FACTS
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PACKET 03
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TOSSUPS

1. **One poem by this man notes, "O dark dark dark. They all go into the dark". This man proclaimed "old men ought to be explorers" and that "the end is my beginning" in a poetry collection which opens, "Time present and time past." This author criticized Shakespeare in the essay** *Hamlet and His Problems* **and emphasized the importance of impersonal poetry in (*)** *Tradition and the Individual Talent*. In a more famous poem, he asks, "Do I dare to eat a peach?" before concluding that "I shall wear white flannel trousers, and walk upon the beach." Another of his works ends by repeating "shantih" and declares, "April is the cruelest month." For 10 points, name this British poet who wrote *The Wasteland* and *The Love Song of J. Alfred Prufrock*.
ANSWER: T. S. **Eliot** [or Thomas Stearns **Eliot**]

2. **Two circles are said to have this property if one remains fixed while performing a circle inversion with the other as the reference circle. One process for creating a set with this property involves repeatedly projecting an element onto a subspace, then subtracting the projection from the element to obtain another element in the subspace; that is the (*)** Gram-Schmidt process. A plane is completely defined by a point and a vector with this property with respect to the plane. Two vectors have this property if their dot product is zero, and two lines have this property if their slopes are negative reciprocals of each other. For 10 points, give this adjective that describes two lines intersecting at right angles.
ANSWER: **orthogonal** [accept **perpendicular** or **normal**; accept appropriate descriptions, such as **forming a right angle** before the end]

3. **The photographers Trager and Kuhn were famed for depicting members of this tribe. In the largest mass execution in US history, thirty-eight members of this tribe's Santee branch were hanged. The Drexel Mission Fight preceded an attack on members of this tribe, whose leaders included (*)** Red Cloud and Gall. This tribe forced the closing of the Bozeman Trail in one war that ended with the Treaty of Fort Laramie. Subsequent US encroachment on the Black Hills sparked another war with this tribe in which the 7th US Cavalry were defeated by Crazy Horse and Sitting Bull. For 10 points, name this tribe that led the winning coalition in the Battle of Little Bighorn.
ANSWER: **Sioux** [accept **Lakota** or **Santee** or **Minneconjou** or **Oglala** or **Hunkpapa** or **Dakota** or **Nakota**]

4. *Description acceptable*. **This concept, akin to Adam's first sin, is considered as a "qualitative leap" in a sequel to the** *Philosophical Fragments*. **Romans 4 [Fourth Romans] considers how this concept was "imputed to [a certain figure] for righteousness." This concept allows for the foremost example of the "teleological suspension of the ethical." The Bible calls this thing "the evidence of things not seen". (*)** Hebrews 11 lists igures who exemplified this concept, which closely follows "infinite resignation" according to *Fear and Trembling*. Ephesians 2 and James 2 contrast this with "works." For 10 points, name this concept which Luther asserted is the only requisite for salvation in his doctrine of "sola fide".
ANSWER: **faith** [accept clear-knowledge equivalents or descriptions like **belief** or **believing** or leap of **faith** or Abraham's **faith** or **faith** in God and/or Jesus; prompt generously on anything about "child sacrifice" or "sacrificing Isaac" by telling the player "I need a concept."]

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5. **Neo-Dadaist Ushio Shinohara creates his paintings by putting on a pair of goggles and performing this activity, a practitioner of which is depicted resting in a Hellenistic bronze at the National Museum of Rome. Thomas Eakins depicted performers of this action in *Taking the Count* and *Salutat*, the latter of which depicts a (*)** shirtless Billy Smith waving to a crowd. An artist of the Ashcan school depicted this activity in the paintings *Dempsey and Firpo* and *Both Members of This Club*, as well as a work in which a referee in a blue shirt stands behind two men charging at each other under a spotlight. George Bellows' *Stag at Sharkey's* depicts--for 10 points--what sport in which two people throw punches at each other within a ring?
ANSWER: **boxing** [accept word forms; prompt on similar answers like "wrestling" or "fighting" or "punching"]

