The Brief Wondrous Tournament of WAO - *Málà Yousufzai, served extra spicy*
Editors: Will Alston, Joey Goldman, James Lasker, Jason Cheng, Naveed Chowdhury, and Jonathan Luck, with writing assistance from Athena Kern and Shan Kothari.

Packet by Virginia and Northwestern

TOSSUPS

1. **An artist who adopted the style of this movement painted** *The Deceitfulness of Riches***, which was the centrepiece of an exhibition of her works called** *Such Stuff as Dreams are made of!* **An earlier woman in this movement died toothless in Graylingwell Asylum. Another woman who worked in the style of this movement experimented with automatic writing after marrying William De Morgan. In addition to Eleanor Fortescue Brickdale, another woman in this movement was shown in a painting whose name means (*)** "The Kissed Mouth." Another woman in this movement demanded 50 pounds for medical expenses after being made to pose in a cold bath for a painting in which she is drowning in a white dress holding a bouquet. Men in this movement painted models such as Fanny Cornforth and Elizabeth Siddal. For 10 points each, name this movement that included Dante Gabriel Rossetti and John Everett Millais.
ANSWER: **Pre-Raphaelite** Brotherhood or **PRB** <Edited>

2. **A poem by an author with this last name posits that the "Person from Porlock" was the grandson of a warlock. A novel by an author with this surname consists of two sections that are printed in random order, so that readers might begin reading about Francesco's portrait of St. Vincent Ferrer or with the story of George. Two girls who meet at a tap-dancing class in a novel by an author with this last name are caught on tape grinding in a manner inspired by the pop-star Aimee at a birthday party. The author of (*)** *How to Be Both* shares their last name with the author of a poem about a "poor chap" who "always loved larking" but "now he's dead." *Swing Time* is the most recent novel by an author with this last name who also wrote a novel about the friendship of Archie Jones and Samad Iqbal called *White Teeth*. For 10 points, give the surname shared by authors Ali, Stevie and Zadie.
ANSWER: **Smith**

3. **It's not folding, but the chaperones calreticulin and calnexin regulate this process. This process is the catalytic activity of the** *C. difficile* **toxin B protein. The order in which this process occurs is often shown by tree diagrams containing colored squares, circles, and triangles. Enzymes that catalyze this process are classified as Leloir or non-Leloir depending on if they use nucleosides as a substrate. This process occurs in combinatorial fashion for the VSG proteins in** *Trypanosoma brucei***. A translocation beginning a form of this process is enabled by phosphoethanolamine-linked GPI anchor. Dolichol phosphate serves as a template for another type of this process which occurs at (*)** asparagine residues. This modification occurs extensively to lectins and mucins and is done in either the endoplasmic reticulum or Golgi. For 10 points, name this post-translational modification that comes in O-linked and N-linked forms, which entails adding a sugar to a protein.
ANSWER: **glycosylation** [or formation of a **glycan**; or adding **sugar**s or obvious equivalents before it is read; accept more specific answers like **mannosylation** or **fucosylation**]

4. **A tax revolt in this non-Caribbean region resulted in the destruction of Fort San Domingo. The colonial government of this region took heavy retaliation against the Seediq people after a massacre at an elementary school in the Musha Incident. Frederick Coyett was forced to leave this place after he failed to defend the trading post of Fort Zeelandia. Ming loyalist forces established the Kingdom of Tungning in this place, where numerous shrines venerate the naval warlord (*)** Koxinga [koh-SHEEN-guh]. Most early Chinese immigrants to this place were Hakka rice farmers, who helped repulse a French invasion of it in the Tonkin War. Both the Liaodong Peninsula and this territory were transferred to the Empire of Japan via the Treaty of Shimonoseki. For 10 points, name this island which currently comprises most of the territory administered by the Republic of China.
ANSWER: **Taiwan** [or **Formosa**] <Edited>

5. **One woman in this novella owns a silver locket which seems "to speak of its own accord," saying, "if your mother could see you now, her heart would break." One boy in this novella gets the nickname "Goat" by headbutting his way through doors that his mother has locked. This novella's action opens with a flatboatman boasting of eating a whole cow at once, followed up "with a live sheep if it's Sunday." In this novella, (*)** Salome constantly insists that her husband acquire more land and clashes with her stepdaughter due to her stepdaughter's beauty. Mike Fink gets into a bragging contest with Jamie Lockhart, who elopes with Rosamund in this novella set on the Natchez Trace. For 10 points, name this first work of Eudora Welty, a novella adaptation of a Brothers Grimm fairy tale.
ANSWER: The *__Robber Bridegroom__*

