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### Tossups

**1. After one general in this battle complained that the weather was wetting his men's gunpowder, his commander told him to "use the bayonet." The losing commander in this battle was unpopular due to his inability to speak English, and James Grant refused to grant him his request for reinforcements. Victory in this battle was due in part to a butcher and weaver spy who had fought with James Wolfe; that spy was (\*) John Honeyman. John Haslet almost drowned on the way to this battle, but was quickly rescued, and General John Sullivan arrived at this battle with troops that had been previously led by Charles Lee. Despite popular belief, it is unlikely that the losing side of this battle was actually drunk due to Christmas celebrations. For 10 points, name this battle in which George Washington crossed the Delaware to defeat Hessian forces in New Jersey.**

ANSWER: Battle of Trenton

**2. Petermann argued that this quantity can reduce podocyte proliferation. Saint Venant's principle allows the simplification of distributions of this value, while its Biot version is energy conjugate to the right stretch tensor. Cauchy postulated that this vector is not influenced by the curvature of internal surfaces, and his namesake tensor describes this value. The "true" version of this quantity is measured during "necking," and (\*) yield point is the value of this quantity when a material begins to plastically deform. Stiffness is measured as this quantity times cross-sectional area over displacement, while Young's modulus is measured as this quantity over strain. For ten points, name this non-pressure quantity defined as the internal forces that particles exert on one another and often expressed as force over area.**

ANSWER: stress

**3. John McLaughlin has recommended that diagnoses for this disorder be delayed until a child is three years of age, in order to rule out conditions like Fragile X syndrome. It was first extensively studied by William John Little. Botulinum toxins are sometimes injected into (\*) spastic or dystonic muscles to treat this condition, and this disorder may be caused by infections like toxoplasmosis or rubella during pregnancy. Its athetoid, or dyskinetic, form is characterized by both hypertonia and hypotonia, and may involve chorea, or small, random, repetitive uncontrolled movements, while its most common spastic form can damage GABA receptors in the spine. For ten points, name this set of permanent movement disorders that first manifests in childhood and can result in poor muscle control.**

ANSWER: cerebral palsy [accept Little disease until "Little"]

**4. A 2014 experiment revealed that magnetizing this substance using a yttrium iron garnet did not affect its electronic properties. Van der Waals forces in this material obey an inverse cubic law. Evidence that this substance demonstrates the Berry's phase of massless Dirac fermions was provided by Philip Kim and Yuanbo Zhang in their investigation of the (\*) quantum Hall effect, which is anomalous in this material. Andre Geim and Kostya Novoselov received the Nobel Prize for their work with this material, in which they transferred it onto silicon dioxide wafers in a process called micromechanical cleavage or the Scotch tape technique. For ten points, name this extremely strong allotrope of carbon in the form of a two-dimensional hexagonal lattice, the basic structural element of fullerenes and graphite.**

ANSWER: graphene

**5. This state provides the location for a novel about a telephone switchboard operator going through an existential crisis and Lenore's escape from a nursing home managed by David Bloemker. That work is David Foster Wallace's first novel, *The Broom of the System*. The college attended by Marcus Messner in *Indignation* is located in this state, and this state is also the setting of a work in which Windpeter (\*) Winters drives his wagon into a train in a frenzy of mad delight. Windpeter's son, Hal Winters, later decides to marry a girl he impregnated despite the advice of Ray Pearson, and in another story set in this state, Adolph Meyers is wrongly accused of pedophilia due to fidgety fingers. For 10 points, name this state which is the setting of "The Untold Lie" and "Hands," short stories by Sherwood Anderson about the residents of Winesburg.**

ANSWER: Ohio

**6. This man wants to tell the woman he loves "with what a sudden mastery" she kindled him, "heap of ashes that he is," into fire." A woman tells her grandchildren that this man whispered "a life you love" before kissing her face; this man later holds a seamstress's hand while comforting her by telling her to keep looking at him. This man is described as a (\*) "jackal" because jackals help lions with the kill but lions get all the glory. This man quotes John 11:25 to himself in Paris, telling himself that "whoever lives and believes in me shall never die." This character undermines the**

evidence of Roger Barsad by pointing out his physical resemblance to the son of the Marquis St. Evremonde. For 10 points, name this man who loves Lucie Manette and who gives his life to save Charles Darnay at the end of *A Tale of Two Cities*.  
ANSWER: Sydney Carton [either name acceptable]