6. **The siege of Stralsund in this war marked the end of a series of victories for the leader of one side. The deaths of three brothers from the House of Gonzaga led to the War of the Mantuan Succession during this war. Earlier in this war, Frederick V faced heavy losses against Count (*)** Tilly in the major battle of its Bohemian phase. THe Treaty of Lubeck ended the Danish phase of this war, whose Battle of Lutzen saw the death of Gustavus Adolphus. This war began with the Battle of White Mountain after the Second Defenestration of Prague. For 10 points, name this war, ended by the Peace of Westphalia, which lasted from 1618 to 1648.
ANSWER: **Thirty Years'** War

7. **In a 2016 work by this author, Rolando Garro attempts to use tabloid journalism to destroy the lives of others. That novel, *Five Corners*, is titled for the troubled parts of his home country's capital. In one of his novels, a member of "The Circle" named Boa molests children, chickens, and his own dog Skimpy. In that work, a boy raised by his aunt Adelina and nicknamed "The Slave" is murdered by Jaguar after Porfirio Cava steals a (*)** chemistry exam from the Leoncio Prado Military Academy. This author of *The Time of the Hero* wrote a novel in which Radio Panamericana hires Pedro Camacho to write soap operas. For 10 points, name this Peruvian Nobel Laureate who wrote *Aunt Julia and the Scriptwriter*.
ANSWER: Jorge Mario Pedro **Vargas Llosa** [prompt on partial last name]

8. **A constant important in this technique can be found using Hoye's method, which sums it over each component in a multiplet; that constant can be calculated using the Bothner-By and Karplus equations given the values of dihedral angles in a molecule. One form of this technique uses anisotropic interactions and relies on a "magic angle" of 54.7 degrees; that is its solid state form. (*)** Tetramethylsilane is a common reference compound used in this technique, which largely relies on J-coupling. Other types of this technique include its carbon-13 and proton variants. For 10 points, name this technique that measures the resonance frequency and chemical shift of molecules in a magnetic field to identify organic compounds.
ANSWER: **NMR** spectroscopy [or **nuclear magnetic resonance** spectroscopy; also accept **MRS** or **magnetic resonance spectroscopy**]

9. **At the top of Draynor Manor, a character of this profession reverts another character back into a human during the "Ernest the Chicken" quest of Runescape. Another character with this title in his name is responsible for originally capturing the subjects of Van Gore's paintings; that character gives the player the Poltergust 3000 in *Luigi's Mansion*. A more notable character with this profession has a grandson named (*)** Gary and asks "Are you a boy? Or are you a girl?" before allowing the player to select either Bulbasaur, Charmander, or Squirtle. For 10 points, name this profession held by such characters as Birch, Elm, and Oak, who research Pokemon in their laboratories.
ANSWER: **professor** [prompt on "doctor"; accept **professor** of **Pokemon**, accept **Professor E. Gadd**, accept **Professor Oddenstein**, accept **Professor Oak**]

10. **The Lion Gate marks the entrance to the ruins of one historical capital in this modern-day country. Another site in this country was thought by Klaus Schmidt to be the center of a cult worshipping the dead; that location is Gobekli Tepe. This country was home to the kingdoms of Phrygia and (*)** Lydia, and the Hittite capital of Hattusa now lies in this country. as does the prehistoric city of Catal Huyuk. The Greeks founded Smyrna and Ephesus in this country, which was called Anatolia in ancient times. For 10 points, what country's capital, Ankara, was known as Angora under the Byzantines?
ANSWER: Republic of **Turkey** [accept **Anatolia** before mention; accept **Hittite**s before "modern"; accept **Hattusa** before "one"]