6. **In a key step of the Auwers synthesis, this species is first added, then eliminated, to ring-expand the coumarone to a flavonol. A 2.8% aqueous solution of this molecule oxidizes aldose sugars but not ketose sugars. In a named reaction, after an amide is deprotonated, it attacks this species, then rearranges to an isocyanate, which is finally hydrolyzed to an amine with one fewer carbon. This molecule's mass spectrum is an almost perfect (*)** 1:2:1 triplet centered at m/z 160, plus or minus two. This species is the electrophile in the Hunsdiecker reaction and the Hofmann rearrangement. As this element adds to an alkene, its brown color fades, the basis of a namesake test for unsaturation. NBS is usually added *instead* of this radical precursor to get allylic substitution of alkenes. For 10 points, name this diatomic halogen, an element that is liquid at room temperature.
ANSWER: molecular **bromine** [or **Br$_2$**; or liquid **bromine**]

7. **When a character who searches for a copy of this book discovers that it's on sale at his son's bookshop in Paris, he is outbid by the reclusive Signor Polizzi. In an anecdote borrowed by Higden, this book describes how an enchanter named Mahomet was devoured by swine after falling into a puddle while drunk. The title philologist travels to Sicily to obtain a copy of this book in Anatole France's *The Crime of Sylvestre Bonnard*. This book's entries are prefaced by fanciful etymologies, such as claiming that *Sol* is the root of the name (*)** Sylvester. Stories from this book provided the inspiration for Piero della Francesca's series *The Legend of the True Cross*. Its hagiographies include a description of how an eruption of Mount Etna was stopped by St. Agatha. For 10 points, name this medieval bestseller, a collection of stories about saints by Jacobus de Voraigne.
ANSWER: The *__Golden Legend__* [or *__Legenda aurea__*; or *__Legenda sanctorum__*]

8. **Because Mahayana Buddhists believe that the Buddha observed this practice, they disagree with Theravada Buddhists about what the blacksmith Cunda offered to the Buddha. Similarly, while Mahayana monks observe this practice, Theravada monks do not because they accept all alms. The Dalai Lama encourages this practice and follows it while in Dharamsala, but does not do so elsewhere. Although Sikhs do not generally observe this practice, all (*)** *langar*s are designed to be accessible to people who follow it. The *Ital* followed by Rastafarians generally involves strict adherence to this practice. Although it is less common among lower castes, this practice is normative among Brahmins. In accordance with *ahimsa*, observant Jains practice a strict form of this that also prohibits root vegetables like potatoes and onions. For 10 points, name this dietary practice of complete abstention from consuming meat.
ANSWER: **vegetarian**ism [accept descriptive answers related to **not eating meat** until the end of the tossup; accept stricter forms like **vegan**ism; prompt on diet or related answers] <Edited>

9. **The weighted slab and leaky box formalisms describe the propagation of these phenomena. After saturation due to sky background, these phenomena set an upper limit on telescope exposure time. Diffuse acceleration in nonrelativistic shocks results in a power-law energy distribution for these phenomena with index -2. Charge times magnetic field times size of accelerator gives the Hillas criterion for whether a region could have accelerated these phenomena, suggesting (*)** supernova remnants as a probable source. Surface detectors and fluorescence detectors comprise the Pierre Auger observatory which observes these phenomena. These particles form pions after scattering off CMB photons when they surpass '5 times 10 to the 19th' GeV, the GZK cutoff. For 10 points, name these high energy particles which mostly originate outside the solar system.
ANSWER: **cosmic rays** [or **cosmic radiation**]

10. **It's not a specific event, but the success of an uprising traditionally named for this period of time enabled a new government to issue the Decree on Land, which nationalized all private bank accounts. An individual day within this period of time names a monarchist party that opposed the Constitutional Democrats. After a body created by a document named for this time period was dissolved, the Vyborg Appeal was issued by disgruntled members of the Trudovik faction. During an uprising named for this period of time and chronicled by (*)** Thomas Reed, a shot from the *Aurora* cruiser signalled a palace assault. Sergei Witte authored a document named for this period of this period of time which guaranteed individual freedoms and created the first Duma; that document is known as its namesake "Manifesto." For 10 points, name this month during which the 1917 Russian Revolution took place.
ANSWER: **October** [accept *October Manifesto* or **October** Revolution or **October** 17 Unionists; accept Red **October**] <Edited>

11. *Genre and composer required.* **In the first movement of one of these pieces, the second theme is introduced by orchestra in E-flat, then winds in F minor, then in G minor before being presented in the correct key of G major. The E-minor middle movement of the fourth of these pieces is followed without pause by a *Rondo* finale that is only four minutes long, and consists of a dialogue between a soft soloist and loud octaves played by the strings; that piece opens with simple soft chord entrance in the tonic (*)** G major before the orchestra enters with a theme in B major. The last of these pieces opens with three loud chords, separated by long flurries by the soloist, was given its premiere by its composer's student Carl Czerny, and is in the "heroic" key of E-flat major. For 10 points, identify these pieces, including the "Emperor" one, for keyed soloist and orchestra by the composer of the *Eroica* symphony.
ANSWER: **piano concerto**s by Ludwig van **Beethoven**

