1. One event in this country that took place on Epifanio de los Santos Avenue was the People Power Revolution. Joseph Estrada was ousted from power here after a vote of no confidence. One leader from this country had a wife who owned nearly $\mathbf{3 , 0 0 0}$ shoes. One uprising in this country was led by (*) Emilio Aguinaldo and the 1980's was marked by turmoil in this country during the fall of Ferdinand Marcos and subsequent rise of Corazon Aquino. For 10 points, name this Asian nation whose largest island of Luzon is home to its capital of Manila.
ANSWER: Republic of the Philippines [or Republika ng Pilipinas]
2. One painting by this artist was titled after its possessors Niccolini and Cowper and is similar to a work where a baby Jesus and John the Baptist hold the titular animal. Four putti bear mottos in his best known painting, whose two central figures hold Timaeus and Nichomachaen Ethics. This painter of Madonna of the Goldfinch also painted La Disputa in the (*) Stanza della Segnatura along with a work that depicts many Greek philosophers. For 10 points, identify this Renaissance painter of School of Athens.
ANSWER: Raphael [or Raffaello Sanzio da Urbino]
3. Some people allege that Inessa Armand was this man's lover. This man founded Iskra with a later rival, Julius Martov, and theorized the formation of a "vanguard" in What Is to Be Done?. He later led an expatriate contingent of his countrymen in Geneva, Switzerland, from which he returned to his home country at Finland Station. This man came up with the New (*) Economic Policy after the Russian Civil War. His successor had a rival, Leon Trotsky, killed. For 10 points, identify this leader of the Bolshevik revolution, the predecessor of Stalin.
ANSWER: Vladimir Ilyich Lenin [or Vladimir Ilyich Ulyanov]
020-10-23-03104
4. These particles are the primary application of the Gupta-Bleuler method. Their tunneling is utilized in NSOM devices. They are produced when holes and electrons combine in a device using $p$ and $n$ layers of a material with a direct band gap. They are created in stimulated emission. The energy of one of these is (*) Planck's constant times the frequency. The virtual form of these particles mediate the electromagnetic force. For 10 points, name these particles that make up light.
ANSWER: photon
5. One character in this movie hides his heroin in a jelly-bean bag and feels insecure that people only watch his movie franchise, The Fatties, because of the fart jokes. Another character plays the autistic "Simple Jack" to entertain the Flaming Dragon gang that imprisons him. Robert Downey Jr.'s character for this movie undergoes a skin (*) pigmentation operation to play the black Sergeant Osiris. For 10 points, name this Ben Stiller comedy about actors for a Vietnam War movie.
6. This character prizes a picture of a lady in a fur hat and fur boa. At the beginning of the work in which he appears, he has missed the five o'clock train and worries about catching the seven o'clock train. Later, he receives a wound from an apple, and he is confined to his room while his family takes in lodgers in an attempt to replace the income he used to earn as a traveling (*) salesman. For 10 points, name this character who upon waking discovers he has been turned into a "monstrous vermin" in Franz Kafka's The Metamorphosis.
ANSWER: Gregor Samsa [accept either name]
7. In one of this artist's paintings, a single horseman on a vast plain of ice spots an army in the distance and wonders if they are Friends or Foes? In another work, a shadowy figure faces a wagon placed by a campfire and prepares to trade with two Native Americans. This artist painted Shotgun Hospitality and sculpted the mane and reins of a (*) bucking horse ridden by a cowboy. For 10 points, name this American artist who created Bronco Buster and made illustrations of the Spanish-American War. ANSWER: Frederic Sackrider Remington

020-10-23-03108
8. Pioneers of this discipline included Charles Bonnet and the blind Francois Huber. Thomas Wildman's designs were improved upon by Lorenzo Langstroth, who measured and allowed for the space between the beams to allow for the namesake animals to move more freely. In retirement, Sherlock Holmes wrote a "Practical Guide" to this discipline. Langstroth's designs allowed the (*) comb to be viewed and the honey harvested with minimal damage to its producers. For 10 points, name this discipline of raising a certain type of insect.