11. **One composer from this country included a toccata nicknamed "The Devil's Staircase" in a collection of notoriously difficult etudes. That composer's piece *Atmospheres*, which exemplifies his pioneering "micropolyphonic" style, appears in the score for *2001: A Space Odyssey*. Another composer from this country wrote an orchestral work whose second movement is a "Game of Pairs". Besides writing** (*) Concerto for Orchestra, that composer from this country portrayed Judith demanding that her husband open seven locked doors in his one-act opera *Duke Bluebeard's Castle.* For 10 points, name this home country of Béla Bartók, who studied at its Royal Academy of Music in Budapest.
ANSWER: (Kingdom of) **Hungary**

12. **A prince of this country, Mingyi Swa, was killed while fighting Thai King Naresuan on top of war elephants. The Hmannan Yazawin, or Glass Palace Chronicle, describes the history of this country. Alaungpaya founded the Konbaung dynasty in this country by defeating the Ayutthaya, while this country's earlier (*)** Pagan dynasty came to power in the Irrawaddy Valley. During World War II, Joseph Stilwell led Merrill's Marauders against Japanese forces in this country. Hundreds of thousands of refugees have flooded into neighboring Bangladesh as a result of this country's ongoing genocide against its Rohingya people. For 10 points, name this country led by Aung San Suu Kyi with capital Naypyidaw.
ANSWER: **Myanmar** [or **Burma**]

13. **An important collection of these things compiled in the United States is called the Brown Corpus. The statistical analysis performed on these things by George Zipf led to the formulation of a namesake law concerning these things. One of these things that appears only once in a given set is called a *hapax legomenon.* These are the smallest things which can be made into a calque. Several similar ones of these things called (*)** lexemes can be traced back to a standard form known as a lemma. These things must be made of at least one morpheme, and may be altered with the use of suffixes or prefixes. For 10 points, name these small linguistic units which can be assembled into phrases.
ANSWER: **word**s [accept more specific answers, such as loan**word**s]

14. **Levinthal's paradox attempts to reconcile how these species manage to reach a state with the least energy in a finite amount of time, despite their infinite number of conformations. The allowed dihedral angles for these species can be determined by plotting the phi and psi angles of their monomers on a (*)** Ramachandran plot. Hydrogen bonding between amine and carbonyl groups four residues away forms one motif in these biomolecules. Alpha helices and beta sheets make up a large part of these species' secondary structures, which form after the initial polypeptide folds. For 10 points, name these biological molecules whose primary sequences are composed of amino acids.
ANSWER: **protein**s [prompt on "polypeptides" or "peptides"]

15. **At the end of a work by this author, a man's head is described as a "hive of subtlety" and is placed on a pole while the rest of his body is burned. In that work, a figurehead with the words "follow your leaders" is on a ship on which the slave Babo leads a mutiny. In another work by this author, a grub-man is told to look after the title character, who was a coworker of (*)** Nippers and Turkey before eventually responding to every request by saying "I would prefer not to." For 10 points, name this American author, who, in addition to *Bartleby the Scrivener* wrote about Ishmael's narration of Captain Ahab's hunt for a white whale in *Moby Dick*.
ANSWER: Herman **Melville**

16. **This figure could perform the "salmon leap" and "warp spasm." Three magic spears kill this figure's charioteer, his horse Liath Macha, and him. This hero heard the good half of a prophecy stating anyone who took arms that day would become famous from Cathbad. He is sometimes considered an incarnation of the light god Lugh [LOO]. This hero choose to eat (*)** dog meat rather than be inhospitable, breaking a taboo. He rejects the advances of a disguised Morrigan. As a child, this hero kills a dog with a hurling ball, and acts as a guard-dog in its stead. This man fought against the army of Queen Maeve during a cattle raid. For 10 points, name this "Hound of Ulster."
ANSWER: **Cú Chulainn** [or **Cuhullin**; or **Cú Chulaind**; or **Setanta**; prompt on "Hound of Ulster" before mention]

