1.   (JV) Its plot can be summed up roughly in a father's warning his son of a creature, the son's slaying of that creature, and the father's rejoicing in his son's deed, "chortling with joy." That creature is said to have eyes of flame, but is vanquished by the vorpal blade by the Tumtum tree. This describes the plot of, FTP, what poem found in *Through the Looking Glass* which starts with the lines "'Twas brillig, and the slithy toves / Did gyre and gimble in the wabe;" a work using invented language by Lewis Carroll.
    Answer: **Jabberwocky**

2.   (JK) ***WARNING: PENCIL AND PAPER READY.*** You want to find the derivative of sine of x times cosine x with respect to x. To solve this, it is helpful to know the chain rule, which states that the derivative of two functions f of x and g of x multiplied by one another is f of x times the derivative of g of x plus the derivative of f of x times g of x. It is also helpful to know that the derivative of the sine of x is the cosine of x and that the derivative of the cosine of x is the negative sine of x. For ten points, find the derivative. You have ten seconds.
    Answer: $\cos(x)^2 - \sin(x)^2$
            [(cosine of x) squared minus (sine of x) squared; OK to say "cosine squared x minus sine squared x"]

3.   (NGC/CS) A leading role in the fight against a civil rights plank at the 1948 Democratic National Convention and refusing support from the Ku Klux Klan in a 1958 gubernatorial race left him vulnerable to accusations of being soft on race issues. To counter that image, in 1963 he blocked enrollment of black students at the University of Alabama. For ten points, name this former governor of Alabama and 1968 presidential candidate, partially paralyzed in an assassination attempt.
    Answer: George **Wallace**

4.   (DU/JV) According to Futurama, this man invented the technology that keeps heads alive in jars. Some of his actual inventions include the GLH Formula 9 Hair System, the Veg-O-Matic, and his eponymous Pocket Fisherman. FTP, name this inventor also well known for his "Set it, and forget it!" Showtime Rotisserie oven.
    Answer: Ron **Popeil** (prompt on Ronco or "Ronco Guy")

5.   (NGC) According to the third law of thermodynamics, this is zero for a pure crystal at absolute zero. The second law of thermodynamics states this can never decrease in an isolated system. This term, symbolized by the letter S, is a measurement of how close a system is to equilibrium. For ten points, identify this measure of disorder in a system.
    Answer: **Entropy**

6.   (DU/JV) Its concept was originally proposed by Sun Yat Sen in 1919. When it is completed, it will be over 180 meters tall, over 2 kilometers wide, and have the capacity to store over 39 billion cubic meters of water. FTP; name this structure that, when finished, will give China the world's largest hydroelectric plant.
    Answer: **Three Gorges Dam**

7.   (UNC/CS) Rachmaninoff's opus 35, a choral symphony, was based on this work, its four movements mirroring the four stanzas of the poem. The titular objects are thought to be based on those of Fordham University, where the poet often strolled. FTP, the title objects are first on sledges, then for weddings and alarms making their telltale "tintinnabulation" in what poem by Edgar Allan Poe?
    Answer: The **Bells**

8.   (Sh/SK) Many of his works such as *The Birthplace of Herbert Hoover, Arnold Comes of Age*, and *Near Sundown* are done in the almost cartoon-like, semi-pointillist, brightly-colored Regionalist fashion that also marks such works as *The Return from Bohemia*, commemorating a trip the artist made to Germany to study stained glass so he could design a window for the Veteran's Memorial in Cedar Rapids. The Iowa state quarter is based on one of his designs, whose rural sensibility is revealed in *Fall Plowing* and *Spring in Town* as well as his most famous work, for which his sister Nan and the family dentist Dr. Byron McKeeby posed. For ten points, name the artist who best known for *American Gothic*.
    Answer: Grant **Wood**

9.   (NGC/CS) Especially in his later years before his death in 1989, one of his primary interests was marine biology. The first member of the royal family to travel outside of his home country, he was also the ruler who made the transition

from imperial to constitutional monarch, and the last ruler to claim divine descent from Amaterasu, the Shinto sun goddess. Though he adopted the name of Showa, enlightened peace, for his reign, it was not to be, and President Truman was among those who thought he should stand trial for war crimes committed in his name. For ten points, name this Japanese emperor who reigned during World War II.

