1. His little known foray into sculpture included his Rhinoceros Clothed in Nails, and he photographed the Atomica Series. Late in his career, he painted the Disintegration of his most famous work. The elephant plays a significant role in his paintings: one appears in his The Temptation of St. Anthony, another in his Dream Caused by the Flight of a Bumblebee, as well as another in which they reflected Swans. For ten points, name this Spanish Surrealist, whose most famous painting is the ubiquitous Persistence of Memory.

Answer: $\quad$ Salvador Dalí
2. A selection rule limits the emission of this kind of radiation to atomic transitions corresponding to a change in magnetic quantum number of one. Potentials for induced ones have a one over radius cubed dependence, while natural ones have a one over radius squared dependence. A current in a circular path is formally equivalent to a magnetic one of these. Antennae emit this kind of radiation. For ten points, name this type of charge configuration consisting of a positive charge and a negative charge.

Answer: $\quad \underline{\text { Dipole }}$ (Prompt on Multipole while giving a dirty look)
3. In November 2006, they released a new live, acoustic album and DVD called Skin and Bones that included newer songs like "Razor", "Cold Day in the Sun" and "Another Round" from their two-disc album In Your Honor, as well as older hits like "My Hero", "Everlong" and "Times Like These." For ten points, name this rock band that is remembered for their wacky music video for the song "Learn to Fly", in which band members Taylor Hawkins and Dave Grohl dress up as many characters on an airplane, and for their newest singles, "DOA" and "Best of You".

Answer: $\quad$ Foo Fighters
4. Ezra Pound's translations of this man's poetry introduced him into Western culture. He was very fond of liquor and also has a crater on Mercury named after him. Gustav Mahler incorporated some of his writings into The Song of the Earth and the 1997 novel A Floating Life is based on his life and over 1,000 of his poems are believed to exist today. For 10 points-name this $8^{\text {th }}$ century poet of the Tang Dynasty best known for drowning in the Yangtze River after a failed attempt to squeeze the moon's reflection.

Answer: $\quad \underline{\text { Li Po or } \underline{\text { Li Bai }} \text { (Accept } \underline{\text { Li }} \text { or } \underline{\text { Po }} \text { or } \underline{\text { Bai) }}) ~}$
5. Though he was appointed Commander of the British Empire in 1929, his title was revoked a decade later. He helped to form his nation's National Unity party in 1933 and became Minister President in February 1942, even though the elected government was in exile in London at the time. This, of course, came after his announcing the German takeover of his nation. Executed for war crimes and high treason in October, 1945, for ten points, name this Norwegian, whose name has become synonymous with "traitor" and "collaborator".

Answer: Vidkun Abraham Lauritz Jonssøn Quisling
6. This theorem is a lemma in the proof of Taylor's Theorem, which is a special case of this theorem. The generalized form of this theorem can be converted to the regular form by substituting x for the second function. Rolle's Theorem is a special case of this theorem, for which the derivative of the function is zero. For ten points, name this theorem about differentiable functions, that states that within an interval, there exists a point in the interval at which the derivative of the function is equal to the slope of the line connecting the endpoints of that interval.

Answer: Mean Value theorem (Do not accept the Intermediate Value Theorem)
7. Lasting for barely half an hour, it saw nearly 2,000 British casualties while the Americans suffered only 71. The engagement had been triggered after 8,700 British troops had landed ashore under the command of Sir Edward Pakenham. The two armies played cat-and-mouse for nearly a month until Pakenham ordered a two-pronged assault on the American fortification leading to British soldiers being gunned down as they attempted to cross canals and earthworks. Fought two weeks after the war had already ended, FTP, name this last battle of the War of 1812 won by Americans under the command of Andrew Jackson

Answer: $\quad$ Battle of New Orleans
8. Ludwig Wittgenstein said that he was, "By far the most profound thinker of the $19^{\text {th }}$ century." He profoundly enjoyed history and Latin at the School of Civic Virtue and from there he went on to receive a PhD from his hometown university. Some of his lesser-known works are Philosophical Fragments, the Concept of Irony, and Christian Discourses. For ten points-name thesis Danish existentialist best known for Either/Or and Fear and Trembling.

Answer: $\quad$ Soren Kierkegaard
9. One of his latest novels, The Lake, follows retired teacher Gimpei Momoi as he strolls through his hometown. His The Dancing Girl of Izu was one of the earliest works of his native country to appear in the Atlantic Monthly and he writes of a young challenger beating a retiring player in his novel The Master of Go. For ten points, name this Japanese Nobel Laureate, author of Snow Country.

