Toss-ups

1. This ruler created his own version of chess which consisted of 112 squares, 10 rows, 11 columns, and two extra squares. In order to defeat Sultan Mahmood Khan during the Siege of Delhi, this man used flaming camels to frighten the enemy’s war elephants. Together with Hussein this man conquered Transoxiana, but then turned against Hussein and killed him at Balkh. Although this ruler set out to conquer Ming China, he died in Otrar, Kazakhstan before reaching the Chinese border. He is now buried in the Gur Emir Mausoleum. For ten points, name this “lame” ruler who was born outside Samarkand.

ANSWER: **Tamerlane** [accept “**Timur**-i Lang” or “**Timur** the Lame”]

2. A group of these objects that is notably cooling is known as The Magnificent Seven, and the Akmal-Pandharipande-Ravenhall equation is an equation of state associated with them. An event associated with one type of these objects is caused either by transitions of vortices in their cores or by stellar quakes; that event is called a “glitch.” The TOV limit on these stars’ masses is thought to be between 1.5 and 3 solar masses. Highly magnetized ones are called magnetars, and ones that emit gamma rays and rotate are called pulsars. For 10 points, name these stars that are composed of their namesake uncharged particle.

ANSWER: **neutron stars**

3. In this painting, a pattern of colorful triangles decorates the outer brim of one central figure’s hat, while a thin line connects that figure’s iris to another. A woman in a green skirt milking a cow appears beneath the latter’s iris, while a man’s head appears in the doorway of a church next to a row of houses, two of which are depicted upside down. An inverted female violinist and a man carrying a scythe also appear, for 10 points, in this work that depicts a green skinned man holding a flowering sprig between him in a cow set in a Hasidic village, a work by Marc Chagall.

ANSWER: ***I and the Village***

4. This work talks of “a Chequer-board of Nights and Days where Destiny with Men for Pieces play”. This work states that neither “Piety nor Wit shall lure it back to cancel half a line” in reference to a “Moving Finger” that “having writ, moves on”. This work asks “who is the potter… and who the pot” and exclaims “Lo! the Bird is on the Wing.” It begins with the word “Awake!”, and was translated into English by Edward Fitzgerald. For 10 points, name this collection of Persian poetry by Omar Khayyam.

ANSWER: *The* ***Rubaiyat*** *of Omar Khayyam*

5. In some traditions, this figure is said to have hidden from pursuers by a sycamore in a location now part of Mataria. The Qu’ran describes this figure clinging to a palm tree for support while fresh dates fall upon the ground. St. Epiphanius believed that this person was the same as one referenced in Revelation, which depicts a figure “clothed with sun.” In Christian tradition, this figure experienced Seven Joys and Seven Sorrows. The Catholic Church holds four doctrines regarding this figure, including perpetual virginity. For 10 points, name this woman who gave birth to Jesus.

ANSWER: Virgin **Mary** [accept “**Marīam**”, “Saint **Mary**”, “**Mary** of Nazareth”, “**Miryam**,” Holy **Mary**”, “**Mother of God**”, obvious equivalents; do not accept Mary Magdalene]

6. In one work by this man, a Yukon miner casually boils and eats his shoe after running out of food. In that same film, the main character periodically transforms into a giant chicken through the eyes of his hallucinating roommate. Another film by this man depicts a machine designed to feed factory workers that malfunctions and feeds him a metal nut instead of beef. In his most famous film, he dances with an inflatable globe and portrays both The Barber and Adenoid Hynkel, dictator of Tomania. For 10 points name this filmmaker and actor who played “The Little Tramp” and starred in *The Great Dictator*.

ANSWER: Charles Spencer “Charlie” **Chaplin**

7. Antonio Vallejo-Nájera experimented on women who did not support this man in an effort to eradicate “the red gene.” Political prisoners of this man were housed in a concentration camp, located in a city split into the old Aquende and new Allende parts, that closed in 1947. A Catholic basilica in the Valley of the Fallen that this man ordered built remains controversial due to the forced labor used to build it. This man was supported by two political parties that eventually merged: de las JONS and Falange, and he transferred power to King Juan Carlos I on his death. For 10 points, name this fascist dictator of Spain.

ANSWER: Francisco **Franco** Bahamonde

8. This law can be derived by using Newton’s third law to equate the negative of the dot product between position and force vectors to the surface integral of the force exerted by a container. One improvement of this law is corrected using Maxwell’s equal area rule, and terms symbolized “a” and “b” also appear in that modification of this law. The van der Waals equation is an improvement upon it, and this law is the combination of Charles’ and Boyle’s laws.  For 10 points, name this law which is stated as PV=nRT.

