1. In tort law, this is defined as any unwanted harmful or offensive touching, encompassing everything from a flick on the nose to pulling the chair out from under someone trying to sit. According to Black's Law Dictionary, in criminal law, it is "The use of force against another, resulting in harmful or offensive contact." Generally consisting of more than the threat of harm, it is differentiated from assault. FTP, give this seven-letter term, also a science term for a device that stores chemical energy for use as electrical energy.
ANSWER: **battery**

2. This person's first fighting in the American Revolution was at the battle of Brandywine, where his actions earned him the rank of Brigadier General. He was later appointed to head South to capture Savannah and he assumed command after General D'Estaing fell wounded, though he was later wounded himself. He joined because he remembered England's attempt to partition his homeland. FTP, name this Polish "Father of the American Cavalry."
ANSWER: Casimir **Pulaski**

3. Pencil and Paper Ready. Suppose you have a regular hexagon in the plane with side length 1. What is the area of the octagon? The area of a regular plane polygon can be calculated as one half times the apothem times the perimeter. The hexagon is composed of six equilateral triangles. Each apothem will bisect the equilateral triangle into two 30-60-90 triangles. FTP, what is this quantity, one half times six times the apothem, which is the square root of 3 over two?
ANSWER: **three square root three over two** (accept equivalents)

4. After the battle of Lexington, he organized the governor's guards in New Haven and proposed capturing Ticonderoga and Crown Pointe. He later captured St. John's and returned to Cambridge, where he proposed to Washington an expedition into Canada. His siege of Quebec failed and he lost horribly at Valcour Island, but his later actions were exposed by the capture of John Andre. FTP, identify this infamous Revolutionary traitor.
ANSWER: Benedict **Arnold**

5. This person expressed a critical alienation from religion and nationality in Imaginary Homelands and produced the collection Haroun and the Sea of Stories for a son. Rock singer Vina Apsara is swallowed-up by an earthquake in this author's retelling of the Orpheus myth, The Ground Beneath Her Feet. The story of Parvati the Witch, Shiva, Saleem Sinai, and the MCC is told in his Midnight's Children. FTP, name this author who was the subject of a fatwa for The Satanic Verses; an Indian author who was in hiding for almost a decade.
ANSWER: Ahmed Salman **Rushdie**

6. The original building of this name was built in the fourth century CE and was later destroyed in the Nika revolt. The present building was commissioned by Justinian in 537. Its unique dome is supported by four pendentive vaults, one of the largest domes built prior to the Renaissance. It remained an Eastern Orthodox Church until the 1453 Ottoman conquest, when it was turned into a mosque. FTP, name this Istanbul landmark, now a museum, originally dedicated to "Holy Wisdom."
ANSWER: the **Hagia Sophia**

7. The planning for this battle included the seizing of the Kerama Islands and the winning side had sent units to Hagushi Bay as an anchor. The opposing side was led by Lieutenant-General Ushijima, while the winning side was commanded by Simon Buckner. On April 24, the Machinato Line was finally breached, only to expose the Shuri Line. FTP, name this World War II battle fought in April, 1945, immediately preceded by Iwo Jima.
ANSWER: the Battle of **Okinawa**

8. This person's "Double" Concerto, Op. 102, is one of the pinnacles of the violin-cello repertoire, while the St. Anthony Variations, on a theme of Haydn, are among numerous works of his in that genre. Though he almost certainly loved Clara Wieck [veak], he did not act on this even after his friend Robert Schumann, her husband, died. Creator of one third of the"F-A-E Sonata", the Academic Festival Overture, and the Hungarian Dances, this composer wrote the German Requiem to commemorate his mother. FTP, name this Hamburg-born composer of four Symphonies.
ANSWER: Johannes **Brahms**

9. Conserved in a throttling process, this quantity entirely determines the temperature of an ideal gas, but non-ideal gasses can change temperature with this held constant in the Joule-Thompson effect. This energetic physical property is a canonical potential of an open system as it measures the work available from the system by accounting for flow and expansion work in its second term. FTP, name this state function symbolized h and equal to a system's the internal energy its pressure times its volume.
ANSWER: **enthalpy** (prompt on "h")