12. **In this country, the Sports Party's victory of a seat in the upper house of the national legislature was overturned upon review; that result led to the abolition of this country's group voting ticket system as part of a reform of above-the-line voting for the Senate. Unusually, this country holds national elections every three years. Instant runoff voting was introduced in this country to avoid competition between the Country and (*)** Liberal parties. This is the largest English-speaking country where voting is mandatory. This country's Labor Party, whose name uses American spelling, is currently led by opposition leader Bill Shorten. Shorten narrowly lost this country's 2016 election to the ruling right-wing Coalition, which recently jettisoned former leader Tony Abbott. For 10 points, name this country that is currently led by prime minister Malcolm Turnbull.
ANSWER: Commonwealth of **Australia** <Edited>

13. **The null intensity and Kent-Lawson methods are used to compute this quantity. A ratio of two forms of this quantity is represented as a complex number with amplitude "tan psi" and phase "delta." One method to parametrize this quantity is a set of 4X4 matrices which generically has eight non-zero elements. In a formalism analogous to the Stern-Gerlach experiment, the spin kets are replaced by R and L basis vectors for this quantity. This quantity, which can be visualized on a**(*) Poincaré sphere, is transformed by the Mueller or Jones matrices, which decompose it into three directions by the Stokes parameters. Waveplates delay one component of this quantity in a process called retardance. It rotates due to an external magnetic field in the Faraday effect. For 10 points, name this quantity which can be circular or linear and represents the direction in which an electromagnetic wave oscillates.
ANSWER: light **polarization** [or linear **polarization**; or circular **polarization**; or elliptical **polarization**; or **Stokes parameter**s until it is read]

14. **In 2012, a book about IBM's involvement in this event was published by investigative journalist Edwin Black. A 2000 book that attacks an "industry" associated with this event brought the author into a dispute that ended in a 2007 denial of tenure at DePaul. Karl Schleunes was among the first to hold that this *specific* event preceded in a "functionalist" manner, unlike the "intentionalism" of earlier scholars. It's not a war or election, but dealing with the (*)** legacy of this event was the subject of the 1980s "historians' quarrel." Norman Finkelstein argues that this event has been improperly appropriated as a source of legitimacy. Police involved in implementing this event were argued to be simply following orders by Christopher Browning in *Ordinary Men*. A man who facilitated this event is analyzed as the "banality of evil" in a book by Hannah Arendt. For 10 points, name this devastating event whose denial is a crime in France and Germany.
ANSWER: the **Holocaust** [or the **Shoah**; prompt on World War II] <Edited>

15. **This theorist names one of the six classifications of democracy outlined by Amy Gutman, who defines that classification as a "procedural minimalist" approach. In the chapter "Another Theory of Democracy," this thinker argued classical models of democracy as public will were incorrect, proposing that democracy instead is rule by individuals who acquire the power through competition for votes. This theorist borrowed from Marx, whom he assigned roles of "prophet, sociologist, economist, and teacher" to describe a process by which "laborism" and self-interest result in the collapse of support for a (*)** free market system. This theorist's view of business cycles, which incorporates Kondratiev waves, centers on a disruptive mechanism analogized to a "gale" in which entrepreneurs disrupt old market players through innovation, termed "creative destruction." For 10 points, name this Austrian-born American author of *Capitalism, Socialism, and Democracy*.
ANSWER: Joseph Alois **Schumpeter** <Edited>

16. **Genevieve Lloyd's book about the _"Male" and "Female" in Western Philosophy_ traces the devaluation of one form of this concept. A neglected note by P. F. Ramsey was built up via the idea of a "lawlike connection" into the "thermometer model" of this concept by D. M. Armstrong. The so-called "AAA" evaluation of this concept is presented in the form of analogy with an archer by Ernest Sosa. An externalist approach to this concept based on process was developed from a causal theory of this concept into a reliabilist one by Alvin Goldman. An essay on this concept describes (*)** two men with ten coins in their pocket applying for the same job. Nozick's definition of this concept employed the notion of truth-tracking. A definition of this concept derived from Plato's _Theaetetus_ is challenged in the Gettier cases. For 10 points, name this concept sometimes defined as "justified true belief."
ANSWER: __knowledge__ [do not prompt or accept "belief"; prompt on __justified true belief__]

17. **A Sander Gilman article titled for two different types of these things examines Sara Baartman as an example of the iconography of female sexuality. These things title a book that uses readings of _Paris is Burning_ and Cather short stories to argue that gender theory must be rooted in the material. An analogy involving these things is illustrated using the example of an egg from Dogon myth in the book _A Thousand Plateaus_. These things title a book that uses Derrida's deconstruction to examine the "discursive limits of sex" - that book by (*)** Judith Butler is about ones "that matter." Deleuze and Guattari employed an analogy of one of these things missing some components to describe a greater reality beyond the appearance of its parts. According to one thinker, these physical things are controlled by the non-physical through the pineal gland. Antoine Artaud described one "without organs." For 10 points, dualism contrasts the mind with what concept?
ANSWER: the __body__ [or __bodies__; accept "__Black Bodies, White Bodies__" or _Bodies that __Matter___ or __body without organs__; anti-prompt on brains] <Edited>