ANSWER: **ideal gas** law

9. A cartoon satirizing one performance of this action depicts a cannon aimed at Lorenzo Thomas. The testimony of Paula Jones caused another example of this action after the release of the Starr Report. One target of this action claimed that “it depends on what the meaning of the word ‘is’ is,” while another faced it for trying to remove Secretary of War Edwin Stanton. This preliminary action is prescribed for “other High Crimes and Misdemeanors,” and can only occur in the House of Representatives. For 10 points, name this fate of Andrew Johnson for violating the Tenure of Office Act and Bill Clinton for perjuring himself about Monica Lewinsky.

ANSWER: **impeach**ment of the President of the United States [accept word forms]

10. This author described filth covering a flower as “no man’s grime but death and human locomotives” in a work set “on the banks of the tincan banana dock”. The speaker of another poem by this author asks a “graybeard, lonely old courage teacher” “which way does your beard point tonight?” The refrain “I’m with you in Rockland” appears in a poem in which he described “angelheaded hipsters looking for an angry fix” and claimed to “have seen the best minds of my generation destroyed by madness”. For 10 points, name this Beat poet of “Sunflower Sutra”, “A Supermarket in California”, and “Howl”.

ANSWER: Irwin Allen **Ginsberg**

11. Crickette Sanz’s study of a docile population in the Goualougo Triangle contradicted results achieved by this researcher in a study of the Kasakela community. That community fought a so-called “war” with the Kahama community, observed by this scientist. Dian Fossey was sent by Louis Leakey to replicate this researcher’s success at Gombe Stream National Park. This biologist was nearly killed by Frodo, whose relatives she saw using termite-fishing sticks in the first observation of non-human primates using tools. For 10 points, name this British biologist, the foremost authority on chimpanzees.

ANSWER: Jane Morris **Goodall**

12. Originally part of the Charlie Parker Quintet, this artist broke off to form his own group.  That group recorded *Birth of Cool* before this artist became addicted to heroin.  Aside from winning nine Grammy Awards, he was the first jazz artist to appear on the cover of *Rolling Stone*.  On this artist’s best-selling album, Bill Evans plays piano for every song except “Freddie Freeloader”, which features Wynton Kellyon the keys. The group for that album includes Jimmy Cobb on drums, Paul Chambers on bass, John Coltrane on tenor saxophone, and this artist on trumpet. For 10 points, name this band leader for the best-selling album, “Kind of Blue”.

ANSWER: Miles Dewey **Davis** III

13. One character in this novel is blackmailed by Vicar de Frilair to make him a bishop, and decorates a grotto with marble statues after comparing herself to Queen Marguerite and kissing her decapitated lover’s lips. This novel’s protagonist refuses a job in the lumber business offered by his friend Fouqué, and steals books by Voltaire from the library of the Marquis de la Mole, to whom he was referred by the Abbé Pirard. This novel’s protagonist impregnates Mathilde and shoots Madame de Rênal, whom he discovers he really loves before he is executed, having tried careers in the army and the clergy. For 10 points, name this Stendhal novel titled for two colors.

ANSWER: *The* ***Red and the Black****: A Chronicle of the 19th Century* [accept “*Le* ***Rouge et le Noir****: Chronique du XIXe Siècle*”]

14. At this location, one man was placed under arrest after the deaths of Thomas Emery and Jehu Robinson. This was also the site of the death of Bartholomew Gosnold, and its first leader, Edward Maria Wingfield, was deposed following accusations of atheism. The first meeting of the House of Burgesses took place here, and it was burned to the ground during Bacon’s Rebellion. This settlement was resupplied by Christopher Newport, and it saw successful tobacco cultivation occur after “the Starving Time.” For 10 points, name this first permanent English colony in the New World, led at one point by John Smith.

ANSWER: **Jamestown** [accept “**James Fort**” until “House of Burgesses”]

15. HDA produces similar results to this technique’s without requiring the temperature fluctuation seen in this process. SYBR green fluorescent dye is used in the real-time variety of this technique, which also has an allele-specific variety. The first stage of this process involving cycling is the denaturation step, which breaks hydrogen bonds and separates templates. Other steps of this process include annealing and elongation, and it often makes use of Taq polymerase. For 10 points, name this lab technique invented by Kary Mullis to amplify DNA.