Answer: **Hirohito** [accept early buzz with **Showa**]

10. (DU/JV/CS) This man was the first holder of the Fullerian Seat of Chemistry at the Royal Institute of Britain. He is the namesake of two laws of electrolysis, but perhaps his most fundamental contribution is a law that was to be included in Maxwell's Equations.A one-time assistant to Sir Humphry Davy, for ten points, name this British physicist who discovered electromagnetic induction and gave his name to the SI unit of capacitance.

Answer: Michael **Faraday**

11. (CS) In this work, it's not too hard to tell which characters are on which side. Those characters include Lord Hategood, Mr. Nogood, Mr. Malice, Mr. Lovelust, Madame Wanton, and Mr. Worldly Wiseman. Then there are the place names – the town of Carnal Policy, the Valley of Humiliation, the Castle Beautiful, the Slough of Despond, and Vanity Fair. Following the trials and tribulations of the subtly-named protagonist Christian, FTP name this allegory by John Bunyan.

Answer: (The) **Pilgrim's Progress**

12. (NGC/CS) The first in the US was built in Cedar Rapids, Iowa, in the 1920s. While early ones consisted of an enclosed courtyard and a covered prayer hall with a flat roof, the Ottoman influence led to a domed roof over the prayer hall. The world's largest is in Islamabad, Pakistan; other notable ones include al-Aqsa, Imam Ali, and the former cathedral Hagia Sophia. Since the 7th century, minarets have been used for the call to prayer at, FTP, this Islamic place of worship.

Answer: **Mosque**

13. (DU/JV) This substance was first discovered by Joseph Wilbrand in 1863 in Germany, but wasn't used for its more current use until almost 30 years later. During the WWII, it was combined with ammonium nitrate to make another compound called amatol and also with RDX to make the more famous Composition-B. With an IUPAC (eye-you-pack) name is *methyl-2,4,6-trinitrobenzene*, FTP; name this compound that shares its name with a cable TV station, usually used to blow things sky high.

Answer: **TNT** (accept **Trinitrotoluene** or IUPAC name before given, DO NOT accept Dynamite)

14. (NGC) They originally provided delivery services along the east coast as the American Express Company. Realizing the potential of serving the gold miners of California, Henry and William set up their new system of stagecoaches and horsemen out of San Francisco in 1852, offering banking and courier services to pioneers. For ten points, give the name of this western banking company acquired by Norwest in 1998.

Answer: **Wells Fargo**

15. (UTK/SK) At least one poem in the Eddas makes use of an alternative name of Aurgelmir for this figure, whose body apparently spontaneously generated his son Bergelmir and that son's wife, who would survive the ultimate fate that would befall this fugure. That fate was the indirect result of his souce of nourishment, the cow Audhumbla, who licked a salt crystal until it assumed the shape of the god Bori, whose three grandsons dispensed with this firure. Eventually used to fill Ginungagap and provide the base material for the hills, sea, mountains, sky, and clouds, for 10 points name this primoridal frost giant killed by Vili, Ve, and Odin.

Answer: **Ymir**

16. (NGC) The fourth of seven planets orbiting the red dwarf star Rao, it was once ruled by electromagnetic beings called Xan. After the extremist group Black Zero used a thermonuclear device to begin a civil war, the aftershocks of the bomb began a chain reaction in the planet's core which ultimately erupted and destroyed this world. FTP, name this planet, the original home world for Superman.

Answer: **Krypton**

17.   (TV/CS) Sir William Howard Russell, a journalist for *The Times* in Ireland, was a special correspondent for this war. It was precipitated by the 1851 coup d'etat that would lead to Napoleon III being declared both French dictator and the sovereign authority in the Holy Land. Russia objected, demanding to exercise protection over the Orthodox subjects of the Ottoman sultan, and would meet the opposing forces at sites like Alma, Inkerman, and Balaklava, the latter of which inspired Tennyson's poem, "The Charge of the Light Brigade." FTP, identify this war ending in 1856, fought on a namesake peninsula.
    Answer: **Crimean** War

18.   (MM/SK) Unlike similar compounds, such as the terpenoid-derivatives for which they are sometimes confused, it is generally accepted that these compounds can be derived from tryptophan, and Indole-3-acetic acid, a compound isolated by Salkowski in 1885, has been classified as a primary member of this group. Their effects were described as early as 1880 in Darwin's "The Power of Movement in Plants", and while they can promote root growth, unlike Giberellins, they often act with giberellins to effect their most famous function. With a name for this group is derived from a Greek word meaning "to grow" , for 10 points name this group of plant hormones, the first to be discovered, whose defining group characteristic is the ability to induce cell elongation in stems.
    Answer: **auxins**