17. **This empire's rulers employed the architect As Sahili for buildings like the University of Sankore. The 16 clans in the military wing of this empire's assembly, called the Gbara, had their roles laid out in the Kouroukan Fouga and were known by a term literally translating as "carriers of the (*)** quiver". The founder of this empire was only able to walk upright after receiving a tree branch, according to an "epic" about him. Another ruler of this empire depressed the price of gold in Cairo with lavish spending during his expensive Hajj pilgrimage. Mansa Bakari and Mansa Musa ruled, for 10 points, what empire centered at Timbuktu?
ANSWER: **Mali**

18. **The Hagen-Poiseuille equation in fluid dynamics is often treated as the hydraulic analogue of this statement, and a magnetic analogue of this law states that magnetic reluctance equals magnetomotive force over magnetic flux; that statement is Hopkinson's law. Kirchhoff expressed this law in continuum form as current density equals the product of (*)** conductivity and electric field. Diodes do not obey this law, since their I-V curves are nonlinear. The namesake of this law also lends his name to the SI unit of resistance. For 10 points, name this law which states that current is equal to voltage divided by resistance.
ANSWER: **Ohm's** law

19. **A cavatina from this opera often transposed from E major to F major for coloratura sopranos is sung by its female lead just before she writes a letter. This opera's final scene features the failure of three characters to escape a doctor's house after another character had removed their escape ladder. A character in this opera disguises himself as a drunken soldier, a music teacher, and a student named (*)** Lindoro in order to be with his lover. Before the doctor Bartolo is able to stop a wedding, Count Almaviva marries Rosina at the end of this opera. In the aria "Largo al factotum", this opera's title character sings his name repeatedly as he makes his first entrance. For 10 points, Figaro is the title character of what opera by Gioachino Rossini?
ANSWER: The **Barber of Seville** or, The Useless Precaution [accept *Il **Barbiere di Siviglia***]

20. **In this town, Isabel and her father are opposed by their neighbors in their attempt to bury a doctor. A colonel living in this city makes golden fish as a hobby, while another citizen from here, who refuses to wear clothes and later rises into the sky, is Remedios (*) t**he Beauty. An orphan who carries her parents' bones in a bag arrives in this city, and a banana company here brutally guns down striking employees. The founder of this city buys ice from the gypsy Melquiades, believing it to be a diamond, and is the patriarch of the Buendia family. For 10 points, named this fictional town created by Gabriel Garcia Marquez, the setting of *100 Years of Solitude*.
ANSWER: **Macondo**

TB. **Louis IX of France offered to aid this man's father by arranging the Mise of Amiens, which backfired by leading to a civil war. The Domus Conversorum was established to house members of a certain group who were earlier expelled from England by this ruler. This ruler led a force which defeated** (*) William Wallace at the Battle of Falkirk, despite previously losing at Stirling Bridge. This man expelled the Jews from England and supported his father, Henry III, during the Second Barons' War, where he defeated Simon de Montfort at the Battle of Evesham. For ten points, name this king commonly known as "Longshanks" and "Hammer of the Scots".
ANSWER: **Edward I** [accept **Longshanks** and **Hammer of the Scots** before respective mentions]

BONUSES

1. After this man finds a sword under a giant severed head, the head says that his brother can be killed by cutting off his beard. For 10 points each:
[10] Name this titular man who rescues the other titular character from Chernomor, only to be killed by Farlaf and resurrected again.
ANSWER: **Ruslan**
[10] "Ruslan and Ludmila" is a poem by this Russian who wrote about the title character's love for Tatyana in *Eugene Onegin*.
ANSWER: Alexander **Pushkin**
[10] Pushkin also wrote this short story about the gambler Hermann who loses all his money after the titular card comes up instead of the ace.
ANSWER: "**The Queen of Spades**"