18. **In a film by this director, a police officer hallucinates two iguanas while on a sting operation. In another work by this filmmaker, the title immigrant rides a ski-lift with a frozen turkey, and ends with the images of a chicken playing a piano and a rabbit riding in a fire truck. Les Blank directed a film in which this man eats his shoe after losing a bet about the completion of (*)** _Gates of Heaven_. In addition to a film in which Nicolas Cage plays a painkiller addicted cop, this man directed _Stroszek_, which starred Bruno S. In another film by this man, a rubber baron obsessed with getting a ship over a hill in Peru with dreams of building an opera house and is played by Klaus Kinski. For 10 points, name this German director of _Fitzcarraldo_ and _Aguirre, the Wrath of God_.
ANSWER: Werner __Herzog__ <Edited>

19. **In the final chapter of this novel, its author vows to translated it into "the few languages that I know, and the many languages I can still learn" if its message is not heard. A letter in this novel disparages the "halfness" of a character regarding the construction of a prison. A character in this novel is saved when his father's buffalo fights a tiger, but is later killed by bayonets when he rushes a group of soldiers in grief after finding his lover dead. This novel's protagonist clashes with his servant Mr. Verbrugge and is denounced when he attempts to file an official (*)** protest against the Adhipatti by Mr. Slimering. This novel, called "the book that killed colonialism" by Pramoedya Toer, is framed around a manuscript authored by Shawlman with an insert written by Drystubble, who assures the reader that the natives in this novel are being rightfully punished for being heathens. For 10 points, name this satire about the coffee farming on Dutch Java, written by Multatuli.
ANSWER: _Max Havelaar_

20. **Some of the best known photographs of C. S. Fly depict this man and some of his armed companions. Despite getting drugged with mescaline, this man survived a massacre of his followers at Casas Grandes. This man supposedly sold photographs and souvenirs of himself during a celebrity appearance at the 1904 World's Fair. Since this man's second and third wife were both killed by Mexican troops, he murdered any Mexicans he encountered; his common name originates from the name of a (*)** saint that Mexicans would pray to save them from him. For a time, a quarter of the US Army was attempting to capture this man, who escaped the San Carlos Reservation several times. The showing of a film about this man at Fort Benning originated the tradition of paratroopers shouting his name before they jump. For 10 points, name this man who surrendered for good at Skeleton Canyon in 1886, a leader of the Apache.
ANSWER: **Geronimo** [or **Goyaałé**] <Edited>

TIEBREAKER/EXTRA TOSSUPS

1.**The organization Biocurious funded a 2013 Kickstarter campaign to give this organism the ability to glow in the dark. This organism's ACD6 gene is a component of its immune response to infections by Pseudomonas syringae. The SDS mutant of this organism undergoes abnormal homolog synapsis, resulting in univalents. *R. radiobacter* was used to transfer the EFR gene in this organism to a similar organism in 2006. A gene in this organism encodes a specific (*)** flavin adenine oxidoreductase during carpel creation: the discovery of that gene in 2005 was the highest cited paper ever in F1000's history and resulted in the naming of its HOTHEAD gene. Coen and Meyerowitz discovered the ABC model of flower development through the study of this organism, which is frequently used due to its small size of only 135 mega base pairs. For 10 points, name this plant model organism, a small flowering weed.
ANSWER: **A**rabidopsis **thaliana**

2. **In a humorous adaptation of this play, a trickster is condemned as "a Torch of Darkness, and a Snuff of the Candle of the Socket" by a resident of Bridewell Prison named Quakero. A repentant character in an adaptation of this play declares, "embrace me, belly, like a bride" in a verse which repeats the line "a lost thing looks for a lost name." After an epigraph by Emily Bronte which addresses the "God of Visions," the Stage Manager mentions a conflict "between Shall-I and I-Will" in a preface "to the Critics" of a verse commentary on this play. Actors select (*)** masks at the beginning of a Francophone interpretation of this play, in which a slave demands to be addressed by the name X. Adaptations of this play include a postcolonial version set in Haiti by Aimé Césaire and a poetic adaptation by W. H. Auden titled *The Sea and the Mirror*. For 10 points, name this Shakespeare play about an island ruled by the exiled Duke of Milan, Prospero.
ANSWER: The **Tempest**

BONUSES

1. Bernoulli's principle holds only when the flow is either inviscid or has this property, since either situation causes the viscous forces in the Navier-Stokes equations to go to zero. For 10 points each:
[10] Name this property of a flow. In flows with this property, velocity can be written as the gradient of a scalar potential, since the curl of the gradient of any scalar potential always equals zero.
ANSWER: **irrotational** [or having **zero vorticity**]
[10] The viscous term in the Navier-Stokes equations can also be mostly neglected at high values of this dimensionless quantity, such as in a turbulent flow.
ANSWER: **Reynolds** number [or **Re**]
[10] Because flow in the boundary layer is rotational, Bernoulli's principle does not apply to D'Alembert's paradox. Instead, this hypothetical surface, which has infinite vorticity, forms around the solid body, encircling the wake downstream.
ANSWER: **vortex sheet** [or von Karman **vortex sheet**; accept **street** in place of **sheet** for either of the two previous answers]