ANSWER: **P**olymerase **C**hain **R**eaction

16. L-canceling and powershielding are advanced techniques in this game series. Tabuu, the villain of *The Subspace Emissary*, appears in this franchise. In these games, Ike from *Fire Emblem* says that he fights for his friends. Third-party characters in this franchise include Solid Snake and Sonic. Pokémon Trainer can use Squirtle, Ivysaur, and Charizard in the Wii edition of these games, directed by Masahiro Sakurai. For 10 points, name this Nintendo fighting game series that features characters from Nintendo franchises.

ANSWER: ***Super Smash Bros.***

17. Gaia gave the earliest of these objects to Hera as a wedding present and Aphrodite gave Hippomenes three of these objects to distract Atalanta in a race to win her hand in marriage. Some of these objects were guarded by Ladon in the Garden of the Hesperides, and they were stolen by Heracles for his eleventh labor. Paris settled a fight between three goddesses over this fruit labeled “for the Fairest one.” For 10 points, name these fruits, a golden variety of which Eris used to spark the Trojan War.

ANSWER: golden **apple**s

18. Less than a year after this nation’s independence, insurgents who rejected the King of Kalat’s decision to join this nation attempted to secede. A Cambridge University student published the pamphlet *Now or Never*, which advocated for the creation of this country after Sir Muhammad Iqbal proposed it in his Allahabad Address. This nation lost the Bangladesh Liberation War in 1971. At the insistence of Muslim League, Lord Mountbatten partitioned the British Raj to create this nation and India. For 10 points, name this country whose capital is Islamabad.

ANSWER: The Islamic Republic of **Pakistan** [accept “Islāmī Jumhūriyah-yi **Pākistān**”]

19. In this novel, a character reads his namesake ancestor’s name carved over a door, but is unable to read the date 1500 beside it. One of this novel’s narrators dreams of hearing Reverend James Branderham’s furious sermon, and of cutting a ghost’s wrist on a window’s broken glass. Frances’s death in childbirth causes Hindley to abuse Hareton, who grows up illiterate. Nelly Dean narrates much of this novel to Mr. Lockwood, who rents Thruschcross Grange to escape London society but is drawn into the drama of the Linton and Earnshaw families. For 10 points, name this Emily Bronte novel about the love of Catherine and Heathcliff at the title estate.

ANSWER: ***Wuthering Heights***

20. The Herschel-Bulkley model is preferred to the Bingham model for graphically representing this quantity. For thixotropic materials, this quantity decreases over time as a result of agitation. Poiseuille’s law states that volume flow rate through a tube is equal to pressure difference times radius to the fourth power all divided by 8 over pi times this quantity multiplied by length. The  
denominator of Reynolds’s number is this quantity, which is zero for superfluids. This quantity is equal to shear stress divided by shear rate. For 10 points, name this quantity, a fluid’s resistance to flow.

ANSWER: **viscosity**

TB. One response to this event resulted in the burning of the *Peggy Stewart*. Prior to this event, one leader declared that “this meeting can do nothing further to save the country,” and after this event the province of Quebec had its southern border shifted to the Ohio River. This event, which occurred on the ships *Dartmouth*, *Eleanor*, and *Beaver*, resulted in the passage of the Intolerable Acts. For 10 points, name this protest, during which men dressed as Mohawk warriors destroyed a namesake commodity in a Massachusetts port city.

ANSWER: **Boston Tea Party**

Bonuses

1. A bass line in this work quotes “God Save the Czar”. For 10 points each:

[10] Name this orchestral work that is properly performed with cannons.

ANSWER: ***1812 Overture***

[10] This Russian composer of the *1812 Overture* may be better known for ballets like *The Nutcracker*.

ANSWER: Pyotr Ilyich **Tchaikovsky**

[10] This final completed symphony by Tchaikovsky ends with an *adagio lamentoso* finale, spurring rumors that Tchaikovsky’s death nine days after its premiere was a suicide.

ANSWER: *Symphony no.* ***6*** *in B minor “****Pathétique****”* [accept either; accept  “***Sixth*** *Symphony in B minor*” or “*Simfonia* ***Pateticheskaya***”]

2. One character in this play writes a book titled *The Revolutionist’s Handbook and Pocket Companion* and later dreams of himself as Don Juan in Hell. For 10 points each:

[10] Name this play in which George Whitfield’s will assigns both Roebuck Ramsden and Jack Tanner as guardians to his daughter Ann, who is pursued by the latter.