Answer: Kawabata Yasunari [accept in either order, but must have Kawabata]
10. (CS) Its albedo is 0.6 . Its period of rotation about its axis is 10 hrs ., 49 min . Its sidereal period is 84 years; its synodic period is 369.7 days. Its diameter is roughly 31,000 miles, and its volume is about 59 times that of Earth. Because its equatorial plane is at an 82 -degree angle with its orbital plane, it has no climatic zones as we know them. FTP name this planet, discovered in March 1781 by William Herschel.

## Answer:

Uranus
11. It flows for nearly 1,900 miles and provides irrigation for nearly all of the Sind Province. The gigantic gorges that it runs through make it almost unnavigable until it joins with the Kabul River. Its three major tributaries are the Chenab, Ravi, and Sutlej, and it is formed by the confluence of glacial run-offs in the Himalayas of Tibet. It runs through Jammu, Kashmir, and the Punjab before forming a 3,000 square mile delta and emptying into the Arabian Sea. FTP, name this longest river of Pakistan and India.

Answer: Indus River
12. (CS) His early efforts in both opera seria and opera buffa are rarely performed today, although his Don Juan is one of the few pieces of 18 th-century ballet music still used today. Despite the opposition of a favored court composer, Niccolo Piccinni, he and librettist Ranieri di Calzabigi achieved great success with operas that advanced the form because they actually linked the music with the plot. FTP name the German-born composer of Orfeo et Euridice and Alceste.

Answer: $\quad$ Christoph Willibald Gluck
13. An episode of Spongebob Squarepants entitled "Squeaky Boots" is loosely based on this story. The first person narrator, who claims for the whole of the story that he is quite sane, stalks his victim for over a week, waiting for the perfect moment to strike. After he finally smothers his victim and dismembers the carcass, the police arrive to investigate a strange noise a neighbor heard. For ten points, name this story where the narrator confesses his crime after hearing a faint noise where the body was hidden, a masterpiece by Edgar Allen Poe.

Answer: $\quad$ The Telltale Heart
14. By using infantry to absorb the brunt of attacks and holding the cavalry in reserve, he captured the Ottoman Sultan Bayezid I - not bad for a man who began his military career as the leader of bandits who stole sheep from rival tribes. Bigger and better things awaited him after the death of Tuglhuq as he took Samarqand. He defeated the Golden Horde, but perhaps he was most revered for constructing a tower of skulls after he massacred 70,000 rebels in Isfahan. FTP, name this Central Asian ruler and conqueror who died while preparing to invade China and earned his name after sustaining a leg injury which made him "lang" or lame.

Answer: $\quad \underline{T a m e r l a n e ~ o r ~ T i m u r ~}$
15. This appears in about 1 of every 2000 female live births, and girls with this disorder are characterized by short stature, loose folds of skin on the neck, a small jaw, and are more likely to suffer from malfunctions of the heart, kidney or thyroid. They fail to develop secondary sex characteristics at puberty and are typically infertile. Modern treatment with growth hormones and estrogen can decrease these problems and in vitro fertilization can be used to allow women with this condition to have children. Also known as monosomy X, for ten points, name this genetic disorder, in which the second sexual allele is not present.

Answer: Turner's Syndrome
16. Although commonly referenced, it is found only in Luke's Gospel in Chapter 15. It speaks of a death and resurrection, something lost and found. It is coupled with the stories of lost sheep and a lost coin that are searched for and received with joy although there are other sheep and other coins. All three stories illustrate Jesus' concern for the lost and God's love for the repentant sinner. FTP, name this story about a father whose youngest son squanders his inheritance and then returns home to be welcomed with open arms and a great feast.

Answer: $\quad$ The Prodigal Son (The Parable of the Lost Son is also acceptable)
17. The United States Senate investigation into this was led by Montana Senator Thomas Walsh. The ordeal had started earlier that year after Edwin Denby had been convinced to cede control over public lands at this site from the Navy to the Department of the Interior. The land rights were then sold to Mammoth Oil company along with reserves in Elk Hills, California. FTP, name this affair which was one of many to plague the Warren Harding administration and saw the indictment of Albert Fall.