10. The Hasbani, Banias, and Dan rivers merge to form this river. Because it's in such an arid region, approximately three-quarters of its water are used for human purposes. Having the lowest elevation of any river in the world, pollution has become a major problem in modern times. FTP, name this river flowing through the Sea of Galilee and ultimately draining into the Dead Sea; a Middle-Eastern river that defines the eastern border of Israel.
ANSWER: the **Jordan** River

11. This person published Reconsiderations towards the end of his life, having earlier issued Literal Commentary on Genesis. Heavily influenced by Cicero's Hortentius, this religious philosopher wrote a 410 CE work to defend Christianity from the charge that it had caused the fall of Rome, City of God. FTP, name this theologian, Christian saint, and Bishop of Hippo who is best known for his autobiographical Confessions.
ANSWER: Saint **Augustine** of Hippo

12. This personearned a scholarship to study radio electronics in Paris, where he met Ieng Sary and Song Sen. Upon returning home, he began working for the KPRP and, after taking it over, he renamed it the Workers' Party of Kampuchea, which later formed an insurgency base called "Office 100." After taking-over Phnom Penh, he declared "Year Zero," and by 1976 was named Prime Minister. FTP, name this infamous leader of the Khmer Rouge.
ANSWER: **Pol Pot** (or **Saloth Sar**)

13. This person's interest in the American Southwest and Mexico is evident in the works The Plumed Serpent and Aaron's Rod, which features the flutist Sisson. This writer chronicled the Bragwen family in The Rainbow and Women in Love, which contains his trademark devices of horse admiration and moon madness. The love triangle formed by Claire Dawes, Miriam Levers, and Paul Morel is central to this author's Sons and Lovers. FTP, name this English writer of Lady Chatterley's Lover.
ANSWER: David Herbert **Lawrence**

14. The patron of Amphicleia, this being's epithets include Bromios, Taurokeros, and Tauroprosopos and he possessed the thyrsus and kantharos. Raised in Nysa, this deity was born twice, once from the thigh of his father. This god rescued and wed Ariadne and visited Hades to try to resurrect his mother Semele, who was destroyed when his father Zeus appeared to her in his full glory. FTP, name this god whose followers were the Maenads; the Greco-Roman god of ecstasy and wine.
ANSWER: **Bacchus** (or **Dionysus** or **Liber**)

15. This person's notable legal works include The Elements of the Common Lawes of England and 1641's Cases of Treason, while his A Naturall Historie was published posthumously along with the unfinished The New Atlantis. This thinker's Advancement of Learning is the first important work of philosophy written in English, while his namesake method was introduced in his namesake tables in the volumes of The Great Instauration. FTP, name this philosopher and lord chancellor of England best known for the Novum Organum.
ANSWER: Francis **Bacon**, Viscount Saint Alban

16. Interestingly, a square can achieve this state on a caternary. One can easily the angular velocity of each section of the object undergoing this type of motion because a certain point is always stationary. This type of motion is useful because an object undergoing it experiences static friction even though it is in motion; this advantage occurs because the rolling object is in contact with a single point of the surface on which it rolls, and that point of contact is instantaneously stationary at all times. FTP, name this type of rolling in which an object moves entirely due to rotation because no translation occurs at the contact point.
ANSWER: **rolling without slipping** (accept equivalents; prompt on "rolling")

17. In recent years, this work has been performed as a an opera in the United States, most notably in 2002 at the Lyric in Chicago. In this musical work, Judge Turpin has taken Johanna away from her natural father and raised her as his own daughter, but her father comes back to London, seeking revenge against the people who have wronged him, with the help of Mrs. Lovett, who bakes pies. FTP, name the Stephen Sondheim musical cum opera about the titular demonic barber.
ANSWER: **Sweeney Todd**

18. This taxon contains sub-taxa adenophorea and secernentea. Members of this set of animals reproduce by exchange of chitinized spicules and have posterior sense organs known as phasmids. The important model species Caenorhabditis elegans is a member of this phylum, which is best known for the parasites that it contains. FTP, name this phylum whose name comes from the Greek for "thread-like" because it is comprised of the roundworms.
ANSWER: **nematoda** (or **nematode**s)