ANSWER: ***Man and Superman***

[10] The protagonist of this play by the author of *Man and Superman* leaves the Salvation Army after it accepts a donation from her father, Andrew Undershaft, who runs a munitions factory.

ANSWER: ***Major Barbara***

[10] This playwright of *Man and Superman* and *Major Barbara* also wrote of Henry Higgins’s bet with Colonel Pickering that he can pass off Eliza Doolittle as a duchess in *Pygmalion*.

ANSWER: George Bernard **Shaw**

3. This stream of ionized particles creates the Earth’s van Allen belts. For 10 points each:

[10] Name this phenomenon that comes from the sun and produces auroras.

ANSWER: **solar wind**

[10] Solar wind originates from this layer of the sun, which is the subject of a namesake heating problem.   
ANSWER: **corona**

[10] One proposed solution to the coronal heating problem is that the presence of these waves in the corona. They are hot, fast plasma waves named for a Swedish physicist.

ANSWER: **Alfvén** waves

4. This artist’s music video for her song “Only” elicited controversy for its alleged Nazi undertones. For 10 points each:

[10] Name this female rapper who gained fame for a song “for the boys with the booming system” and a recent song whose title entity “don’t want none unless you got buns, hun.”

ANSWER: Nicki **Minaj** [accept “Onika Tanya **Maraj**”]

[10] This rapper featured Rita Ora in “Black Widow”. One of her songs begins “first things first I’m the realest” and says she’s so the title adjective that “you already know” in “Fancy”.

ANWER: **Iggy** **Azalea** [accept “Amethyst Amelia **Kelly**”]

[10] This rapper, who calls herself Yung Rapunxel, surprised fans by surreptitiously releasing her debut, *Broke With Expensive Taste*, that feature songs “Ice Princess”, “Soda”, and “212”.

ANSWER: Azaelia **Banks** [accept “Miss **Bank$**”]

5. In a coded letter, this person claimed that “when I die I will be reborn in paradice [sic]” and would be served by the people that he killed. For 10 points each:

[10] Identify this mysterious Californian serial killer, whose identity has never been discovered despite his sending taunting letters with mysterious symbols to local newspapers.

ANSWER: the **Zodiac Killer**

[10] The Zodiac Killer took at least one victim from this California city. Other violent events in this city have included the White Night Riots and a deadly 1906 earthquake.

ANSWER: **San Francisco**

[10] The White Night Riots took place after the assassination of this first openly gay elected official in the United States, who was shot along with George Moscone by Dan White.

ANSWER: Harvey Bernard **Milk**

6. In this work, Fiyero says he’s “dancing through life” and asks for “the most swankified place in town”.  For 10 points each:

[10] Name this musical, which provides the perspective and backstory of Elphaba.

ANSWER: ***Wicked****: The Untold Story of the Witches of Oz*

[10] This song starts with Glinda telling Elphaba, “I hope you’re happy!” and shows a shift in Elphaba, who thinks she’ll try the title activity.

ANSWER: “**Defying Gravity**”

[10] This actress starred as Elphaba in its original Broadway run, and more recently provided the voice of Elsa in *Frozen*.

ANSWER: Idina **Menzel**

7. This chemical is released from the medulla of its namesake glands atop the kidneys. For 10 points each:

[10] Name this molecule released in the sympathetic nervous system that regulates the “fight or flight” response.

ANSWER: **adrenaline** [accept “**epinephrine**”]

[10] Adrenaline is in this class of molecules made of a benzene ring with two hydroxyl groups bound to a side-chain amine. These molecules are water-soluble and derived from tyrosine.

ANSWER: **catecholamines**

[10] This catecholamine regulates the pleasure and reward centers of the brain. Parkinson’s disease can be caused by an insufficiency of this neurotransmitter.

ANSWER: **dopamine**

8. According to Julius Caesar, these people cut mistletoe from oak trees for ceremonies. For 10 points each:

[10] Name these mystics who forbade the use of writing, instead memorizing all they knew.

ANSWER: **druids**

[10] The druids were the ruling class in this ancient region, which Caesar conquered. In Caesar’s commentaries on his war in this place, he noted that this region is divided into three parts.

ANSWER: **Gaul** [accept “**Gallia**”]

[10] Caesar besieged this hill town to force Vercingetorix to surrender and end the Gallic Wars. When its defenders sent out their women and children, Caesar allowed them to starve.

ANSWER: **Alesia**

9. In a play-within-a-play in this work, the “soul of the world” sees the red eyes of Satan. For 10 points each:

[10] Name this play titled for a gift that Trigorin muses could be the subject of one of his stories.