Answer: Teapot Dome Scandal
18. In 1967, he co-founded the World Championship Tennis league, and for his exploits was made a member of the International Tennis Hall of Fame in 1993. He was almost awarded the Columbus Blue Jackets franchise of the NHL, which went to John H. McConnell. He was also one of the founding investors of the Chicago Bulls of the NBA. But it was for his exploits in football that he is best known for. For Ten Points, name this co-founder of the American Football League, who merged both his league and the National Football League in to its current form, created the Super Bowl, and owned the Kansas City Chiefs until his 2006 death.

## Answer: Lamar Hunt

19. A barium salt of this compound is used in tracers in machine guns, while the sodium salt is used in submarines to help absorb carbon dioxide. If compounds with it are present in organic reactions, they will follow anti-Markovnikov properties. Also used in disinfectants with hydrogen, for ten points, name this anion with formula $\mathrm{O}_{2}{ }^{-}$.

## Answer: Peroxide

20. Although he began coursework at many New York area colleges, this author never received a college degree. His first published story, "The Young Folks," was printed in Story magazine in 1940. Other stories include "Just Before the War with the Eskimos", "The Laughing Man", and "A Perfect Day for Bananafish", he is perhaps most famous for the novels "Franny and Zooey" and "The Catcher in the Rye"

## Answer: J(erome) D(avid) Salinger

21. This site was comprehensively dug up between 1963 and 1965 by a team of archeologist leds by Yigael Yadin. Its overlooks the Dead Sea and was built in the First Century B.C. The Siege of this site took place in 72 and 73 A.D. and resulted in the Roman Empire triumphing over the Jewish Zealots. For 10 points name this fortification in Israel that is now a tourist attraction.

Answer: Mount Masada
22. This empire consisted of twelve provinces called tinkurus. Its founder was nicknamed the Lion King who along with his grand nephew are widely regarded as the two most important rulers of this empire. Cities in it included Jenne, Gao, and Timbuktu. For 10 points-name this dynasty led by Sundiata and Musa that shares its name with the African country with present day capital Bamako.

## Answer: Mali Empire

1. For ten points each, name these artists who are just keepin' it real, yo.

This French painter ended his career with the controversial The Sleepers and Origin of the World, but is more well-known for Realist works like Burial at Ornans.

Answer: Gustave Courbet
This man painted the realist The Dance Class, but is more often associated with Impressionism, as with his At the Races.

## Answer: Edgar Degas

This American realist is known for his Clinic works, like The Gross Clinic and The Agnew Clinic.

## Answer: Thomas Eakins

2. FTPE answer the following questions about a work by John Steinbeck:

This Steinbeck novel follows a poor rural family as they leave dust-bowl era Oklahoma to seek work in California.
Answer: $\quad$ The Grapes of Wrath
The focus of the novel is this family, whose members include Rose of Sharon and the protagonist Tom.
Answer: the Joads
The eldest son of Tom, he leaves the Joads when he believes that the Joads' journey to California will be fruitless.

## Answer: Noah

3. It's still wonderful to watch Futurama on Adult Swim. Answer these questions from that spectacular TV show FTPE: This captain of the Nimbus pities Leela into sleeping with him, and then proceeds to never let Leela live it down. He has a velour fetish, and a sexy learning disability, which he refers to as "sexlexia".

Answer: $\quad$ Captain Zap Brannigan (Accept either)
Who is the leader of the planet Omicron Persei 8?
Answer: Lrrr
This is Leela's pet that gorges on just about everything and poops dark matter. Oh yeah, and he's also a member of the super-intelligent and super-cute race.

Answer: Nibbler
4. Name these important Supreme Court cases handed down by John Marshall's court.
A. This 1803 decision concerning the appointment of "midnight judges" established the doctrine of judicial review.

Answer: $\quad$ Marbury v. Madison
B. This 1810 case on the Yazoo land frauds was the first time the Court dismissed an existing law as unconstitutional.

Answer: $\quad$ Fletcher v. Peck
C. Daniel Webster argued successfully for the plaintiff in this 1819 case, suing to prevent its home state from changing its charter from a private institution to a public one.

Answer: $\quad$ Trustees of Dartmouth College $\underline{v}$. Woodward
5. FTPE, name these rules found in chemistry.

This rule states that for the degenerate orbitals, and electron will occupy each singly before pairing up with another electron.