19.   (NGC/CS) This word can be used for a calendar or catalog of saints, or for the part of the Catholic Mass ending just before the Lord's Prayer. In the literary world, it is an authoritative list of important works. Musicians use it to describe a composition wherein the same melody is repeated by one or more voices. For ten points, what is this word which may also denote those books of the Bible officially recognized by the Church?
    Answer: **canon**

20.   (NGC/CS) Among those who die in this novel in this novel are Candy's dog and the ranch boss's daughter-in-law. The latter is shaken to death by a ranch hand who, to prevent a more violent death at the hands of Curly, is shot by his friend George. Taking its name from a line from a Robert Burns poem, for ten points, identify this 1937 John Steinbeck novel about the tragic end of the gentle giant Lenny.
    Answer: **Of Mice and Men**

21.   (TV/CS) Some physicists have suggested snap, crackle, and pop as the 4th, 5th, and 6th derivatives of this physical property. The *Kama Sutra* contains a total of 64, while a tenor trombone has only seven. In baseball, examples include the designated hitter, catcher, and short stop. FTP, identify this term which velocity is defined as the change of with respect to time and describe one's location in space.
    Answer: **position**

22.   (UNC/CS) The namesake of this series did actuarial calculations for insurance companies and wrote an influential work, *A Treatise on Fluxions*, elaborating on Newtonian calculus. This series is given by the function of x equals the sum from n equals zero to infinity or f to the nth times a divided by n factorial all multiplied by x minus a to the nth where a equals 0. For ten points, name this type of series, named after a Scottish mathematician, which is a special case of the Taylor series.
    Answer: **Maclaurin** series

1.   (JK) A staple of classic-rock radio, the Don McLean song "American Pie" contains a number of references to real-life people. For ten points each, name the following musicians supposedly mentioned in the song.
A. In many interpretations of the tune, the jester mentioned in third verse is claimed to be this musician. This man behind such classic songs as "Blowin' in the Wind" and "Like a Rolling Stone" recently returned to the top of the charts with the album *Modern Times*.
        Answer: Bob **Dylan** or Robert **Zimmerman**
B. One of the few things that Don McLean has officially explained about the song is that the first verse is about this artist. His song "That'll Be The Day" is referenced in the song's lyrics while in real-life he died along with Ritchie Valens and the Big Bopper in a plane crash known as "The Day The Music Died."
        Answer: Buddy **Holly**
C. In the sixth verse, the protagonist meets "a girl who sang the blues." When the speaker asks "her for some happy news," "she just smiled and turned away." Many think the "girl" is a reference to this singer who belted out songs like "Piece of My Heart" with Big Brother and the Holding Company and who died of a heroin overdose in October of 1970.
        Answer: Janis **Joplin**

2.   (Sh/SK/CS) Answer the following questions about moons still classified as moons of planets which are still classified as planets, 10 points each.
1. Moons of this planet include Thalassa, Galatea, Naiad, and Triton
        Answer: **Neptune**
2. Mars has two moons. Name both, five points each.
        Answer: **Deimos, Phobos**
3. This moon of Saturn, considered the second largest moon in the Solar System, is unique due to its dense atmosphere..
        Answer: **Titan**

3.   (CS) Name these Jack London works FTPE:
a) It follows Buck, stolen in California, taken to Alaska, and passed from owner to owner, most notably the gentle John Thornton.
        Answer: (The) **Call of the Wild**
b) The title character of this novel is the only child of Kiche and One-Eye to survive a famine.
        Answer: **White Fang**
c) This novel pits the shipwrecked gentleman Humphrey Van Weyden in a battle of wits against Larsen, brutal captain of the schooner Ghost, who rescued him but forced him to become a cabin-boy.
        Answer: The **Sea Wolf**

4.   (NGC/CS) Identify the Cabinet member serving, as of September 27, 2006, in the following US government posts, for ten points each.
a) Secretary of Defense
        Answer: Donald **Rumsfeld**
b) Secretary of Homeland Security
        Answer: Michael **Chertoff**
c) Attorney General
        Answer: Alberto **Gonzales**

5.   (DU/JV) FTPE; name which Bible book is the longest in the following sections.
(10) The Old Testament
        Answer: **Psalms**
(10) Gospel
        Answer: **Luke**
(10) Letters from Paul
        Answer: **Romans**