ANSWER: *The* ***Seagull*** [accept “***Chayka***”]

[10] *The Seagull* is a work of this Russian playwright, who also wrote of Firs’s dying in Madame Ranevskaya’s estate in *The Cherry Orchard*.

ANSWER: Anton Pavlovich **Chekhov**

[10] In this other Chekhov play, Sonya tells her title relative that “We will rest!” after he had tried to shoot Serebryakov and commit suicide with Astrov’s morphine.

ANSWER: ***Uncle Vanya*** [accept “***Dyadya Vanya***”]

10. Name some women whom Poseidon fancied, for 10 points each:

[10] According to Eustathius, Poseidon first saw this woman dancing at Naxos, and kidnapped her. This Nereid was the wife of Poseidon and the mother of Triton.

ANSWER: **Amphitrite**

[10] After Poseidon seduced her in a temple, this woman was turned into a monster with snakes for hair. When Perseus cut this Gorgon’s head off, it continued to petrify whatever met her eyes.

ANSWER: **Medusa**

[10] Poseidon’s offspring by this goddess included the talking, immortal horse Arion, known for his speed. This goddess also bore him the daughter Despoina.

ANSWER: **Demeter**

11. Name some African lakes, for 10 points each:

[10] This endorheic lake located in Central Africa is thought to be a remnant of an inland sea. It shares its name with a nation whose capital is N’Djamena.

ANSWER: Lake **Chad**

[10] This lake borders Mozambique, Tanzania, and its namesake nation with capital at Lilongwe. It is also known as Lake Nyasa, named after the British protectorate of Nyasaland.

ANSWER: Lake **Malawi**

[10] This second-deepest lake in the world forms a 285 mile long border between the DRC and Tanzania. This lake’s only outlet, the Lukuga River, flows into the Congo River.

ANSWER: Lake **Tanganyika**

12. These entities are described by Planck’s Law and were the subject of the ultraviolet catastrophe. For 10 points each:

[10] Name these entities that absorb all incident radiation.

ANSWER: **black bodies**

[10] The power radiated by a black body is proportional to this quantity of the blackbody to the fourth power. The wavelength of the emitted radiation is inversely proportional to this quantity.

ANSWER: **temperature**

[10] This doubly eponymous law states that the radiation of a black body is inversely proportional to wavelength to the fourth power, and it fails terribly at short wavelengths.

ANSWER: **Rayleigh-Jeans** law

13. This man predicted the coming of four kingdoms, based on a dream that involved a statue made of four different materials. For 10 points each:

[10] Name this prophet, whose companions were Shadrach, Meshach, and Abednego.

ANSWER: **Daniel**

[10] This Babylonian king went mad for seven years until he submitted to God’s authority. In an earlier incident, he threw Shadrach, Meshach, and Abednego into a fire.

ANSWER: **Nebuchadnezzar** II

[10] During the reign of Darius, Daniel was condemned to be fed to a number of these animals in their den, although through divine intercession his life was spared.

ANSWER: **lion**s

14. After the death of his father, this novel’s protagonist becomes a monk of the title structure under Father Dosen who tells him the story “Nansen kills a kitten”. For 10 points each:

[10] Name this novel in which Mizoguchi sets fire to the title structure after remembering the line “if you meet the Buddha, kill him.”

ANSWER: *The* ***Temple of the Golden Pavilion*** [accept “***Kinkaku-ji***”]

[10] This author of *Kinkaku-ji* wrote of Honda’s discovery of Kiyoaki’s reincarnations in *The Sea of Fertility* and of Kochan’s struggle with his homosexuality in *Confessions of a Mask*.

ANSWER: Yukio **Mishima** [accept “**Hiroaka** Kimitake”]

[10] In *The Temple of the Golden Pavilion*, Kashigawi dissuades Mizoguchi from this action that Kochan contemplates. Mishima actually committed this action after a failed coup d’état.

ANSWER: committing **suicide** [accept “**seppuku**”; accept equivalents like “**killing oneself**”]

15. An image of this man appeared descending from the clouds before every news broadcast in his nation. For 10 points each:

[10] Name this African dictator and kleptocrat who wore a leopard-print hat, embezzled billions from his country’s treasury, and took shopping trips to Paris.

ANSWER*:* **Mobutu** Sese Seko [accept “Joseph-Desiré **Mobutu**”]

[10] Mobutu Sese Seko became dictator of this modern-day country soon after it achieved independence from Belgium. During Mobutu’s reign, this country was known as Zaïre.