Answer: Hund's Rule
This rule defines aromaticity stating that compounds must be in a planar conformation with continuous ring of overlapping p-orbitals, $\mathrm{sp}^{2}$ hybridized.

Answer: Huckel's Rule
This rule involves regioselectivity and states that the more highly substituted alkene will predominate when multiple alkene products are possible.

Answer: $\quad \underline{\text { Zaitsev Rule }}$
6. (CS) These poems were all inspired by Biblical passages from I or II Kings or I or II Chronicles. FTPE, name the authors.
(a) "And Did Those Feet"

Answer: William Blake
(b) "The Harp the Monarch Minstel Swept" and "The Destruction of Sennacherib"

Answer: George Gordon Lord Byron
(c) "King Solomon and the Ants"

Answer: John Greenleaf Whittier
7. For ten points each name these things relating to Asian wars and treaties.

This 1905 treaty ended the Russo-Japanese War.
Answer: Treaty of Portsmouth
This 1895 treaty ended the First Sino-Japanese War.
Answer: $\quad$ Treaty of Shimonoseki
The Treaty of Panmunjom ended this $20^{\text {th }}$ century War.
Answer: Korean War (Accept equivalents)
8. Name these things associated with the programming paradigm OOP, for ten points each.

This structure is the fundamental one for OOP.
Answer: Class
Putting one of the O's in OOP, this is an instance of a class.
Answer: Object
Encapsulation controls the interface between a client and a class by splitting the class into three categories. Name any two of these, for five points each.

Answer: $\quad$ Public, Private, Protected
9. For ten points each, name these creatures and people encountered by Odysseus on his journey home.

The witch who turned his men into swine.

## Answer: Circe

The Cyclops who captured them for a time.

## Answer: Polyphemus

The race of gigantic cannibals who destroyed all his ships but the one Odysseus himself was on.
Answer: Laestrygons
10. For ten points each, name these things related to Quantum Mechanics.

Non-relativistic Quantum Mechanics is explained by this equation, which relates the Hamiltonian operator to the sum of the kinetic energy and the potential energy operators.

Answer: Schroedinger's Equation
This relation describes a particle in Quantum Mechanics, and in the Copenhagen interpretation, the product of it and its complex conjugate is interpreted as a probability density.

Answer: wavefunction
The operators which correspond to observable quantities, such as the position or momentum operators, must be this type of operator, all of whose eigenvalues are real.

Answer:
Hermitian operator (or Self-Adjoint)
11. Name these works by Daniel Defoe, for ten points each.

This most famous work of Daniel Defoe was based on the adventures of Alexander Selkirk. Throughout, the titular dude gets stranded and undergoes a religious conversion.

Answer: Robinson Crusoe
This work details an unnamed woman courting a prince, a jeweler, and a dutch merchant. By the end of the novel, the fortunate mistress manages to use her acquired wealth to buy her own freedom.

Answer: Roxana, the Fortunate Mistress
This diary-type work chronicles the titular catastrophic time of disease in Britain.

## Answer: $\quad$ Journal of the Plague Year

12. (VT) For 10 points each, identify these enemies of Gaius Julius Caesar.

This man, most notably the rival of Caesar's uncle Marius, stripped Caesar of most of his wealth. He is reported to have once said that he "saw many Mariuses in Caesar."

Answer: Lucius Cornelius Sulla
This leader of the Arverni defeated Caesar at Gergovia, but lost decisively at Alesia.
Answer: Vercingetorix
Considered by many to be the greatest orator in Roman history, he was Caesar's primary political opponent after the defeat of Pompey at Pharsalus.

Answer: Marcus Tullius Cicero
13. Name these things about biological processes, for ten points each.

These biomechanical catalysts are somewhat important in biological processes.
Answer: Enzymes
This term is given to the molecules that enzymes manipulate, such as a nucleotide for DNA Polymerase.
Answer: Substrate
These molecules reduce the effectiveness of an enzyme. A famous class of these act on Angiotensin Converting Enzyme, and are used in treatment of hypertension.

Answer: Inhibitors (Accept ACE inhibitors)
14. FTPE, identify the novel by everyone's favorite legal dramatist, John Grisham.

This book begins with the assassination of two Supreme Court justices who were killed because of their environmental beliefs.

Answer: $\quad$ The Pelican Brief
This novel sees Rankin Fitch attempt to win a case by any means for the tobacco industry which is being sued by Celeste Wood for the death of her husband.