2. Some casualties from event may have been caused by the filling of life preservers with iron bars to meet weight requirements. For 10 points each:
[10] Identify this 1904 event, the worst such disaster in New York City history, which killed more than 1,000 picnic-goers near the shore of North Brother Island.
ANSWER: PS *General Slocum* disaster/sinking/fire
[10] The *General Slocum* sank in the East River, which separates Queens and this other borough of New York from Manhattan. It names the first steel-wire bridge constructed in the world.
ANSWER: **Brooklyn** (Bridge)
[10] Most victims of the *General Slocum* disaster were immigrants of this ethnicity. Immigrants of this ethnicity to the US, who often settled in "Latin Settlements," include the designer of the Brooklyn Bridge.
ANSWER: **German**-Americans [or **Deutsche** volk] <Edited>

3. This poem begins with an epigraph from Browne's *Urn Burial* and discusses the "ulcerous crimes" of men like "Hawkins, Walter Raleigh, Drake." For 10 points each:
[10] Name this poem which also references the "ashen prose of Donne" and "what Kipling heard." It condemns "bitter faction" and the "leprosy of empire" and opens by describing "Stones only, this disjecta membra."
ANSWER: "**Ruins of a Great House**"
[10] "Ruins of a Great House" was written by this St. Lucian poet who also wrote "Sea Grapes" and the Homer-inspired epic *Omeros*.
ANSWER: Derek **Walcott**
[10] Walcott's essay collection *What the Twilight Says* includes an examination of this poet as an example of a member of a colonizing group who can nonetheless express a unique, indigenous culture. Collections by this poet include *The People's Otherworld* and *Subhuman Redneck Poems*.
ANSWER: Les **Murray**

4. In Roman times, this god was sometimes conflated with Aion, although his Roman counterpart was more often identified as the sky-god Caelus. For 10 points each:
[10] Name this Greek progenitor deity, the offspring and consort of Gaia. He fathered the Hundred-Handed Ones and the first generation of Titans.
ANSWER: **Ouranos** [or **Uranus**]
[10] Ouranos' son Iapetus isn't very well known by himself, but he did father this character. In one story, this character divides up an ox sacrifice by placing all the meat and fat in one pile, and using fat to dress up the bones in another pile, thus fooling Zeus.
ANSWER: **Prometheus**
[10] Most accounts give Iapetus as being married to Clymene or a Titaness with this name. Herodotus records that a large region was named after this character, and gives her as Prometheus' wife, rather than his mother.
ANSWER: **Asia** <Edited>

5. This project was announced in June 2016 in a *Science* paper by Jef Boeke. For 10 points each:
[10] Name this controversial research project which aims to completely synthesize three gigabases of a human genome, which was named in reference to the early 2000s project which originally sequenced the genome.
ANSWER: **Human Genome Project-Write** [or **HGP-Write**; prompt on HGP or Human Genome Project alone, though; do NOT accept or prompt on things like "HGP 2.0", this has a name]
[10] Government support for HGP-Write is still uncertain—largely because this current director of the NIH is a born-again Christian and is concerned about the ethics. This scientist took over the HGP from James Watson.
ANSWER: Francis **Collins**
[10] Collins wrote a memorable eulogy for this critic upon his 2011 death from esophageal cancer. Collins and this famed right-wing atheist and author of *God is Not Great* engaged in a heated debate over the existence of God.
ANSWER: Christopher **Hitchens**
<Edited>

6. A joking rendition of this specific song is played after Benny Powell's bridge in the preceding 32 bars, and its host work's finale sees the bandleader call for its final chorus to be played "one more once." For 10 points each:
[10] Name this song that was famously quoted in Thad Jones' solo for the Count Basie Orchestra in their recording of "April in Paris."
ANSWER: "**Pop Goes the Weasel**"
[10] Thad Jones played this instrument, which was also the main instrument of Kenny Dorham and Freddie Hubbard. The song "I Remember Clifford" was written after the death of a performer of this instrument, and has been covered by Arturo Sandoval on this instrument.
ANSWER: **trumpet**
[10] One of the best known jazz trumpeters is this player, who used a technique that involved puffing his cheeks out incredibly massively on songs like "Salt Peanuts."
ANSWER: Dizzy **Gillespie**

