

Penn Bowl 2013: Do Not Accept or Prompt on “Cloaking”
Round 3

Tossups

1. **Fluctuations in one component of this entity are given by the K-index. Simple models of this entity are accurate for low values of the McIlwain L-parameter, but at higher L-shells a model like the one named for Tysganenko are needed. Secular variation in this entity includes 0.2 degree westward drift. Isogonic lines are areas where the declination of this entity is invariant. This entity is created by currents of (*) molten iron in the outer core, in accordance with the geodynamo theory, and the interaction of this entity with particles in the solar wind causes the aurora borealis. For 10 points, name this entity which measures around 30 microteslas at the surface of our planet.**

ANSWER: Earth's magnetic field [or magnetosphere]

2. **This man stated that engaging the numinous doesn't necessarily involve accepting the “Sistine god” in his latest work. One of this man's essays is a criticism of Isaiah Berlin and argued that there was no distinction between positive and negative liberty. This man wrote that a secular value of human life can be placed using the notion of a natural “investment” that may be (*) wasted. One of his thought experiments posited a figure that would be stymied by incommensurable standards, even though he possesses infinite time, full knowledge, and immense wisdom; that figure always achieves the one right answer in any given case and is named Judge Hercules. This man strongly criticized HLA Hart's legal positivism with his interpretive theory. For 10 points, name this widely-cited American legal philosopher who wrote *Life's Dominion* and *Law's Empire*.**

ANSWER: Ronald Dworkin

3. **A transition that preserves this quantity in a centrosymmetric molecule cannot preserve symmetry or asymmetry about an inversion center according to Laporte's rule. A Majorana neutrino would have an imaginary value for this quantity. For a nucleon, this quantity is equal to negative one to the L. The operator corresponding to this value has eigenvalues of one or negative one. The tau-theta puzzle was solved by noting that this value is (*) not conserved in some kaon decays. The product of this quantity with the charge and time-reversal symmetry is always conserved, though C.S. Wu showed that its product with charge isn't conserved in the beta decay of cobalt-60. This symmetry corresponds to flipping a wavefunction from psi of x to psi of negative x. For 10 points, name this symmetry of a variable or a system which can be either even or odd.**

ANSWER: parity

4. **There is a “triple” type of one method to undo this procedure, which is effective immediately upon execution; another method to undo this procedure is called *khula*. Both of those methods require the observation of *iddah* for the next iteration of this action. This practice requires *mehr* for the procedure to be valid, and there exists some controversy over the acceptability of a type of this practice known as (*) *mut'ah*, which has a fixed duration. This practice, known as *nikah*, is permitted to be done up to four times without being broken between men of a certain religion and women who belong to the “people of the book.” For 10 points, name this process by which a man and woman are joined under guidelines in the Hadith and Quran.**

ANSWER: Islamic marriages [or weddings]

5. **In this novel, an Oxford student is told to give 5,000 pounds of another character's money to a man who refuses the check and is subsequently evicted from his apartment. A woman who is at first thought to be mentally ill is revealed to be pregnant instead when she returns to London to see her pneumonic Aunt Juley. In another scene from this novel, Dolly brings news that a woman (*) willed her house to a woman of another family, but Dolly's husband decides not to execute the handwritten will; that male character reports a heart attack to**

the police after he beats a man with the flat of a German sword, which causes him to fall into a bookshelf and die. In this novel, Charles is sentenced to three years in jail for the manslaughter of Leonard Bast. For 10 points, name this novel, about the Wilcoxes' title estate that is finally granted to Margaret Schlegel, written by E. M. Forster.

ANSWER: Howards End

6. At the beginning of one of the tracks on this album, the ensemble alternates between B-flat minor seventh chords and E-flat minor chords; the saxophone soloist then enters with a melody that features a rising dotted-eighth, sixteenth motif. Another work on this album has measures that are alternately subdivided into 2+2+2+3 and 3+3+3, though the solo parts are played in standard 4/4. This album was inspired by a State Department sponsored trip taken by the primary artist. Composed with (*) Eugene Wright, Joe Morello, and Paul Desmond, this album includes the songs "Three to Get Ready" and "Strange Meadow Lark." For 10 points, name this album, notable for its unusual meters, that includes works like "Blue Rondo a la Turk" and "Take Five," composed by the Dave Brubeck Quartet.

ANSWER: Time Out

7. One character in this story spies through his bedroom keyhole to discover the "mysteries of the corridor" and sees a woman in blue cashmere and white lace rebuff the advances of man who departs with a kiss. One character with a big red beard was once fooled into thinking he was appointed prefect, but his position was not recognized by the clerk of the office; that character supplies a bottle of rum when his companions complain of hunger, and later he (*) hums the Marseillaise as the title character weeps. The title character of this story relieves the party's hunger by producing a basket of food from underneath her seat. However, the rest of the group pushes her to sleep with a Prussian officer in order to continue traveling. For 10 points, name this story about the prostitute Elizabeth Rousset, written by Guy de Maupassant.

ANSWER: "Boule de Suif" [or "Ball of Fat" or "Ball of Lard" or "Dumpling" or "Butterball"]

8. During this war, the *Meteor* gunboat was engaged in a prearranged, indecisive duel outside Havana Harbor. One new national holiday celebrating a battle in this war was set for 2 September. The losing side's army was forced westwards in the Battles of Spicheren and Wörth, but were prevented from going further by the Battle of Mars-la-Tour, which was lost by Marshal (*) Bazaine, who also lost the subsequent Battle of Gravelotte, which trapped him in Metz. The withdrawal of a Roman garrison by the losing side in this war let Italy complete the *Risorgimento*. In this war, Léon Gambetta escaped his capital in a hot air balloon to organize resistance. A government change occurred in this war after the defeat at Sedan. For 10 points, name this 1870-1871 war that resulted in the formation of the Second German Empire, which took Alsace-Lorraine from its defeated opponent.