6. (Sh/SK) For 10 points each name the following ancient sculptures.
1. Currently at the Louvre is this work showing the topless goddess of love whose now-missing arms perhaps once held the shield of Ares, in which she was admiring her reflection as in other pieces.
    Answer: **Venus de Milo** (prompt on partial answers)
2. Also in the Louvre on a staircase is this statue first found on its namesake island in 1863. The statue itself depicts an ornament on the prow of a ship and is missing a head but still contains the famous bodily parts for which the scupture is named.
    Answer: **Winged Victory** of **Samothrace** (also accept "Nike Of Samothrace" but prompt on partial answers)
3. The National Museum in Rome contains a copy of this statue usually attributed to Myron in depicting a nude athlete about to make a cast of the object for which he is named.
    Answer: **Discobolos** (accept "Discus Thrower")

7. (Sh/SK) Answer these questions about the American West for the stated number of points.
1. (5 points) This invention which revolutionised the American West came about when Joseph Glidden twisted pieces of metal in a coffee grinder and set them in fences, for which he received a patent and a subsequent mammoth forture.
    Answer: **barbed wire**
2. (10 points) By means of this 1862 legislation potential landowners were given 160 acres on condition that it had to be settled for five years and improved upon by the owner.
    Answer: **Homestead Act**
3. (15 points) The Pulitzer Prize in 1933 was awarded to the selcted essays of this man, though in truth the award was bestowed for his analysis of the American West in an earlier work, *The Significance of the Frontier in American History*.
    Answer: Fredrick Jackson **Turner**

8. (DU/JV) Name these things about bacteria FTPE.
(10) This is a test done to help determine bacterial type by the make-up of a bacteria's cell wall. If it works, the bacterial growth will change color.
    Answer: **Gram** stain or **Gram** test (accept **Gram Positive/Negative** indicator or equivalence)
(10) This term is given to bacteria that are shaped like a rod, not a round or spiral shape.
    Answer: **Bacillus** (accept **Bacilli**)
(10) These structures, that not all bacteria have, are small, circular strands of DNA.
    Answer: **Plasmid**

9. (DU/JV) His most famous work concerns a figure that may be traced back to Vlad the Impaler, a 15th century prince in present-day Romania.
(10) Name this Irish author who wrote *Dracula*.
    Answer: Bram **Stoker**
(10) Bram Stoker's work begins with this man, a solicitor who is going to provide legal support for a real estate transaction in Carpathia.
    Answer: Jonathan **Harker**
(10) The final killer in *Dracula* is this man, a professor who forms a group of people to defeat Dracula.
    Answer: Abraham **Van Helsing**

10. (UNC/CS) Identify the Russian composer from works for 10 points each. If you need an easier clue, you'll get five points.
[10] Lieutenant Kije, Love for Three Oranges
[5] Peter and the Wolf
    Answer: Sergei Sergeyevich **Prokofiev**
[10] Petrushka, Pulcinella
[5] The Rite of Spring, The Firebird
    Answer: Igor Fyodorovich **Stravinsky**
[10] The operas Eugene Onegin and The Queen of Spades
[5] Swan Lake, The Nutcracker
    Answer: Pyotr Ilyich **Tchaikovsky**

11.   (UNC/CS) FTPE, name the Chinese dynasty from its time period.
10: 1368-1644 A.D.
        Answer: **Ming**
10: 221-206 B.C.
        Answer: **Qin** [or Chin]
10: 618-907 A.D.
        Answer: **Tang**

12.   (UNC/CS) FTPE, name the modern playwright from plays.
10: *Travesties, Rosencrantz and Guildenstern are Dead*
        Answer: Tom **Stoppard**
10: *Glengarry Glen Ross, American Buffalo*
        Answer: David **Mamet**
10: *The Caretaker, The Birthday Party, The Dumb Waiter*
        Answer: Harold **Pinter**

13.   (JK) FTPE, identify these chemistry gas laws from a description.
A. At constant pressure, the volume is directly proportional to the temperature.
        Answer: **Charles** and Gay-Lussac's Law
B. At constant temperature and pressure, the volume of a gas is directly proportional to the quantity of the gas.
        Answer: **Avogadro**'s Law
C. At constant temperature, the pressure is indirectly proportional to the volume.
        Answer: **Boyle**'s Law