ANSWER: beekeeping
9. In this novel, one character's attempt to see the title character in a parade ends with her carriage being damaged by the title character's wife's servants. Another character is always given away by his plum blossom scent. The latter character is Kaoru and the former is the Lady Rakujo, whose spirit possesses Lady Aoi and a character who shares her name with this work's (*) author. The title character is the son of the Emperor and a concubine. For 10 points, name this Japanese novel about Heian court life, written by Murasaki Shikibu.
ANSWER: The Tale of Genji [or Genji Monogatari]
10. This function appears in the integral definition of the gamma function where it of negative $t$ is multiplied by $\mathbf{t}$ to the z minus one times dt . This is given as the limit as $\mathbf{n}$ goes to infinity of quantity 1 plus $x$ over $n$ to the nth power. Relatedly, its power series is the sum from $n$ equals zero to infinity of $\mathbf{x}$ to the $\mathbf{n}$ divided by $\mathbf{n}$ factorial. This function is its own (*) derivative. Its inverse is the natural log. For 10 points, name this function of x which is approximately 2.718 raised to the xth power. ANSWER: exponential function [or $\underline{\mathbf{e}}^{\mathbf{x}}$ (e to the x , or e raised to the xth power, etc)]

001-10-23-03111
11. During a contest against her brother, this deity chewed on pieces of a sword and spat them out to in order to produce children. Worshipped at a shrine at Ise, she was born when her father was cleaning his left eye after returning from the underworld Yomi. After her brother threw a flayed horse into her hall, this goddess hid in a cave and refused to come out, putting the world in darkness. This daughter of (*) Izanagi and sister of the storm god Susanoo is considered to be one of the most important kami (kah-MEE). For 10 points, name this Shinto sun goddess.
ANSWER: Amaterasu omikami [or ohiru-menomuchi-no-kami]
12. A group of flowers called Alice's Posies are described in this novel's first chapter, while in its last chapter Uncle Venner is invited to live on an inherited estate. Another character is hypnotized after being told a story by the daguerreotypist Holgrave, and soon afterwards the Judge mysteriously dies, prompting Clifford and Hepzibah to flee from the titular (*) structure. The farmer Matthew Maule cursed this novel's central family, whose members include Phoebe and the Colonel Pyncheon. For 10 points, name this novel by Nathaniel Hawthorne.
ANSWER: The House of the Seven Gables
13. This composer's ballets include Plymouth Town and The Prince of the Pagodas. He featured a Boisterous Bouree and Frolicsome Finale in a work based on tunes he wrote as a child, his Simple Symphony. Each section of the orchestra plays, in sequence, the tune of one of his works subtitled "Variations and Fugue on a Theme of Purcell," and he used the poetry of Wilfred Owen in (*) War Requiem. Operas such as Peter Grimes were also composed by, for 10 points, which English composer of the Young Person's Guide to the Orchestra?
ANSWER: Benjamin Britten
14. One character in this play asks "Can one desire too much of a good thing?" A subplot in this play sees Corin trying to learn the ways of love from Silvius. An antagonist of this play is Oliver, who changes his ways after his brother saves him from a lion. Celia disguises herself as Aliena to accompany the protagonist of this play, whose exiled father hears Jaques declare that "All the world's a (*) stage, and all the men and women merely players." For 10 points, name this Shakespeare comedy which follows Orlando and Rosalind's escapades in the forest of Arden.
ANSWER: As You Like It
015-10-23-03115
15. The robust nucleus of the arcopallium in adults of this class was used to show that adult vertebrates could grow new neurons. Animals in this class have a sternal keel and a fused clavicle called a furcula. Modern members of this class are divided into Palaeognathae and Neognatha. Organs found in this class include the syrinx and the (*) gizzard. The earliest example of this class is Archaeopteryx. For 10 points, name this class of vertebrates that save for a few notable exceptions like the cassowary, are capable of flight.
ANSWER: birds [or aves]
001-10-23-03116
16. This island is home to Cold Spring Harbor National Laboratory and Jones Beach State Park, which was developed by Robert Moses. The Oyster Bay branch is part of its namesake railroad, the busiest commuter system in America. The Town of Hempstead on this island is home to the first Levittown, and its two suburban counties are Nassau and Suffolk. It contains both the (*) LaGuardia and JFK Airports. For 10 points, name this most populous island in America, which stretches 118 miles from Montauk Point to Queens and Brooklyn in southern New York.