7. A wagon defense called a *tabor* was employed against this general's army at the Battle of Kalka River. For 10 points each:
[10] Name this Mongol general, who turned his siege engines into field artillery at the Battle of Mohi, using them to clear an improvised bridge of pesky Hungarian crossbowmen.
ANSWER: **Subutai**
[10] At this other battle, fought around the same time as the Battle of Mohi, Subutai's allies Baidar and Kadan routed a disorganized force of Polish and Moravian knights under the command of Henry the Pious.
ANSWER: Battle of **Legnica** [or Battle of **Liegnitz**]
[10] The third prong of the Mongol invasion of Europe was Guyuk's invasion of this mountainous Balkan region, the home of Vlad the Impaler. It may take its name from the Latin for "beyond the forest."
ANSWER: **Transylvania** <Edited>

8. The belief that this novel was plagiarized helped popularize a joke that its author would be moving into crime fiction with his next novel, titled *How I Won the Nobel Prize in Literature*. For 10 points each:
[10] Name this four-part epic Mikhail Sholokhov novel, which follows the lives of Cossacks who are drawn into World War I.
ANSWER: *And **Quiet** Flows the **Don*** [or ***Tikhiy Don***; accept any title with both underlined words or *The **Don Flows Home to the Sea***]
[10] *And Quiet Flows the Don* is a classic example of the "socialist" form of this literary tendency. Exemplified by Stendahl, it sought to avoid artistic constructs and portray the world as accurately as possible.
ANSWER: socialist/literary **realism**
[10] Socialist realism was satirized in Andrei Platonov's novel *The Foundation Pit*, which contains a blacksmith character named Misha who has this odd trait. This trait is also possessed by the performer "State o' Maine" in *The Hotel New Hampshire*.
ANSWER: being a **bear** [specific types of bear are acceptable; prompt on "strength," "size," "hirsuteness," or other adjectives that would near-universally apply to literal, actual bears]

9. An algorithm used in this technique is called "leapfrog" because it staggers the calculations of positions and velocities at different timepoints than the canonical Verlet algorithm. For 10 points each:
[10] Name this technique from computational chemistry, which maps the positions of individual atoms by selecting a molecular force field, calculating the potential, and then integrating Newton's equations over time on each atom.
ANSWER: **molecular dynamics** simulation [or **MD** simulation]
[10] Since full MD simulations are computationally taxing, these variants, which map groups of atoms together, are often used instead. They greatly widen the scope of systems that can be modelled but sacrifice resolution.
ANSWER: **coarse-grained** molecular dynamics simulation [or **coarse-grained** MD; prompt on **lattice** MD]
[10] For instance, a coarse-grained MD simulation might not track this element at all, unless it's bonded to nitrogen, oxygen, or fluorine, since it forms a namesake strong dipole-dipole interaction with those elements.
ANSWER: **hydrogen** [or **hydrogen** bonding]

10. This accident occurs because "nothing was well hung in our family," but its victim does not complain because "[t]housands suffer by choice what [he] did by accident." For 10 points each,
[10] Name this event, which happens to a five-year-old boy after the maid Susannah tells him there are no chamberpots available.
ANSWER: **Tristram** **Shandy** being **circumsized** accidentally by a falling window sash while urinating out of a window [either first or last name acceptable; must have character and injury, and prompt on either alone; accept any sort of injury to the penis or foreskin for "circumsized"]
[10] *Tristram Shandy* was written by this pioneering author of *A Sentimental Journey Through France and Italy*.
ANSWER: Laurence **Sterne**
[10] Tristram Shandy's accident and his father Walter Shandy's problems with *coitus interruptus* echo the Restoration-era trend of poetry describing this problem. This problem forms the crux of Aphra Behn's "The Disappointment", when "The Blood forsook the kinder place."
ANSWER: **premature ejaculation** [accept **impotence**; also accept any equivalent such as **coming too quickly**; prompt on "ejaculation" without an indication of improper timing]

11. This gallery was named after the original function of the building on New York's West 58th Street that houses it, and it was founded in 1953 by Christian Dior's aid, Eleanor Ward. For 10 points each:
[10] Name this New York City gallery, which frequently exhibited abstract expressionists such as Jackson Pollock and Willem de Kooning. It housed an annual show in homage to 1951's *9th Street Art Exhibit*.
ANSWER: the **Stable Gallery**
[10] This artist's "collaboration" with a fellow Stable Gallery exhibitee resulted in his *Erased de Kooning Drawing*. This man made use of found objects in order to produce works like *Monogram*.
ANSWER: Robert **Rauschenberg**
[10] The New York School muralist Knox Martin was also shown at the Stable Gallery. Martin painted a twelve-story mural of geometric figures on the south side of Manhattan's Bayside Correctional Facility on 19th Street. That mural was named for this woman, whose *Birth* is depicted in a Botticelli masterpiece.
ANSWER: **Venus** <Edited>