2. Answer some questions about Maurice Ravel's career of orchestrating piano music, for 10 points each:
[10] In his orchestration of this Mussorgsky piano suite, Ravel deleted the fifth "Promenade" that follows the movement "Samuel Goldenberg and Schmuyle". He famously used an alto saxophone to depict "The Old Castle" in this suite.
ANSWER: *Pictures at an Exhibition* [or *Pictures from an Exhibition*—*A Remembrance of Viktor Hartmann*; accept *Kartínki s výstavki*—*Vospominániye o Víktore Gártmane*]
[10] Ravel created an incomplete orchestration of this Schumann piano collection, in which Schumann depicted his own personality using the characters "Florestan" and "Eusebius". Several movements of this collection feature the ASCH motif.
ANSWER: *Carnaval*, Opus 9
[10] Ravel also orchestrated his own works, as in the case of this piano suite that he dedicated to friends who died in World War I. In Ravel's orchestration, the oboe plays the meandering melody of this suite's Prelude.
ANSWER: *Le tombeau de Couperin*

3. This theory explained the results of the Fizeau experiment by introducing the velocity-addition formula. For 10 points each:
[10] Name this theory put forth by Albert Einstein, which posited that the speed of light is the same regardless of an observer's reference frame. This theory is contrasted with a "general" type explaining gravity.
ANSWER: **special relativity** [prompt on "relativity"; do not accept "general relativity"]
[10] When calculating time dilation and length contraction in a moving reference frame in special relativity, this quantity is used to find the measured time and length, respectively. This factor, often symbolized gamma, equals 1 over the square root of 1 minus the quantity velocity over speed of light squared.
ANSWER: **Lorentz** factor [or **Lorentz** term]
[10] Often, the ratio of velocity over the speed of light is denoted by this letter. In thermodynamics, this Greek letter represents a quantity equal to the reciprocal of Boltzmann's constant times absolute temperature.
ANSWER: **beta**

4. This city is attacked in the *Epigoni*. For 10 points each:
[10] Name this city, the subject of the *Alcmeonis* and a poem by Statius.
ANSWER: **Thebes** [or **Thebai**; accept **Theban** Cycle; accept ***Thebaid*** or ***Thebais***]
[10] This blind seer advises Oedipus and later Creon in Sophocles's plays set in Thebes. He switched genders twice, both times upon encounters with copulating snakes.
ANSWER: **Tiresias** [or **Teiresias**]
[10] In Book II of Statius' *Thebaid*, the ghost of this king appears to his grandson Eteocles in a dream in the form of Tiresias. He was the father of Oedipus.
ANSWER: **Laius** [or **Laios**]

5. This doctrine is the subject of the "repugnant conclusion" of Derek Parfit's mere addition paradox. For 10 points each:
[10] Name this doctrine, also attacked by Robert Nozick with a "monster" Wikipedia explains in terms of cookies to attack John Rawls' maximin principle.
ANSWER: (act or rule) **utilitarianism** [accept **greatest happiness principle** or "the **greatest happiness** for/of **the greatest number**"; prompt on "consequentialism"; prompt on descriptions about maximizing "pleasure" or "happiness" or "utility"; accept but do NOT otherwise reveal **hedonism**]
[10] This thinker expanded on Jeremy Bentham's utilitarianism in his book titled *Utilitarianism*. He also wrote *On Liberty*.
ANSWER: John Stuart **Mill**
[10] Bentham's felicific calculus is sometimes named instead for this doctrine that pleasure is the highest good, which encompasses consequentialist schools like Utilitarianism and Epicureanism.
ANSWER: **hedonism** [accept word forms, as in **hedonic** calculus and **hedonistic** calculus]

6. A decrease in the concentration of salt causes the macula densa to stimulate production of this enzyme. For 10 point each:
[10] Name this molecule secreted by juxtaglomerular cells in the kidney. It converts angiotensinogen to angiotensin I, which results in the release of aldosterone.
ANSWER: **renin** [or **angiotensinogenase**]
[10] A combination of renin, angiotensin, and aldosterone in the RAAS leads to an increase in this quantity, measured with a sphygmomanometer in millimeters of mercury. Hypertension results in a greater value for this quantity.
ANSWER: **blood pressure** [or **BP**; prompt on partial answers]
[10] Aldosterone primarily raises blood pressure by increasing the sodium permeability of the collecting tube found at the end of these fundamental kidney structures. The juxtamedullary and cortical types of these structures are differentiated by the lengths of their loops of Henle.
ANSWER: **nephron**s [anti-prompt on "renal tubules"]