ANSWER: Long Island
17. This event began when the invading army landed at Brixham after receiving a letter from the "Immortal Seven." The aftermath of this event led to the Battle of the Boyne. It was precipitated when Mary of Modena gave birth to James Francis Edward Stuart, leading to fears that England would continue to have a Catholic king. As a result, (*) James II was overthrown and the Bill of Rights was enacted after the invading Dutch installed the Protestant William and Mary on the throne. For 10 points, name this 1688 revolution that ended absolutism in England.
ANSWER: Glorious Revolution [or Revolution of $\mathbf{1 6 8 8}$ until mentioned; prompt on Bloodless Revolution]
18. This value is found cubed in the denominator of Rydberg's constant. A 'reduced" form of this value is found by dividing it by two times pi and is used in calculating the angular momentum of a subatomic particle. The Heisenberg uncertainty principle is typically written as the change in position times the change in momentum is greater than or equal to $(*)$ this value. For 10 points, name this constant equal to about 6.626 times ten to the negative thirty-fourth power, named for the German developer of quantum theory.
ANSWER: Planck's constant [prompt on $\underline{\mathbf{h}}$ ]
19. Events in this conflict included Operation Doogman 5 and Operation Nickel Grass. The UN Security Council Resolution 338 called for an immediate end to this conflict. David Elazar resigned in the aftermath of this war, as a result of the findings of the Agranat Commission. Egyptian forces crossed the (*) Suez Canal and Syrian forces attacked the Golan Heights at the beginning of this conflict. For 10 points, name this 1973 war which began when Israel was invaded on the Jewish Day of Atonement. ANSWER: Yom Kippur War [or Fourth Arab-Israeli War; or Ramadan War; or October War; or 1973 Arab-Israeli War before the year is read; prompt on Arab-Israeli War]

024-10-23-03120
20. A cult of this deity was characterized by the sacrifice of puppies to Enyalio. The eagle owl, woodpecker, and vulture are sacred to this deity. This god exacts revenge for the rape of his daughter Alcippe and is forced to appear in a tribunal held by the Olympians held on a hill which later bore this god's name. With his lover, this father of Harmonia is caught in a (*) net crafted by Hephaestus. Cadmus slew a water-dragon sacred to this deity, who is known for only consorting with Aphrodite. For 10 points, name this Greek god of war.
ANSWER: Ares [or Mars]
020-10-23-03121
21. Subclasses of this type of object are named for Delta Scuti and W Virginis. Doubly ionized helium converts to singly ionized helium in the atmosphere of these stars as they expand and contract, creating its characteristic "shark fin" light curve. Henrietta Leavitt used large populations of these stars in the Magellanic Clouds to develop a (*) period-Luminosity relation for them, and Edwin Hubble used this relationship to calibrate his namesake constant of universe expansion. For 10 points, name this class of intrinsic variable stars used as standard candles .
ANSWER: Cepheid Variables
22. This man wrote about Sandy Williams' disillusionment with his Kansas town in Not Without Laughter. This creator of Jesse B. Semple wrote about a man who "slept like a rock or a man that's dead" in a poem that describes a piano player on Lenox Avenue. This poet of "The Weary (*) Blues" declares, "My soul has grown deep like rivers" in "The Negro Speaks of Rivers." For 10 points, name this African-American poet who described a "dream deferred" in "Harlem."
ANSWER: Langston Hughes
079-10-23-03123
23. Samuel Graves provided artillery support during this battle. Joseph Warren was killed during this battle that saw colonial forces led in part by Israel Putnam. This battle was preceded by a withdrawal by Thomas Gage, which allowed colonial forces under William Prescott to land at night and quickly fortify a position named (*) Breed's Hill. According to legend, the colonial commander told his troops not to fire until they saw the whites of their enemies' eyes. For 10 points, name this Revolutionary War battle fought after Lexington and Concord near Boston.
ANSWER: Battle of Bunker Hill [or Battle of Breed's Hill before it is read]

1. This law is a simplification of the Biot-Savart Law. For 10 points each:
[10] Name this law that states that the path integral of the magnetic field around a closed loop is equal to the permeability of free space times the current enclosed by the loop.
ANSWER: Ampère's Law
[10] The integral form of Ampère's Law is not exactly correct. To make it correct, this term, equal to the permittivity of free space times the time derivative of the magnetic flux, is added to the right side.