**7. One character in this work dreams of sitting in an auditorium with no seats and watching an actor pretend to die while shouting “My keys!” Later, a barman is berated for serving salmon that is only “second-grade fresh” and told that Newton’s binomial theorem predicts his death from liver cancer. One woman in this novel meets a poisoner wearing a green scarf and a wooden boot; she smashes Latunsky’s windows after rubbing herself with (\*) magic cream. Stepa Likhodeyev inexplicably arrives at Yalta in this work, in which Berlioz slips on sunflower oil and falls under a tram, bringing chaos to MASSOLIT. In this novel, Azazello, Koroviev, and the giant cat Behemoth host a chaotic magic show. One title character of this book writes a narrative about Pontius Pilate, and the other flies naked to Apartment 50 to host Woland’s ball. For 10 points, name this Mikhail Bulgakov novel about Satan’s visit to Moscow.**

ANSWER: *The Master and Margarita*

**8. After this character dies, a man thinks that he will write a book about the “Pacification of the Primitive Tribes of” the Delta in which the book is set. This character is upset that one of his family members has her hair braided instead of cooking dinner, so he beats her. This character’s father preferred playing the flute to working, which is why he despises his father’s laziness. A visit to the (\*) Oracle of the Hills and Caves leads this character to kill a son from a neighboring village. In his youth, this character gained fame for defeating Amalinze the Cat at wrestling. This character feels guilty about the murder of Ikemefuna, and he is exiled from Umuofia when his gun explodes accidentally and kills Ezeudu’s son at a funeral. For 10 points, name this Igbo man and father of Ezinma who commits suicide at the end of *Things Fall Apart*.**

ANSWER: Okonkwo

**9. This work disdains “frogs in life’s swamp” who fall in love with a princess but give up after realizing that “the rich brewer’s widow” is more attainable. It questions why every young girl does not compare herself to the Virgin Mary, and claims that Mary has no need of admiration because she transcended heroism through suffering. This work ends by mentioning a student who claimed you cannot pass even once through the same (\*) river, and pities Heraclitus for having a such a disciple; this work also discusses Agamemnon’s sacrifice of his daughter Iphigenia, and was probably inspired by the end of its author’s relationship with Regine Olsen. Abraham is described as a “Knight of Faith” for his willingness to sacrifice Isaac in, for ten points, what work by Soren Kierkegaard which asks “is there a teleological suspension of the ethical?”**

ANSWER: *Fear and Trembling* [or *Frygt og Baeven*]

**10. In one work, this poet lamented her old age and wrote that “Somebody muffed it? Somebody wanted to joke”. This author of “A Sunset of the City” wrote about a girl whose parents, Maxie and Andrew, have “clogged and soft and sloppy eyes”. That girl later sticks her tongue out at a relative’s funeral and resolves “do not be afraid of no”. This author wrote a mock-epic for the same character which begins “think of sweet and chocolate” and describes her experience with an imagined lover who leaves and returns to her. This woman wrote about a couple who live in a room full of “tobacco clothes, vases, and fringes” who are (\*) “Mostly Good” and for whom “dinner is a casual affair”. This woman’s most famous poem talks of “seven at the Golden Shovel” who “sing sin”, “thin gin”, and “die soon”. For 10 points, name this poet of *Annie Allen*, “The Bean Eaters”, and “We Real Cool”.**

ANSWER: Gwendolyn Brooks

**11. Between the Qin and Han dynasties, one member of this clan was the King of Yin for less than a year until beaten by Liu Bang’s army. Another member of this clan staged a *coup d’etat* in the Incident at Gaoping Tombs, and had earlier proclaimed “A dead Zhuge deceives a living Zhongda!” after being tricked at the Wuzhang Plains during the Northern Expeditions. Another member of this clan was (\*) castrated and jailed for defending a failed general’s attack on the Xiongnu in the Li Ling Affair. That member of this clan wrote a work in the format of tables, treatises, and biographies. Holders of this two-character surname deposed Wei and founded the Jin Dynasty, though many members later changed their name after they were removed from power. For 10 points, name this Chinese clan including the Han authors of *Records of the Grand Historian*, Tan and his son Qian.**

ANSWER: Sima clan

**12. This artist supposedly lived in over hundred houses, since he would never clean them, instead moving to a new home until after it became too dirty. At the conclusion of one of the books, this artist predicts that when he lives to the age of 140, every stroke he paints will actually come to life. This artist legendarily painted red maple leaves on a canvas by dipping a chicken in paint and chasing it across his canvas. In one of his paintings, a peasant assembles a**

**large (\*) barrel** while working in the title province. In another of his works, titled *Fine Wind, Clear Morning*, the title landform is shown with red hues. This artist, who specialized in a genre of woodblock painting whose name means “pictures of the floating world,” showed a large rogue wave in *The Great Wave off Kanagawa*. For 10 points, name this *ukiyo-e* artist who created “Thirty-Six Views of Mount Fuji.”