7. Answer some questions about literary portrayals of Beethoven's music. For 10 points each:
[10] Pozdnyshev kills his wife after catching her playing Beethoven's Kreutzer Sonata with her lover in a novella by this Russian author of *War and Peace*.
ANSWER: Leo **Tolstoy**
[10] This novel describes the scherzo of Beethoven's Fifth Symphony with the image of dancing goblins. In this novel, Margaret is bequeathed the title estate by Henry Wilcox after his son Charles accidentally kills Leonard Bast.
ANSWER: ***Howards End***
[10] After murdering an elderly woman, this character is forced to listen to Beethoven's Ninth repeatedly as part of the torturous Ludovico Technique in Anthony Burgess' novel *A Clockwork Orange*.
ANSWER: **Alex**

8. The Angolan slave John Punch, a distant ancestor of Barack Obama, was tried in this colony in 1640. For 10 points each:
[10] Name this American colony whose legislature was known as the House of Burgesses.
ANSWER: **Virginia**
[10] This first English settlement in Virginia, and in America, experienced a Starving Time during the winter of 1609 to 1610. Its leader John Smith established a "no work, no food" policy.
ANSWER: **Jamestown**
[10] Virginia's capital was moved away from Williamsburg by this governor of Virginia after his mansion there was besieged during Bacon's Rebellion.
ANSWER: William **Berkeley**

9. You are a math student trying to solve some second order linear homogeneous differential equations. Answer the following about your thought process, for 10 points each:
[10] You notice that the differential equation has constant coefficients, and thus you can assume that the solution is a function of this form; this is because the derivative of this function equals the function itself, so each term in the equation will have a factor of this function.
ANSWER: **exponential** function [or **e to the x**; accept answers mentioning e raised to some power]
[10] This time, however, you notice that the coefficients are variable with ordinary singular points, so you decide that the solution is one of these entities, an infinite series in increasing exponents of x. Taylor and Maclaurin series are types of these series.
ANSWER: **power** series
[10] Another method to solve second order differential equations finds a solution linearly independent to a given solution and is called the reduction of this quantity. This number is the highest derivative in the differential equation.
ANSWER: equation **order**

10. Answer the following about sculptures in Chicago. For 10 points each:
[10] This Anish Kapoor-designed stainless steel structure has a concave underside in which visitors can view reflections of their surroundings. Due to its shape, this structure is colloquially known as "the bean".
ANSWER: *Cloud Gate*
[10] In the Federal Plaza, one can find this sculptor's arching red *Flamingo* stabile in front of the Kluczynski Federal Building. In contrast to this artist's mobiles, *Flamingo* does not move with air currents.
ANSWER: Alexander **Calder**
[10] One of these structures in Millennium Park displays the faces of children on screens attached to it. Another one of these structures in Chicago is named for the Buckingham family.
ANSWER: **Fountain**

11. This park's western boundary is demarcated by the Flathead River, and it is roughly bisected by the Going-to-the-Sun road. For 10 points each:
[10] Name this national park on the US-Canada border whose namesake feature is named after George Grinnell.
ANSWER: **Glacier** National Park
[10] Glacier National Park is located in this state east of Idaho, which was historically connected to the Oregon Trail by the Bozeman Trail. Nowadays, it is home to cities such as Missoula and Helena.
ANSWER: **Montana**
[10] This subrange of the Rockies lies along the border between Montana and Idaho. Containing the Lemhi pass, it takes its name from the Montana state flower.
ANSWER: **Bitterroot** Range

