship, guaranteeing that knowledge of one event has no effect on the probability of the other event.  
Answer: (statistical) **independence** (accept word forms)  
[10] If two events are independent, the probability of their intersection is equal to their probabilities combined via this arithmetic operation, giving results like, for example, the probability of flipping "heads, then tails" being one-fourth.  
Answer: **multiplication** or **product** (accept word forms)
18. For 10 points each, answer the following about gambling in literature.  
[10] Samuel Langhorne Clemens used this pen name to write a story about Jim Smiley, a gambler who would even bet against the health of Parson Walker's wife, in "The Celebrated Jumping Frog of Calaveras County."  
Answer: Mark **Twain**  
[10] This author of *Main Street* and *Arrowsmith* wrote about the disillusioned George Babbitt, who seeks advice from failed outdoorsman and poker player Joe Paradise.  
Answer: Sinclair **Lewis**  
[10] George Hurstwood is undone by gambling debts and commits suicide after he and Charles Drouet have affairs with the title character of this Theodore Dreiser novel.  
Answer: **Sister Carrie**
19. Lakhdra Brahimi replaced Kofi Annan as UN peace envoy to this nation in August 2012. For 10 points each,  
[10] Name this war torn Middle Eastern nation, in which Alawite paramilitary forces and government troops have killed protesters in Hama, Homs, and Damascus.  
Answer: **Syria** (accept the **Syrian Arab Republic**)  
[10] This President of Syria has refused domestic and foreign calls to resign from power.  
Answer: Bashar **al-Assad**  
[10] This political party has controlled the Syrian government since a 1963 revolution.  
Answer: (Arab Socialist) **Ba'ath** Party
20. This man's assistant Roy Cohn was on the prosecution team for the Rosenberg Trials. For 10 points each,  
[10] Name this Senator from Wisconsin whose name has become synonymous with blind accusations.  
Answer: Joseph **McCarthy**  
[10] McCarthy became famous after accusing members of the federal government of following this political ideology.  
Answer: **Communism**  
[10] Another example of McCarthyism in the 1950's was the trial and conviction of this US government official. Former Communist Whittaker Chambers was a notable witness in this man's trial.  
Answer: Alger **Hiss**