ANSWER: Katsushika Hokusai

**13. The 192IgG-saporin complex is used to study the diverse functions of this molecule in the BFCS. Alpha-7 is a pentameric receptor of this molecule that is antagonized by bupropion and ketamine. *L. mactans* releases a toxin that causes a massive release of this molecule at peripheral nervous system synapses. Physostigmine is a compound that crosses the blood-brain barrier to prevent inactivation of this compound. The two types of receptors for this molecule are (\*) nicotinic and muscarinic. Antibodies interfere with transmission of this molecule in an autoimmune disorder, myasthenia gravis. The formation of this neurotransmitter is catalyzed by ChAT. For 10 points, name this first discovered neurotransmitter that functions in neuromuscular junctions.**

ANSWER: acetylcholine [or ACh]

**14. Monica Luciana found that subjects perform better on assessments of this phenomenon after being given a D2 receptor agonist. In studying this phenomenon, K. Anders Ericsson encountered one test subject who “cheated” using his depth of knowledge of racing times. R.V. Kail found in 2007 that performance on tasks related to this system at a young age predicts reasoning ability later in life. Deficits in this system have been correlated with(\*) ADHD-like tendencies. This observation led Baddeley and Hitch to propose a model of this system in which a “central executive” directs attention between a “visuo-spatial sketchpad” and a phonological loop. Miller suggested a “magical number seven” to describe capacity in this structure. For 10 points, name this system of briefly retaining and modifying information.**

ANSWER: working memory [Accept short-term memory; prompt on “Memory”]

**15. This man left to Newport, Rhode Island after he had become exhausted from tuberculosis during an attempt to pass each individual part of a failed omnibus bill. That bill included a harsher fugitive slave law and the abolition of the slave trade in the District of Columbia. This man became president of the American Colonization Society in 1816. This man supported a bill providing for federal funding of a (\*) road built in his home state over Andrew Jackson’s interpretation of the commerce clause. This man was speaker of the house during the runoff election that saw William H. Crawford place behind John Quincy Adams and Andrew Jackson. This man was appointed to be Secretary of State after swinging his support to Adams in a corrupt bargain. For ten points, name this Whig lawmaker from Kentucky known as the “great compromiser.”**

ANSWER: Henry Clay

## Bonuses

1. Volcanic landslides, underwater explosions, and meteor strikes are known to cause these. For 10 points each:

[10] Name these maritime phenomena involving large sea waves.

ANSWER: tsunamis

[10] The waves of a tsunami are measured in height from crest to this lowest point it sinks to.

ANSWER: trough

[10] Applied to tsunamis, the wave velocity equation shows this relationship between amplitude and speed, explaining why shallow waves at deep sea become tall waves at shore.

ANSWER: inverse

2. A study by Jonathan Arnold describes the “Invincible Mustache” of this ruler. For ten points each:

[10] Name this Ostrogoth king who overthrew Odoacer to rule Italy from Ravenna after the fall of the Roman Empire.

ANSWER: Theodoric the Great

[10] This daughter of Theodoric succeeded him. According to Procopius’ *Secret History*, the Byzantine empress Theodora had her murdered in her bath.

ANSWER: Amalasuntha

[10] Theodoric grew up as a hostage in this city, whose namesake emperor decreed the Edict of Milan and made this city the capital of the late Roman Empire. It is now called Istanbul.

ANSWER: Constantinople

3. This work describes its setting as the “gem of the Northern world” and “an empress nearly crowned.” For ten points each:

[10] Name this work, which extensively praises St. Petersburg before relating a statue's pursuit of Yevgeny through the streets.

ANSWER: "The **Bronze Horseman**"

[10] In "The Bronze Horseman," Yevgeny is driven insane by the death of this woman in the St. Petersburg flood. She is described as "his dream - or was it but a vision?"

ANSWER: **Parasha**

[10] "The Bronze Horseman" was written by this Russian poet of *Eugene Onegin* and *The Queen of Spades*.

ANSWER: Alexander Sergeyevich **Pushkin**

4. Despite his common origins, this man wanted the US to have a monarchist executive. For 10 points each:

[10] Name this first Secretary of the Treasury and author of the *Report on Manufactures*, who was killed in a duel with Vice President Aaron Burr.

ANSWER: Alexander **Hamilton**

[10] This father-in-law of Hamilton was accused by Horatio Gates of dereliction of duty. He later served as a senator from New York in the United States Congress, and was defeated in 1791 by Aaron Burr.

ANSWER: Philip **Schuyler**

[10] After accused of improper speculation, Hamilton told James Monroe about his affair with this woman to explain his questionable expenses. He later published a 95-page pamphlet admitting to and apologizing for the affair.