12. In 2006, a Geoffrey Cohen study on this subject found that fifteen minutes of self-affirmation reduced this problem among African-American middle schoolers by 40%. For 10 points each:
[10] Name this predicament, whose name was coined by Claude Steele and Joshua Aronson after a 1995 study in which students taking the GRE were told that the test was "diagnostic of intellectual ability."
ANSWER: **stereotype threat**
[10] In a 1999 study demonstrating "stereotype lift," Asian-American students performed better on a test on this subject after being reminded of stereotypes of skills at it. It's the last subject in the severely overhyped "STEM" grouping of subjects.
ANSWER: **math**ematics [or **maths**]
[10] A 2008 paper by Schmader, Johns, and Forbes proposes a stress-induced form of this phenomenon as a key cause of stereotype threat. This phenomenon is related to performance by the Yerkes-Dodson law.
ANSWER: **arousal** <Edited>

13. This protein was first extracted from the green algal genus *Chlamydomonas* and is sensitive to blue light at 470 nm. For 10 points each:
[10] Name this light-gated ion channel, which makes it the typical "on" switch for optogenetic experiments, in which its activity is *opposite* that of a protein that is activated by salt concentration.
ANSWER: **channelrhodopsin**-2 [or **ChR**2; other numbers are fine; prompt on rhodopsin]
[10] Channelrhodopsin's light-dependent mechanism depends on this chromophore, which is also found in normal human rhodopsins. This form of vitamin A undergoes a cis-trans isomerization when exposed to light.
ANSWER: **retinal**dehyde [do not accept or prompt on "retinol"]
[10] Rhodopsin is mostly present in these cells of the human retina responsible for night vision, which are somewhat more light sensitive than cone cells.
ANSWER: **rod** cells [or **rod**s]

14. Make Kai "Good Content" Smith proud and answer these questions about cannabis in ancient world history, for 10 points each.
[10] This civilization employed cannabis in suppository form to treat hemorrhoids. One is left to speculate whether its ruler Djoser got high when Imhotep, one of the world's first court physicians, was treating him.
ANSWER: Ancient **Egypt** [or **Kemet**]
[10] This Chinese writer's magnum opus, the *Records of the Grand Historian*, records how the legendary sovereign Shen Nong discovered how to use *dàmá*, or cannabis, as an herbal remedy.
ANSWER: **Sima** Qian [suh-mah chien]
[10] Cannabis seeds were important to the funerary rites of these people, which often involved burying their kings in golden suits of armor. They established a foothold in the Balkans during the reign of Ateas, but were displaced by Celts and remained north of the Balkans after Ateas died in battle with Philip of Macedon.
ANSWER: **Scythian**s [or **Ishkuzi**; or **Skythoi**; or **Skuda**] <Edited>

15. Answer the following about some of Hawthorne's *Twice-Told Tales*, for 10 points each:
[10] In this short story, a cloth face-covering allows Reverend Hooper to become better at his job, despite cutting him off from the rest of the community.
ANSWER: "The **Minister's Black Veil**"
[10] In another story from *Twice-Told Tales*, John Endicott punishes a group of merrymakers celebrating the marriage of Edgar and Edith by dancing around this title object.
ANSWER: a **maypole** [accept "The **May-Pole** of Merry Mount"]
[10] This author's review of *Twice-Told Tales* praises Hawthorne's "extraordinary genius" and declares the short story format best for "the exercise of the loftiest talent." In another essay, this author claims that the death of a beautiful woman is the most poetic topic.
ANSWER: Edgar Allan **Poe**

16. About ninety followers of Hugh O'Neill and Rory O'Donnell fled this region for Spain in what was called the "Flight of the Earls." For 10 points each:
[10] Name this northeastern region of Ireland, which was later heavily settled by Protestant Scots. Its traditional flag features a red hand.
ANSWER: **Ulster** [accept **Ulster** Scots]
[10] The Flight of Earls aimed to secure the support of this ruler, who unfortunately was unwilling to intervene after making peace with his British counterpart, James I, in 1604. His father sent the Spanish Armada to raid Britain.
ANSWER: **Philip III** of Spain [or **Felipe III**; or **Philip the Pious**; prompt on "Philip"]
[10] Imposition of English administration also prompted the two Desmond Rebellions led by this noble family in the 1570s. In Game of Thrones-like fashion, a member of this dynasty named "Silken Thomas" renounced allegiance to his cousin Henry VIII and besieged English castles, prompting Lord Offaly to call the Lords of the Pale to battle.
ANSWER: **FitzGerald** family/dynasty <Edited>

17. This surface can be represented by a square in which each of the arrows on the boundary are oriented clockwise, as contrasted with a Klein bottle. For 10 points each:
[10] Name this non-orientable topological manifold which consists of points that are finite and a line at infinity. It can be expressed as the topological space of all lines that pass through the origin in R^3.
ANSWER: **real projective plane** [prompt on partial answer]
[10] As a result, the real projective plane is an example of one of these spaces with subspace dimension 1. The kth dimension of these spaces are the set of all k-dimensional linear subspaces of a given finite-dimensional vector space.
ANSWER: **Grassmannian** spaces
[10] The real projective space is essentially equivalent to taking this other non-orientable 2D topological manifold and gluing the opposite ends together. You can make one out of a strip of paper by giving one end a half-twist and gluing the ends together.
ANSWER: **Mobius** strip [or **Mobius** band]