ANSWER: displacement current
[10] This scientist added the displacement current to the integral form of Ampère's Law. It was the only real work he did on any of the set of four equations that bears his name.
ANSWER: James Clerk Maxwell
2. Many religions incorporate elements of Christianity. Identify some of those religions, for 10 points each: [10] Christian symbols are sometimes incorporated into the rituals of these religious movements, found mainly in Melanesia. These movements await the arrival of supplies of advanced societies, and an example of one of these is the John Frum movement.
ANSWER: Cargo Cults
[10] Known for holding mass wedding ceremonies and for being the target of deprogrammers, this religion's South Korean founder is a former Presbyterian who this religion views as the Messiah. ANSWER: Unification Church [or Holy Spirit Association for the Unification of World Christianity] [10] This Haitian religion incorporates elements of Roman Catholicism with traditions of Yoruban, Dahomean, and other African ethnic groups. This religion holds that the unseen world is filled with spirits known as Iwa.
ANSWER: Voodoo
030-10-23-03202
3. Name these historically disputed areas of the United States, for 10 points each.
[10] New York and New Hampshire both claimed the territory that eventually became this fourteenth state.
ANSWER: Vermont
[10] The Supreme Court case New Jersey v. New York ruled that although the filled-in parts of this island were part of New Jersey, the immigration center and surrounding land belonged to New York.
ANSWER: Ellis Island
[10] This geographic feature, which comprises Cimarron, Texas, and Beaver Counties, was originally a self-governing territory inhabited by squatters. It was added to its state by the 1890 Organic Act.
ANSWER: Oklahoma panhandle [prompt on partial answer]
003-10-23-03203
4. This essay discusses how its author was imprisoned for not paying the poll tax. For 10 points each:
[10] Name this essay which states, "That government is best which governs least."
ANSWER: "Civil Disobedience"
[10] "Civil Disobedience" is a work by this Transcendentalist who also wrote Cape Cod.
ANSWER: Henry David Thoreau
[10] Thoreau's most famous work is this book about his life in a cabin he built near the namesake pond. ANSWER: Walden; or, Life in the Woods
5. The central group in this film is saved from a fiery death in a garbage incinerator by three squeeze toy aliens operating a claw. For 10 points each:
[10] Name this 2010 Pixar sequel in which Woody and Buzz Lightyear escape from Sunnyside Daycare. ANSWER: Toy Story 3
[10] Woody and the other toys belong to this boy, who leaves for college at the end of the film. ANSWER: Andy
[10] The villain of Toy Story 3 is this plush purple bear voiced by Ned Beatty.
ANSWER: Lots-O'-Huggin' Bear
015-10-23-03205
6. These sounds went through a "Great Shift" during the 15th and 16th centuries in England. For 10 points each:
[10] Name these sounds that are produced with no obstruction in the vocal tract, and which are generally found in every syllable in English.
ANSWER: vowel
[10] During the Great Vowel Shift, some long high vowels were changed to one of these sounds, which begin on one vowel and shift to another vowel within the same syllable.
ANSWER: diphthong [or gliding vowel]
[10] Unlike Standard English, many dialects of English contain diphthongs which are not one of these, the smallest units of speech that differentiate word or word elements from each other.
ANSWER: phoneme
083-10-23-03206
7. Examples of these works written by Jean de la Fontaine include "The Animals Sick of Plague." For 10 points each:
[10] Name these stories, which generally portray animals with human traits and teach a moral lesson.
ANSWER: fables
[10] This Greek author is credited with writing such fables as "The Tortoise and the Hare" and "The Fox and the Grapes," as well as countless others.
ANSWER: Aesop
[10] In one of Aesop's fables, this animal successfully drinks from a pitcher by dropping pebbles in it until the water rises to its mouth.
ANSWER: crow
004-10-23-03207
8. This man's "Grand Scheme for the Americas" included his scheme of restoring monarchial rule in Latin America. For 10 points each:
[10] Name this ruler of the Second French Empire and nephew to an earlier French leader. His ambitious foreign policy plans ended after France's disastrous performance in the Franco-Prussian War.