19. Notable stand-alone sections of this collection include "Youth, Day, Old Age, and Night;" "To Think of Time;" and one that exclaims "Flood-tide below me! I see your face!", "Crossing Brooklyn Ferry." The best-known entries in this collection come from the sections "Inscriptions," "Children of Adam," and one that includes "When Lilacs Last in the Dooryard Bloom'd." FTP, name this poetry compilation that contains "Out of the Cradle Endlessly Rocking" and "Song of Myself;" the best-known work of Walt Whitman.
ANSWER: **Leaves of Grass**

20. Not much is known of this person's thirteen-year tour of the provinces, though The Amorous Quarrel and The Blunderer date from that time. La Grange and du Croisy feature as spurned lovers in this author's The Affected Ladies. This writer's fortunes turned on a 1658 performance of The Amorous Doctor, which allowed him to obtain the patronage of the Duc d'Orleans; he would use that patronage to create The School for Wives, The Would-Be Gentleman, The Misanthrope, and Tartuffe. FTP, name this greatest French comedian.
ANSWER: **Molière** (or Jean-Baptiste **Poquelin**)

21. Article Two defined boundaries for one side, which led to the other side giving up its land claims South of the Yazoo River. It also stipulated that six months would be given for any forts on one side in the other's territory to be evacuated, but they weren't abandoned until Franco-American relations went South. Farmers were elated since it granted them permission to ship goods through New Orleans. FTP, name this 1795 treaty between the U.S. and Spain.
ANSWER: **Pinckney's** Treaty (or the Treaty of **San Lorenzo**)

1. You might know more than you think about twentieth-century philosophers. Let's see, FTPE.
[10] This twentieth-century British logician and analyst is popularly known for his anti-war activism, as the author of Why I Am Not a Christian, and as the recipient of the 1950 Nobel Prize in Literature.
ANSWER: Bertrand Arthur William **Russell**, 3rd Earl Russell of Kingston Russell, Viscount Amberley of Amberley and of Ardsalla
[10] With Alfred North Whitehead, Russell published this important work on predicate logic and arithmetic from 1910 to 1913. It shares its name with the common name of the best-known work of Isaac Newton.
ANSWER: **Principia Mathematica**
[10] Russell was loosely associated with group of writers, philosophers, and artists, named for a residential district of Cambridge. It included Clive Bell, G.E. Moore, E.M. Forster, J.M. Keynes, and Virginia Woolf.
ANSWER: the **Bloomsbury** group

2. Given a description, identify the ancient Greek play FTPE.
[10] Orestes is sent by Apollo to avenge his father's death under fear of leprosy, and is aided by his sister. Clytemnestra tries to plead with him, but Pylades reminds him of his duty, and he kills her.
ANSWER: The **Libation-Bearers** (or **Choephoroi**)
[10] Strepsiades enrolls in Socrates' school to try to get out of debts run up by his son Phidippides, but is convinced to use force on his son instead. At the end, Strepsiades sets fire to the roof of the school.
ANSWER: The **Clouds** (or **Nephelai**)
[10] Pentheus refuses to allow the worship of Dionysus in Thebes, so Dionysus drives Semele's sisters mad. Pentheus then arrests the god and Dionysus executes a plan for the title group, including Pentheus' own mother, to rip the king to death.
ANSWER: **Bacchae**

3. Answer the following concerning Japan's involvement in World War II FTSNOP.
[5] America's involvement in the War as a combatant began with the Japanese surprise attack on this location on December 7, 1941.
ANSWER: **Pearl Harbor**
[10] This Minister of the Navy opposed the war, but planned-out the surprise attack on Pearl Harbor.
ANSWER: Isokoru **Yamamoto**
[15] In 1945, the Allied powers issued this document, demanding immediate surrender, but Japan did not surrender until after the atomic bombs were dropped.
ANSWER: **Potsdam** Declaration

4. Given the country, name its second-most-populous city FTPE.
[10] Australia.
ANSWER: **Melbourne**
[10] Poland.
ANSWER: **Krakow**
[10] Spain.
ANSWER: **Barcelona**

5. Answer each of the following from elementary analysis FTP.
[10] This property is necessary but not sufficient for differentiability. A test for it may be stated by requiring that every open interval have an open pre-image, or with the conventional epsilon-delta definition.
ANSWER: **continuity** (accept word forms)
[10] If a function is smooth on an interval, then the integral over that interval of its derivative is equal to the different between the value of the function itself at the interval's endpoints according to this very important theorem.
ANSWER: the **f**undamental **t**heorem of the **c**alculus
[10] This theorem states that, if a function is differentiable on an interval and the value of the function at the endpoints of the interval are equal, then the derivative of the function vanishes at at least one place on the interval.
ANSWER: **Rolle**'s theorem