12. This 1697 treaty ended a coalition war against France known as the War of the Grand Alliance or the League of Augsburg. For 10 points each,
[10] Name this treaty signed in the modern-day Netherlands that returned France's Indian and Canadian colonies to it and some German cities to the Holy Roman Empire.
ANSWER: Treaty of **Ryswick**
[10] The Treaty of Ryswick was signed by France under the rule of this absolutist monarch nicknamed the "Sun King" known for his elaborate palace at Versailles.
ANSWER: **Louis XIV**
[10] The Dutch Republic agreed to the terms of the treaty when it was ruled by this man, who invaded England in the Glorious Revolution alongside his wife Mary. He ruled the principality of Orange earlier in his life.
ANSWER: **William III** of England [accept William **II** of Scotland; **William of Orange**]

13. This empire's royal guard corps and much of its army was entirely made up of women. For 10 points each:
[10] Name this Fon empire centered in modern day Benin, which was a French colony until 1960.
ANSWER: **Dahomey**
[10] The Fon people in Dahomey practiced this West African religion. Blended with elements of Catholicism, this religion is prevalent in Haiti.
ANSWER: **Voodoo**
[10] This man's father was a prince of the Allada kingdom in Benin, before his brother enslaved him in 1724. This man led the Haitian Revolution before his capture and imprisonment in France.
ANSWER: Toussaint **L'Ouverture**

14. The neuroses or hysteria displayed by a child destined for this profession are sometimes called "shamanistic sicknesses." For 10 points each:
[10] Name these people, a special one of whom called a *saio* is responsible for Ise Jingu. Nowadays, their most unique task in performing the sacred *ka·gu·ra* dance.
ANSWER: **shrine maiden**s [or **miko**; prompt on "(Shinto) priestesses"]
[10] The *kagura* dance mirrors the dance done by Uz·u·me to lure A·mat·er·as·u out of a cave. Both Uzume and Amaterasu are Shinto spirits known by this term, often just translated as "god."
ANSWER: **kami**
[10] These structures might have originated as bird perches. These gates demarcate the transition between the mundane outer world and sacred Shinto shrine.
ANSWER: **torii** [TOR-ee-ee; but accept reasonable phonetic pronunciation attempts]

15. You've heard of Elf on a Shelf, now get ready for peasants in paintings. For 10 points each:
[10] This Flemish artist of the Northern Renaissance was known for his genre paintings of everyday peasant life, as seen in his *The Fight Between Carnival and Lent* and *Netherlandish Proverbs*.
ANSWER: Pieter **Bruegel** the Elder
[10] One of Bruegel's most famous genre paintings of peasant life depicts this type of celebration. In that painting, dozens of people sit at a long, diagonal table while two women carry around plates of soup on a wooden board.
ANSWER: **wedding** [accept equivalents; accept The **Peasant Wedding**]
[10] In this masterpiece of Vincent van Gogh--created hundreds of years after Bruegel's time--five peasants sit around a dimly lit table and dine on the title tubers.
ANSWER: The **Potato Eaters** [or De **Aardappeleters**]

16. This character believes that the first two disciples of Jesus were David and Goliath. For 10 points each:
[10] Name that naughty twelve-year-old from Missouri. He spends a week pretending to be a pirate and tricks his friends into whitewashing his aunt's fence for him.
ANSWER: **Tom** **Sawyer** [accept either underlined part]
[10] One night, after Tom is shunned by his crush Becky, he and his friend Huckleberry Finn go to the graveyard and witness this crime. Its perpetrator blames it on Muff Potter.
ANSWER: **Injun Joe murdering** Dr. Robinson [accept reasonable answers that mentions "Injun Joe" and "murder", accept the **murder** of **Dr.** Robinson]
[10] *The Adventures of Tom Sawyer* was written by this author. William Faulkner famously called him "The Father of American Literature".
ANSWER: Mark **Twain** [or Samuel **Clemens**]