ANSWER: Napoleon III [or Louis-Napoleon Bonaparte; prompt on Napoleon; prompt on Bonaparte]
[10] This 1870 battle in the Franco-Prussian War, a victory for Von Moltke, saw Napoleon captured.
Shortly thereafter, he was deposed and ended up in exile in England.
ANSWER: Battle of Sedan
[10] During Napoleon's reign, a French company under the direction of this man built the Suez Canal. He also formally presented the Statue of Liberty to the United States and failed to replicate his Suez success in Panama.
ANSWER: Ferdinand Marie, Vicomte de Lesseps
9. The main character of this work gets stuck for a time in the Slough of Despond. For 10 points each: [10] Name this allegorical work in which Christian makes his way through many trials and tribulations to reach Heaven.
ANSWER: The Pilgrim's Progress
[10] Pilgrim's Progress was written by this English writer.
ANSWER: John Bunyan
[10] While traveling, Christian hears from Evangelist about the danger of this trading site, where Faithful ends up being executed before being transported to Heaven.
ANSWER: Vanity Fair
023-10-23-03209
10. Answer these questions about the Egyptian pyramids, for 10 points each.
[10] The Great Pyramid built for King Khufu is in an area named for this city, a large suburb of Cairo located on the west bank of the Nile.
ANSWER: Giza
[10] The earlier step pyramid at Saqqara was designed by this personal architect and physician to King Djoser.
ANSWER: Imhotep (accept Immutef)
[10] That step pyramid was designed using several of these flat rectangular tombs. Smaller ones were progressively stacked atop one another to create the appearance of a pyramid.
ANSWER: mastaba
11. In two separate 1991 incidents, the man who translated this work into Japanese was killed and the man who translated it into Italian wounded. For 10 points each:
[10] Name this work that begins with Gibreel Farishta and Saladin Chamcha falling out of an airplane, whose irreverence caused Ayatollah Khomeini to issue a fatwa against its author.
ANSWER: The Satanic Verses
[10] Name the author of The Satanic Verses, whose less controversial novels include Midnight's Children. ANSWER: Salman Rushdie
[10] In an interview with Salon Magazine, Rushdie defended his use of unfamiliar cultural references by noting that many Jewish writers, such as Philip Roth, often use words from this primary language of Isaac Bashevis Singer.
ANSWER: Yiddish
003-10-23-03211
12. The lambda point gives the temperature below which this element will experience no viscosity. For 10 points each:
[10] Name this element with the lowest boiling point.
ANSWER: helium [or $\underline{\mathrm{He}}$ ]
[10] A helium nucleus with two protons and two neutrons is referred to as this type of particle. A beam of this particle was used in the Rutherford gold foil experiment.
ANSWER: alpha particle
[10] Uranium emits a single alpha particle to decay to an isotope of this member of the actinide series with applications in nuclear reactors.
ANSWER: thorium [or Th]
13. This composer of Jazz Suite No. 1 wrote the Babi-Yar Symphony, his thirteenth. For 10 points each: [10] Name this composer of the Leningrad Symphony.
ANSWER: Dmitri Dmitriyevich Shostakovich
[10] Shostakovich was from this nation that was also the home of Sergei Prokofiev.
ANSWER: USSR [or Russia; or Soviet Union; or Union of Soviet Socialist Republics]
[10] Sergei Prokofiev's symphony of this number is called the Classical Symphony.
ANSWER: Symphony No. 1
001-10-23-03213
14. The invading army during this battle had responded to a series of uprisings called the Ionian Revolts. For 10 points each:
[10] Name this decisive 490 B.C. Greek victory over the Persians whose aftermath saw a Greek runner traverse a distance of about 26 miles.
ANSWER: Battle of Marathon
[10] The Persian forces during the battle were sent by this king, who invaded Greece after the Ionian revolts. He was succeeded by his son Xerxes I.
ANSWER: Darius I [or Darius the Great; prompt on Darius]
[10] The Greek commander during the battle was this man, who previously ruled as dictator of Athens. ANSWER: Miltiades the Younger
15. This technique can be used with the pGLO plasmid to make bacteria glow under UV light. For 10 points each:
[10] Name this laboratory procedure where bacterial cells are made to to directly take up outside DNA. It is often done using calcium chloride and heat shock.
ANSWER: transformation
[10] This term is used to describe bacteria that are able to undergo transformation, that is take up external DNA.