6. Identify the following concerning African colonies FTPE.
[10] In 1957, Kwame Nkrumah became the leader of this country, the first African colony to become independent.
ANSWER: **Ghana**
[10] After World War II, Britain and France jointly ruled this country, a former Italian colony.
ANSWER: **Libya**
[10] After World War I, Germany lost all of its' African colonies. FFPE, name any two of them.
ANSWER: **Burundi**, **Cameroon**, **Namibia**, **Rwanda**, **Tanganyika**, or **Togo** (accept any two)

7. Answer each of the following about some common assumptions in physics FTP.
[10] The common statement of Newton's second law as F equals m a tacitly assumes that this quantity appearing in the statement is constant.
ANSWER: the **m**ass
[10] The acceleration of gravity is only constant at about 10 meters per second squared if this quantity, appearing in the denominator of the law of universal gravitation, is not significantly different from its value at the Earth's surface.
ANSWER: the **distance** from the center object to the center of the Earth (accept things close to that; prompt on "R")
[10] When one states the mass of nuclides as the sums of the masses of their constituent particles, one assumes that this quantity, the binding energy divided by the speed of light squared, is small.
ANSWER: the **mass defect** (prompt on "delta")

8. Answer the following about an epic FTPE.
[10] This descendant of Cain has his arm ripped off and hung in the mead-hall Heorot, a hall which used to serve as a feeding-place.
ANSWER: **Grendel**
[10] This Geat rips off his arm and also kills Grendel's mother and a fire-breathing dragon.
ANSWER: **Beowulf**
[10] Beowulf is the nephew of this man, the King of the Geats and husband of Hygd.
ANSWER: **Hygelac**

9. Given a description, identify the Amendment FTPE.
[10] It established that Congress has to meet at least once a year and allows for the Vice President to assume command if the President dies.
ANSWER: the **Twentieth** Amendment
[10] It bans excessive fines and "cruel and unusual punishment."
ANSWER: the **Eighth** Amendment
[10] It put the President and Vice President on the same ticket instead of having them run separately.
ANSWER: the **Twelfth** Amendment

10. Consider the quadratic equation x squared plus four x minus 1 equals zero. FTPE:
[10] This is the discriminant of the equation.
ANSWER: **twelve**
[10] Suppose the discriminant were negative. What can you tell about the roots of the quadratic?
ANSWER: that it has **two complex roots** (accept any similar response as long as it notes that there are two roots and that they are complex; prompt if only one of these things is noted)
[10] This is the product of the roots of the quadratic.
ANSWER: **negative one**

11. Ah, that unerring wellspring of moral behavior, the Bible. Answer each the following about some goings-on from the reign of King David FTP.
[10] David coveted this beautiful daughter of Eliam, so he knocked her up on a roof, as re-told in the Pixies song "Dead."
ANSWER: **Bathsheba** (or **Bethsabee**)
[10] Unfortunately, Bathsheba was already married to this Hittite general in David's army. David did the honorable thing and had him killed.
ANSWER: **Uriah** the Hittite
[10] As outlined in Second Chronicles, all of this monkey business understandably drew the wrath of this prophet, who frequently excoriated David for his various moral lapses.
ANSWER: **Nathan**

12. Answer the following concerning plans for Reconstruction FTPE.
[10] This was Lincoln's plan for readmitting states to the Union based the namesake fraction of voters willing to swear an oath of allegiance to the United States.
ANSWER: the **Ten-Percent** Plan
[10] During the summer of 1864, this bill was passed to counter the Ten-Percent Plan. It demanded that fifty percent swear an oath and guaranteed the civil liberties of blacks.
ANSWER: the **Wade-Davis** Bill
[10] Congress set this department up in 1865 in order to distribute supplies as well as food. It was successful in creating schools for nearly a quarter of a million blacks.
ANSWER: the **Freedmen's Bureau**

13. Given the term and a famous case, name the United States Chief Justice FTPE.
[10] 1986-2005, Bush v. Gore.
ANSWER: William **Rehnquist**
[10] 1836-1864, Dred Scott v. Sandford.
ANSWER: Roger **Taney** [TAW-knee]
[10] 1953-1969, Brown v. Board of Education.
ANSWER: Earl **Warren**