14.   (JK) Answer the following about the cast of one of the new NBC fall shows, *30 Rock*, for ten points each.
A. This actor, who plays a network executive on the show, was lampooned in *Team America: World Police* as the head of the Film Actors Guild and is more famous than his acting brothers William, Stephen, and Daniel.
        Answer: **Alec Baldwin**
B. Other than Tina Fey, name either of the two former *Saturday Night Live* cast members who are on the show. While on *SNL*, one was famous for portraying naïve animal lover Brian Fellow while the other played pessimist Debbie Downer.
        Answer: Tracy **Morgan** or Rachel **Dratch**
C. This comedian plays Frank, a writer for *Friday Night Bits*, on *30 Rock*. He is likely more famous for wearing trucker's hats and for being the guy who had the need to hug everyone he could in the video for the Dave Matthews Band song "Everyday."
        Answer: Judah **Friedlander**

15.   (Sh/SK) Given some landmark Supreme Court cases, name the Chief Justice who presided over them on a 5-10-15 points basis.
1. (5 points) Lawrence v. Texas, Planned Parenthood v. Casey, Bush v. Gore
        Answer: William **Rehnquist**
2. (10 points) Brown v. Board of Education, Gideon v. Wainwright, Baker v. Carr
        Answer: Earl **Warren**
3. (15 points) Roe v. Wade, Bowers v. Hardwick, Furman v. Georgia
        Answer: Warren **Burger**

16.   (UNC/CS) 30-20-10, name the character from quotes.
30: "You are a lover, borrow Cupid's wings / and soar with them above a common bound."
20: "And but one word with one of us? Couple it with something; make it a word and a blow."
10: "A plague on both your houses!"
        Answer: **Mercutio**

17. (DU/JV) Answer these related questions FTPE.

(10) The speed of this is 3×10^8 meters per second.

      Answer: **Light**

(10) Photosynthesis, the process of turning light into energy in plants, occurs in the chloroplast thanks to these structures, stacks of thylakoids.

      Answer: **Grana** (or singular **Granum**)

(10) This element with atomic number 21 is the lightest transition metal.

      Answer: **Scandium** (prompt on Sc)

18. (AR/JV) Given a character of the *Iliad*, name his killer FTPE.

(10) Achilles

      Answer: **Paris**

(10) Patroclus

      Answer: **Hector** (acc. Euphorbos)

(10) Astyanax

      Answer: **Neoptolemus**

19. (AR/JV) Given a description of a North American Mountain Range, name it FTPE.

(10) Running from Southern Alberta to Liard Plain in British Columbia this mountain range contains five large national parks, including Banff and Jasper. Mount Robson is the highest mountain in the range

      Answer: **Canadian Rockies** [prompt on Rockies]

(10) Despite its name, this mountain range is located almost entirely in eastern California, bounded on the west by California's Central Valley and on the east by the Great Basin. Lake Tahoe lies within this range.

      Answer: **Sierra Nevada**(s)

(10) This branch of the Appalachian Mountains found mostly in Western Massachusetts, provides the backdrop for the summer home of the Boston Symphony Orchestra. It is a popular tourist destination for many well-to-do Northeasterners; the Housatonic River flows through most of it.

      Answer: The **Berkshires** (pron. Berk-shurs or Berk-sheers)

20. (AR/JV) Name these theorems in mathematics, FTPE.

(10) This theorem states essentially that the two central operations integration and differentiation are inverses of each other. The first known proof of this theorem was the Scottish mathematician James Gregory

      Answer: **Fundamental Theorem of Calculus**

(10) This theorem stated by its namesake in 1712 gives the approximation of a differentiable function near a point by a polynomial whose coefficients depend only on the derivatives of the function at that point. James Gregory also discovered this result some 41 years earlier.

      Answer: **Taylor's** Theorem

(10) First developed by Lagrange, it is an important theorem for differential calculus as it states given an interval section of a smooth curve there is a point on the curve within the interval where the derivate or slope of the curve is equal to the "average" slope of the interval.

      Answer: **Mean-Value** Theorem

21. (BB/SK) Dedicated to Sarah Jewett, its title was taken from a Walt Whitman poem it chronicles periods in the life of a Swedish immigrant girl, her frustrations with two of her idiot brothers, and her eventual love for her friend Carl Lindstrom. For 10 points each:

1. Name this novel, one of the more famous by Willa Cather.

      Answer: ***O Pioneers!***

2. Name the main character of *O Pioneers!* .

      Answer: **Alexandra Bergson** (accept either name)

3. A tragedy that befalls Alexandra is the murder of this character, her favorite brother, by a jealous husband of the girl he falls for during his last visit to say goodbye to her.

      Answer: **Emil**