ANSWER: Maria **Reynolds**

5. The narrator of this novel is reminded of the Buddha by his "internal no." For ten points each:

[10] Name this novel, in which the narrator travels with the title character to Madame Hortense's hotel and goes to work in a lignite mine before the death of his friend Stavridakis.

ANSWER: **Zorba the Greek**

[10] Zorba the Greek was written by this author, who wrote the screenplay to *The Last Temptation of Christ*.

ANSWER: Nikos **Kazantzakis**

[10] In Kazantzakis' "modern sequel" to this work, the main character meets Don Quixote and Jesus before being killed by an iceberg. In this work, probably slightly more well known than its adaptation, the main character is attacked by Polyphemus and seduced by Circe as he tries to get home from the Trojan War.

ANSWER: the **Odyssey**

6. The title character of this work skipped school because he was told the rabbi's wife was pregnant. For ten points each:

[10] Name this short story, in which the prostitute Elka marries the title character and tells him her child is his, just four months premature. The devil comes to the title character and tells him to pee in bread.

ANSWER: "**Gimpel the Fool**"

[10] *Gimpel the Fool* was written by this Yiddish author who won the 1978 Nobel Prize in Literature.

ANSWER: Isaac Bashevis **Singer**

[10] Singer wrote about this type of person "of Lublin." Thomas Mann wrote about Mario and this type of person, while Maugham wrote about Aleister Crowley in a novel titled after this profession.

ANSWER: **magician**

7. One character in this play is tied up in a hammock after he tries to commit suicide by "swimming to China."

For ten points each:

[10] Name this play, in which the disgraced priest T. Lawrence Shannon brings a tour group to Maxine Faulk's hotel in Mexico.

ANSWER: **Night of the Iguana**

[10] *Night of the Iguana* was written by this playwright of *The Glass Menagerie* and *Cat on a Hot Tin Roof*.

ANSWER: Tennessee **Williams**

[10] *Night of the Iguana* ends with Hannah Jelkes asking God this four-word question, because "it's so quiet here." After she asks it, her grandfather Nonno has a stroke and dies.

ANSWER: **"can't we stop now?"**

8. A signet ring in this work is lost when the title character dips her hand into the water; it is then eaten by a fish.

For ten points each:

[10] Name this Kalidasa play in which Dushyanta is cursed by the sage Durvasa into forgetting the title character.

ANSWER: *The* **Recognition of Shakuntala**

[10] Kalidasa also wrote *Vikramorvasiyam*, a play in which Pururvava falls in love with this Apsara woman. She writes a love letter on a birch leaf and is banished from heaven until her lover sees their child.

ANSWER: Urvashi

[10] *The Recognition of Shakuntala* and *Vikramorvasiyam* were based on this Indian epic written by Vyasa. In the *Bhagavad Gita* section of this work, Krishna calls Arjuna to action.

ANSWER: Mahabharata

9. This organelle is known as the “powerhouse of the cell.” For 10 points each:

[10] Name this organelle in which cellular respiration occurs in eukaryotes. Like chloroplasts, it has its own set of DNA.

ANSWER: mitochondria [or mitochondrion]

[10] The presence of mitochondrial DNA provided for this theory created by Lynn Margulis. It hypothesizes that mitochondria and chloroplasts once used to be independent prokaryotic organisms.

ANSWER: endosymbiotic theory [or sybiogenesis]

[10] This neuropathy is linked to mutations in mitochondrial DNA. It has an unusually high incidence rate in Finland, and results in the degeneration of retinal ganglion cells and their axons.

ANSWER: Leber’s Hereditary Optic Neuropathy [or Leber optic atrophy]

10. Songs in this opera include “All That Gold” and “From Far Away We Come.” For ten points each:

[10] The title child of this opera asks Balthazar, Kaspar, and Melchior about the gifts they are bringing.

ANSWER: Amahl and the Night Visitors

[10] *Amahl and the Night Visitors* was written by this composer of *The Old Man and the Thief*, a radio opera, as well as *The Consul*.

ANSWER: Gian Carlo Menotti

[10] Menotti was adamant that the role of Amahl be played by a child, rather than by this kind of performer who commonly plays the roles of boys and young men in opera.

ANSWER: woman [do NOT accept “castrato”, prompt on “soprano” or “mezzo-soprano”, prompt on “adult”]

11. Name some non-Western instruments. For ten points each:

[10] This pear-shaped stringed Middle Eastern instrument is similar to the lute. It was allegedly invented by Lamech in the Bible.

ANSWER: Oud

[10] This hourglass-shaped West African drum was created by the Yoruba and often used by griots, who could communicate detailed messages with it.

ANSWER: Talking drum

[10] This Indian stringed instrument has around 6 played strings and 13 sympathetic strings. It was made popular in the West by the Beatles in Norwegian Wood.

ANSWER: Sitar