ANSWER: **D**emocratic **R**epublic of the **C**ongo [prompt on “**Congo**”]

[10] This mineral-rich Congolese province, which was once led by Moise Tshombe, attempted to secede along with South Kasai during Congo’s transition to independence.

ANSWER: **Katanga**

16. In his youth he was apprenticed to Verrocchio, with whom he painted *The Baptism of Christ*. For 10 points each:

[10] Name this man, who painted *Madonna of the Rocks* and a work which portrays the reactions of the apostles after Jesus announces one of the seated will betray him.

ANSWER: **Leonardo** di ser Piero **da Vinci** [accept either]

[10] In this work by Leonardo, the use of *sfumato* in the background draws attention to the title figure, who is enigmatically smiling.

ANSWER: ***Mona Lisa*** [accept “***La Gioconda***”]

[10] This work by Leonardo features Cecilia Gallerani holding the title small white mammal.

ANSWER: ***Lady with an Ermine***

17. In this novel, Mildred’s friend Mrs. Phelps cries after hearing the protagonist recite “Dover Beach” and leaves when the protagonist is told to burn the book by Faber. For 10 points each:

[10] Name this novel in which a mechanical hound hunts the protagonist, Guy Montag, after he kills Captain Beatty with the flamethrower he uses as a fireman to burn books.

ANSWER: ***Fahrenheit-451***

[10] *Fahrenheit-451* is a novel by this American author of *The Martian Chronicles*, which includes a story about a self-sustaining house in “There Will Come Soft Rains”.

ANSWER: Ray Douglas **Bradbury**

[10] In this other story by Bradbury, Eckels goes on a Time Safari to shoot a *Tyrannosaurus rex*, but returns to the present to find that history has changed after he stepped on a butterfly.

ANSWER: “A **Sound of Thunder**

18. One man in this play says he was executed for being a pacifist. For 10 points each:

[10] Name this play which depicts three dead characters punished by being locked into a room together for the rest of time.

ANSWER: ***No Exit***[accept “***Huis Clos***”]

[10] This French existentialist wrote *No Exit*. He declined the Nobel Prize in Literature in 1964, saying that "a writer should not allow himself to be turned into an institution".

ANSWER: Jean-Paul **Sartre**

[10] This essay by Jean-Paul Sartre introduces the concept of “bad faith” to describe how humans are averse to acting freely and thus can never live authentically.

ANSWER: ***Being and Nothingness****: An Essay on Phenomenological Ontology*

19. The Enabling Act allowed this man to rule without the Reichstag’s advice. For 10 points each:

[10] Name this Führer who led the Nazi party to victory in the fraudulent elections of 1933.

ANSWER: Adolf **Hitler**

[10] Hitler led a failed coup attempt, the Beer Hall Putsch, in this Bavarian city. It was later the site of a namesake “Agreement” with which Neville Chamberlain tried to appease Hitler.

ANSWER: **Munich**

[10] Hitler’s Vice-Chancellor was this conservative politician, who had served as Chancellor and foolishly unbanned the SA. His “Marburg speech” called for restraint during the Nazi purges.

ANSWER: Franz Joseph Hermann Michael Maria **von Papen** zu Köningen

20. The derivative of this quantity with respect to temperature at constant pressure is specific heat capacity. For 10 points each:

[10] Name this thermodynamic quantity that represents the amount of heat contained in a system.

ANSWER: **enthalpy**

[10] The total change in enthalpy is independent of its reaction pathway according to this law, which allows one to find the total change in enthalpy by summing the changes for each step.

ANSWER: **Hess**’s law

[10] Hess’s Law works because enthalpy equals internal energy plus pressure times volume, so it has this property. A system has this property if its current characteristics don’t depend on its history.

ANSWER: **state function** [accept “**function** of **state**”, “**state variable**”, or “**state quantity**”]

TB. This country’s Treaty of Friendship with the United States is the longest unbroken treaty in American history. For 10 points each:

[10] Name this North African nation, whose Sultan Muhammad III made it the first to formally recognize the United States as independent.

ANSWER: **Morocco**

[10] The United States became involved in North African affairs during these conflicts, which saw American naval vessels blockade Tripoli and other pirate strongholds.

ANSWER: **Barbary Wars**

[10] After the capture of the USS *Philadelphia*, this American naval officer led a raiding party to destroy her in what Horatio Nelson called “the most bold and daring act of the age.”

ANSWER: Stephen **Decatur**, Jr.