18. Myles F. Burnyeat's essay "Learning to Be Good" discusses this work, and Amelie Rorty compiled a set of lectures on this work in a collection that also includes works by J. L. Ackrill and Bernard Williams. For 10 points each:
[10] Name this classical text whose virtues include those of magnanimity and generosity. A similar piece to this work was titled called the "Eudemian" form.
ANSWER: *Nicomachean Ethics*
[10] The *Nicomachean* and *Eudemian Ethics* are works by this classical philosopher and founder of the Peripatetic school, who claimed that *eudaimonia* was the highest form of good.
ANSWER: **Aristotle**
[10] *Two answers required*. In the *Nicomachean Ethics*, Aristotle contrasts these two types of individuals who fall in between the virtuous and the vicious. One type is able to perform virtuous actions, regardless of his lack of true understanding, while the other truly claims to understand, but is unable to act. Give *both* Greek terms.
ANSWER: **akratic** and **enkratic**

19. Answer the following about classical music and modern China, for 10 points each.
[10] Chinese composer Tan Dun's *Paper Concerto for Paper Percussion and Orchestra* was premiered in 2003 by this U.S. orchestra, which was led at the time by Esa-Pekka Salonen and is now led by Gustavo Dudamel.
ANSWER: the **Los Angeles Philharmonic** [or the **L.A. Phil**harmonic]
[10] He Zhanhao's *Butterfly Lovers Violin Concerto* uses this kind of scale. Claude Debussy's pieces that make use of this kind of scale include *Voiles* and the China-evoking movement *Pagodes* from *Estampes*.
ANSWER: **pentatonic** scale
[10] This young, Chinese-born pianist has recorded a number of masterpieces by Russian composers for Deutsche Grammophon, though more recently she's made a number of performances of Messiaen's *Turangalila*. She's almost as well known for her sense of fashion as she is for her incredible playing skill.
ANSWER: **Yuja** Wang [prompt on **Wang**]

20. In 2017, the Torah portion read on this occasion will be Haazinu, from the Book of Deuteronomy, which unusually uses staggered columns to represent Moses' song upon his death. For 10 points each:
[10] *Name or describe* this Shabbat service, which is also unusual for having two Haftorah portions, which, appropriately, discuss repentance. In olden times, the only rabbinical sermons on Shabbat took place during this service and during Passover.
ANSWER: Shabbat **Shuvah** [or the Shabbat **between Rosh Hashanah and Yom Kippur**; or the Shabbat during the **High Holy Day**s; or the **first** Shabbat of the Jewish year]
[10] The only other portion of the Torah written in staggered columns is Miriam's Song of the Sea, which she sings to celebrate the Israelites' escape from this country with her brothers Aaron and Moses.
ANSWER: **Egypt** [or **Metzr**i; or **Kemet**]
[10] Among the Ketuvim, three books are written in parallel columns with a unique cantillation structure: Proverbs, Job, and this book. Traditionally, the authorship of much of this book is credited to David.
ANSWER: Book of **Psalms** [or **Tehillim**]

EXTRA BONUSES

1. The "asymmetric" form of this technique uses only one semi-permeable membrane and creates a cross-flow when the carrier liquid exits the bottom of the channel. For 10 points each:
[10] Give this separation technique. The general form of it applies a separation field perpendicular to the laminar flow of a fluid suspension or solution.
ANSWER: **field flow fractionation** [or **FFF**; prompt on partial]
[10] This discriminant in FFF can be estimated from a related quantity for the tracer and the flow velocity profile. In another technique, this quantity is calculated using the chart readout speed and can be standardized to its value for the mobile phase.
ANSWER: **retention time** [or t_r **[t-sub r]** prompt on partial answer]
[10] Another technique for separating out particles is this one, which is notoriously used for the preparation of uranium-235. Heterogenous mixtures are separated in this technique through high angular velocities.
ANSWER: **centrifugation** [or word-form equivalents]

2. An author of one of these publications discussed in his regular *Atlantic* column that these kinds of publications need to be "more than just escapism." For 10 points each:
[10] Name this kind of publication that Ta-Nehisi Coates began to write for in 2016, inspired by the work of Chris Claremont when he took over writing about the character T'Challa.
ANSWER: **comic books** [or **graphic novels**; or **comics**]
[10] DC Comics, along with Marvel Comics and many others, became subject to the Comics Code Authority after the publication of this Fredric Wertham book in which he alleged that Batman and Robin were homosexuals and that Superman represented fascism.
ANSWER: *__Seduction of the Innocent__*
[10] The stranglehold of the Comics Code Authority was gradually broken after Stan Lee was asked to write a *Spider-Man* series involving this subject matter by the Department of Health, Education, and Welfare. Soon after, DC Comics published a similar storyline about Green Arrow's sidekick, ironically named Speedy, became addicted to heroin.
ANSWER: **drugs** [accept **narcotics**]