Answer: $\quad$ The Runaway Jury
Danny Padgitt promises to kill every member of the jury should they convict him, but it is a schizophrenic who kills Danny and several jury members while Danny is on parole.

Answer: The Last Juror
15. For ten points each name these American economists who were also professors at the University of Chicago. Along with Lindahl and Bowen, he derived criterion on whether an action will improve Welfare conditions, and devised the overlapping generations model in Macroeconomics, for which he won the 1970 Nobel in Economics.

Answer: Paul Samuelson
This British economist won the 1991 Nobel Prize in Economics and is likely best known for his namesake theorem about the allotment of property rights by the government.

Answer: Ronald Harry Coase
This economist and current professor at the University of Chicago is probably best known for co-writing Freakonomics with Stephen Dubner.

## Answer: $\quad$ Steven "Steve" Levitt

16. This battle saw nearly 60,000 British casualties occur on the first day and would last from July 1 to November 18, 1916 resulting in a British and French advance of 12 kilometers.

Answer: Battle of the Somme
Russia's Second Army was encircled and destroyed by the German $8^{\text {th }}$ Army under the command of Hindenburg in this 1914 battle effectively ending Russia's westward advance.

Answer: Battle of Tannenberg
This 1914 battle occurred as the German and allied armies raced each other to gain access to the North Sea and would later see the British hold out in the namesake Belgian city for two months against German sieges.

Answer: $\quad$ First Battle of Ypres
17. For 10 points each name these Russian rivers.

Of this river's 2,744 miles, about 1,000 form the border between Russia and China, where it is called the Helong Jiang or Black Dragon River.

Answer: Amur River
This tenth longest river in the world flows from Lake Baikal to the Laptev Sea.

$$
\text { Answer: } \quad \text { Lena River }
$$

This fourth longest river of Russia flows past Novosibirsk and into the Kara Sea.
Answer: $\quad$ Ob River or Obi River
18. In the movie Stealth, Jamie Foxx's character incorrectly identified one as a prime number. Prove that you're smarter than the scriptwriter of Stealth by answering the following FTPE:
A proof in this man's Elements showed that if there is one prime number, there is an infinite number of prime numbers.
Answer: Euclid
These are pairs of prime numbers that are separated by two, for example, 71 and 73 . It is currently unknown whether there is a finite or infinite number of them.

## Answer: Twin Primes

Along with Carmichael numbers, prime numbers fulfill the formula for the "Little" theorem developed by this man, more famous for a problem solved by Andrew Wiles.

Answer: $\quad$ Pierre de Fermat
19. For ten points each, answer the following about a certain minimalist composer.

This composer received critical acclaim with such works as Harmonium and Short Ride in a Fast Machine. He shares his first and last names with not one, but two presidents!

Answer: John Coolidge Adams
This opera by John Adams features the songs The Three Main Rules of Discipline and Eight Points of Attention and The Red Detachment of Women, the latter of which is written by Madam Mao in the Opera.

Answer: $\quad$ Nixon in China
This John Adams opera was based on the Palestinian Liberation Front's hijacking a cruise ship, resulting in the demise of the titular Jewish man.

Answer: $\quad$ Death of Klinghoffer
20. Given the work and the home country, name the non-UK Man Booker Prize winner FTPE.

The English Patient; born in Sri Lanka but a longtime resident of Canada
Answer: $\quad$ Michael Ondaatie
In a Free State; Trinidad
Answer: Vidiadhar Surajprasad Naipaul
True History of the Kelly Gang; Australia
Answer: Peter Caray
21. Name these presidential "deals" for ten points each.

Teddy Roosevelt used this as his platform in the 1904 election stating that he would not favor any group of Americans.

## Answer: $\quad$ Square Deal

This Franklin Roosevelt deal aimed at halting the depression by attempting to produce "Relief, Recovery, and Reform."
Answer: New Deal
This deal aimed at protecting labor against businesses and consisted of such things as the Wagner Act, Works Progress Administration, and National Youth Administration.

Answer: $\quad$ Second New Deal
22. (VT) For 10 points each, identify the derived SI unit from these descriptions.

It equals one kilogram-meter squared per second squared.
Answer: joule
It equals one kilogram per meter-second squared.

## Answer: pascal

It equals one Ampere squared-second to the 4th power per kilogram-meter squared, which equals one coulomb per volt.
Answer: farad