14. Answer each of the following about a pretty crazy energy source FTP.
[10] This atomic process, the combination of two light nuclei to make a heavier one and energy, works equally well in the sun and the stars and in hydrogen bombs.
ANSWER: thermonuclear **fusion**
[10] Much to the chagrin of several, fusion does not yet work well in these experimental energy-production devices, named from the Russian for "toroidal current chamber." The largest of these currently in the world is JET.
ANSWER: **tokamak**s
[10] Fusion may, however, work better in this new tokamak, currently being designed and built by a large international coalition (that may include your author) in Cadarache, France.
ANSWER: **ITER**

15. Answer each of the following about a Norse hero FTP.
[10] The product of the incestuous union of Siegmund and Sieglinde, this most famous of Norse heroes used the sword of his foster father Regan to recover the treasure of Hreidmar.
ANSWER: **Sigurd** (or **Sigfried**)
[10] To recover Hreidmar's treasure, Sigurd slew this dragon, once the brother of Regan, who had been corrupted by the power of the ring Andvarinaut. By bathing in its blood and eating its heart, Sigurd became nearly invulnerable and able to understand birdsong.
ANSWER: **Fafnir**
[10] Sigurd used his new knowledge and power to rescue this demigoddess, who had been imprisoned in a ring of magical fire, but she eventually proved his undoing.
ANSWER: **Brynhild** (or **Brunhilda** or **Brunhilde** or **Brünhild** or **Brynhild**)

16. Identify each of the following characters from Les Miserables FTPE.
[10] This strong man, the work's protagonist, begins the work in prison. After his release, he travels to Montreuil-sur-mer, where he is elected mayor under the pseudonym Monsieur Madeleine.
ANSWER: **Jean** **Valjean** (accept either name)
[10] The daughter of Fantine and a student, she spends her childhood as a servant but is later adopted by Valjean and falls in love with Marius.
ANSWER: **Cosette**
[10] At first, he would stop at nothing to recapture Valjean but, in the end, hecannot decide whether or not Valjean deserves to be arrested.
ANSWER: Inspector **Javert**

17. Name each of the following American composers based on works FTP.
[10] The composer of Vanessa and perhaps the shortest opera ever, A Hand of Bridge, is best known for a movement excerpted from his String Quartet, the Adagio for Strings.
ANSWER: Samuel **Barber**
[10] This superstar conductor's first three symphonies are subtitled "Jeremiah", "The Age of Anxiety", and "Kaddish". Other works include Dybbuk, Facsimile, and Candide.
ANSWER: Leonard **Bernstein**
[10] This innovative Connecticut native is responsible for The Camp Meeting, Three Places in New England, and The Unanswered Question.
ANSWER: Charles Edward **Ives**

18. Given the paintings, name the artist FTPE.
[10] The Scream, The Dance of Life, and Madonna.
ANSWER: Edvard **Munch**
[10] The Gross Clinic and The Agnew Clinic.
ANSWER: Thomas **Eakins**
[10] Vision After the Sermon and Day of the God.
ANSWER: Paul **Gauguin**

19. Identify the following about pre-World-War-I alliances FTSNOP.
[5/5] FFPE, name the two nations that were members of both the Three Emperor's League and the Triple Alliance.
ANSWER: **Germany** and **Austria-Hungary** (accept in either order)
[10] After Austria-Hungary declared war on Serbia, this country, bound by treaty to Serbia, announced its plan to mobilize.
ANSWER: **Russia**
[10] Britain entered the war due to the terms of a 75-year-old treaty binding them to defend this neutral country.
ANSWER: **Belgium**

20. Identify the following futuristic works FTPE.

[10] This work opens with a giant monolith probing the minds of man-apes and ends with David Bowman being made immortal and saving the Earth from nuclear destruction.
ANSWER: **2001**: A Space Odyssey

[10] This work by Karel Capek [CHA-peck] introduced the word robot to the English language.
ANSWER: **R.U.R.** (Rossum's Universal Robots)

[10] The narrator transports himself to the year 802,701 AD, where he encounters the Eloi, who are humanlike creatures, and the Morlocks, who eat them.
ANSWER: The **Time Machine**