ANSWER: competent [accept word forms]
[10] Another method of altering the genetic makeup of bacteria is conjugation which uses this structure to bridge the bacterial cells.
ANSWER: pilus [or pili]
001-10-23-03215
16. Works by this man include the Critique of Pure Reason and the Critique of Practical Reason. For 10 points each:
[10] Name this 18th-century German philosopher, who also propounded the idea that moral actions must be performed out of duty rather than any personal inclination.
ANSWER: Immanuel Kant
[10] This famous criterion for morality by Kant states that one should act on a maxim only if one can will that it become a universal law.
ANSWER: categorical imperative
[10] The categorical imperative was introduced in this 1785 work, in which he also discourages utilitarian actions of acting merely to increase happiness.
ANSWER: Groundwork of the Metaphysics of Morals
17. Name some moments of animosity in U.S.-Canadian relations, for 10 points each.
[10] James Polk was urged by a popular slogan to demand a U.S.-Canada border along this parallel, "or fight!"
ANSWER: Fifty-four Forty [or fifty-four degrees forty minutes north]
[10] During Martin Van Buren's term, Canadian rebels led by William Lyon MacKenzie burned this ship and sent it over the Niagara Falls.
ANSWER: SS Caroline [or Caroline affair/case]
[10] The bloodless 1859 Pig War between the U.S. and Canada, so named because a pig was the only casualty, concerned the namesake treaty of this U.S. territory south of British Columbia whose northern border was the subject of the "Fifty-Four Forty or Fight!" slogan.
ANSWER: Oregon Territory
026-10-23-03217
18. In 1987, one of these was observed in the Large Magellanic Cloud. For 10 points each:
[10] Name these massive stellar explosions that are larger than novas, as their name suggests.
ANSWER: supernovas [or supernovae]
[10] A Type Ia ("one 'a'") supernova results from the explosion of one of these Earth-sized, colorless stars that are made of electron degenerate matter.
ANSWER: white dwarfs [or white dwarves; prompt "dwarf"; prompt "dwarfs"; prompt "dwarves"] [10] White dwarves break down and cause Type Ia ("one 'a'") supernovas when they accrete enough mass from a nearby star to exceed this limit, approximately 1.4 solar masses.
ANSWER: Chandrasekhar limit
079-10-23-03218
19. This leader of the "Dry" faction of the Conservative Party ascended to power following the "Winter of Discontent," which discredited James Callaghan's Labour government. For 10 points each:
[10] Name this Prime Minister of the United Kingdom throughout the 1980s.
ANSWER: Margaret Hilda Roberts Thatcher
[10] Thatcher fell from power after attempting to introduce a "community charge," popularly derided by this name. The Twenty-Fourth Amendment bars these in the United States.
ANSWER: poll tax
[10] An IRA campaign against Thatcher's Northern Ireland policy included the death from a hunger strike of this prisoner.
ANSWER: Bobby $\underline{\text { Sands }}$ [or Robert Gerard $\underline{\text { Sands] }}$
019-10-23-03219
20. Philippe Halsman created a photograph where this artist of Swans Reflecting Elephants is seemingly floating. For 10 points each:
[10] Name this Spanish surrealist artist who depicted a skinny tree amongst melting clocks in his 1931 painting The Persistence of Memory.
ANSWER: Salvador Felipe Jacinto Dalí i Domenech
[10] In The Persistence of Memory, these animals are crawling over an orange clock.
ANSWER: ants
[10] Another Spanish surrealist was this artist who painted two Dutch Interiors, The Tilled Field, and Dog Barking at the Moon.
ANSWER: Joan Miró i Ferrà
21. It features a talking light bulb named Byron. For 10 points each:
[10] Name this postmodern novel by the author of The Crying of Lot 49. In this novel, attacks by V2 rockets seem to be foretold by the sexual arousal of Tyrone Slothrop.
ANSWER: Gravity's Rainbow
[10] Gravity's Rainbow was written by this reclusive author who also penned $V$..
ANSWER: Thomas Ruggles Pynchon
[10] Thomas Pynchon is often grouped as a postmodernist with this author of Underworld who created the drug Dylar in a novel about a professor of Hitler Studies called White Noise.
ANSWER: Don DeLillo