17. For 10 points each, answer the following about the peopling of the Americas.
[10] A candidate for the oldest human remains in the modern US is the Debra Friedkin site at this state's Buttermilk Creek. The Caddo civilization was also based in the Eastern part of this state.
ANSWER: **Texas**
[10] The other major theory of how Paleo-Indians reached the New World involves the crossing of the aforementioned ancient land bridge, which, after glacial melting, formed an ice free corridor to North America. The land bridge has since entirely sunken, forming this strait which separates Alaska and the Russian Far East.
ANSWER: **Bering** strait
[10] This most numerous Native American tribe, whose members served as code talkers during World War II, migrated to the Americas in a separate wave around 1000 BCE. Their reservation is in the Four Corners area.
ANSWER: **Navajo** [accept **Dineh**, prompt on **Na-Dene**]

18. Answer the following about ethnic groups currently advocating for independence. For 10 points each:
[10] These people held an independence referendum in September whose results were overwhelmingly in favor of independence. The Peshmerga and YPG are military units controlled by these people.
ANSWER: **Kurd**ish people
[10] The Spanish government largely disapproves of the independence movement for these people of northeastern Spain. This ethnic group has an autonomous community which contains Barcelona.
ANSWER: **Catalan**s [accept **Catalonian**s]
[10] China has suppressed a secessionist movement in this region with extremely strict electronic monitoring and surveillance. Most of that suppression has been targeted at the East Turkestan Islamic Movement, which advocates for this region's Uighurs [wee-gurs].
ANSWER: **Xinjiang** Uyghur Autonomous Region

19. Answer some questions about authors that have used pseudonyms in their writings. For 10 points each:
[10] This author of *Joseph Andrews* and *Tom Jones*, who heavily criticized the epistolary novels of Samuel Richardson, went under the pseudonym of "Captain Hercules Vinegar" when writing Conservative newsletters.
Answer: Henry **Fielding**
[10] This author's mathematical work appears under his real name, Charles Dodgson. He wrote such books as *Alice's Adventures in Wonderland*.
Answer: Lewis **Carroll**
[10] This book by Mary Ann Evans, a.k.a. George Eliot, details the complex sibling relationship between Tom and Maggie Tulliver, the latter of whom failed in courting Philip Wakem.
Answer: The *__Mill On the Floss__*

20. Boltzmann's H-theorem explains how this quantity decreases in a gas near ideal conditions. For 10 points each:
[10] Name this quantity, symbolized S, which is often described as the amount of disorder in a system.
ANSWER: **entropy**
[10] The change in entropy during this process can be estimated as roughly 10.5 times the gas constant according to Trouton's rule. The point at which this process occurs can be measured using an ebulliometer.
ANSWER: **boiling** [or **vaporization**]
[10] Contrary to the second law of thermodynamics, this theorem states that there will always be a probability that entropy in a system could decrease. This theorem can be derived from the H-theorem for small systems over a small time interval.
ANSWER: **fluctuation** theorem [or **FT**; do not accept "fluctuation-dissipation theorem"]

TB. Answer some questions about famously difficult ciphers, for 10 points each:
[10] This cipher was developed by three mathematicians in the late 20th century and involves the generation of a public and a private key from a product of two large primes and a number relatively prime to that product.
ANSWER: **RSA** cipher [or **RSA** encryption, or **RSA** cryptosystem; accept **Rivest-Shamir-Adleman** cipher, or **Rivest-Shamir-Adleman** encryption, or **Rivest-Shamir-Adleman** cryptosystem]
[10] This cipher machine encrypted messages by creating a polyalphabetic cipher, and was used by Nazi Germany during WWII. This encryption system was cracked by Allied cryptanalysts, including Marian Rejewski and Alan Turing.
ANSWER: **Enigma** machines [or the **Enigma** cipher machines]
[10] This set of three ciphertexts supposedly contains information concerning a large amount of buried treasure. The second of these ciphers, which was encoded using the Declaration of Independence, describes the contents of the treasure.
ANSWER: **Beale** ciphers [or the ***Beale Papers***]