ANSWER: Franco-Prussian War [or Franco-German before "German" is read]

9. This figure was painted with his galero and robes on the ground on the right of a painting in which he is praying prone under a small cave with the crucifix over his arms. In addition to that Bosch work, this man is also depicted in a grey robe kneeling next to Mary on the left of the Mond Crucifixion, a work whose predella depicts scenes from this man's life, as he was its dedicatee. In another painting of him, a (*) bowl, partridge, and peacock are drawn in the foreground, while this figure is seen through a large arch. In another work, a gourd hangs from the ceiling in front of this man, while a skull rests on the windowsill and a dog sleeps in the foreground. For 10 points, name this man who is depicted behind a sleeping lion in an engraving by Durer showing him translating the Bible into Latin.

ANSWER: St. Jerome

10. This man came in third place in a race for Pennsylvania senator against Gifford Pinchot and Boies Penrose, and this man once testified in front of the Overman Committee that the US Brewers Association had

pro-German sentiments. This man served as Alien Property Custodian before rising to his most important post. At one cabinet meeting, this man demanded that Assistant Secretary of Labor Louis Freeland Post be fired for opposing him. This man used the Lever Act against a coal strike led by (*) John L. Lewis. This man once tried to convince his superior to pardon Eugene Debs on the eve of Lincoln's birthday. Luigi Galleani planted a bomb underneath this man's porch, which led to a series of 556 deportations over two months. For 10 points, name this Attorney General known as the "fighting Quaker", who arrested many anarchists in his namesake raids.

ANSWER: Alexander Mitchell Palmer

11. The upright section of the army headquarters building in this city tapers down to meet the rest of the building. Octopus Cards, the Star Ferry, and Stonecutter's Bridge are key to the transportation of this city formerly governed by positive non-interventionism. A former fort in this city was the site of a lawless walled city that was torn down in 1994. The now-closed Kai Tak Airport was the home airport of (*) Cathay Pacific, which is based here. This city, home to Victoria Peak, is south of Shenzhen and lies on the Pearl River Delta. The Special Administrative Zone containing this city includes the New Territories, Kowloon, and its namesake island. For 10 points, name this Chinese city that was returned in 1997 by the British.

ANSWER: Hong Kong Special Administrative Region [or Xiang Gang; or HKSAR; antiprompt on Kowloon before mention]

12. One general serving this leader executed Quintus Labienus after winning the Battle of the Cilician Gates. That victory by Publius Ventidius Bassus was followed up three years later by a campaign led by this person who helped Herod the Great recapture Jerusalem but ended up disastrously defeated. Despite that unfortunate fact, this leader carried out a mock (*) triumph in his capital city. This leader divided his half of the empire into kingdoms ruled by the children of his lover in the donations of Alexandria. In his last battle, he abandoned his forces to chase after the retreating flagship of an allied fleet, leaving his own fleet to be crushed by Marcus Agrippa, a general who served Octavian. For 10 points, name this Roman leader who was defeated at the Battle of Actium alongside his Egyptian lover, Cleopatra.

ANSWER: Mark Antony [or Marcus Antonius]

13. Danilova's study of this organism discovered a new immunoglobulin isotype, dubbed IgZ. This organism's montalcino, yquem, and dracula mutants are models of various types of porphyria. The Tol2 transposon is often used in transgenesis experiments in this organism, and mutagenesis is usually performed in these organisms using ENU. Mutations in SLC24A5 in this organism cause its skin to turn gold. The KDM6B.1 histone demethylase is required for regeneration in this organism, which has a notable "Casper" strain that is 100% transparent. It's not Drosophila, but Christine (*) Nusslein-Volhard works with this organism, which was the subject of the large scale Tubigen/Boston forward screen. This member of family Cyprinidae gets its name for the large stripes on its flank. For 10 points, name this aquatic model organism.

ANSWER: zebrafish [or Danio rerio or D. rerio]

14. In this work, a woman accuses a man of being "ashamed" after he had just kissed her, which leads to a monologue in which the man tells of a friend who gave up his last pair of dry socks after several days of rain; that story is about how he was in charge of a company, all of whom died in the war. One character in this play asks her neighbor for the horoscope of her son on the day of his (*) disappearance, and in a climactic scene, Anne reads a letter from that son, her ex-fiance, which explains that, even though he was thought to be missing, he actually committed suicide because he was related to his father. This news causes Larry's father to shoot himself at the end of this work. For 10 points, name this play, in which Joe Keller shipped faulty airplane parts, by Arthur Miller.

ANSWER: All My Sons

15. **One composer from this country was so impressed by the pianist Malats that he completed the last two books of a suite to showcase extreme virtuosity on the piano. The first piece of that “collection of 12 impressions” is an A minor “Evocation,” and its composer also wrote a “Prelude” and “Orientale” to begin another work. Another composer wrote “Distant Dance” as one of a set of nocturnes using folk music from this country, and he wrote the (*) “Dance of the Miller’s Wife” and the “Dance of the Magistrate” in one work, while another includes the “Ritual Fire Dance.” For 10 points, name this country, home to Isaac Albeniz and the composer of *Love the Magician* and *The Three-Cornered Hat*, Manuel de Falla, where a popular style of dance is flamenco.**

ANSWER: Spain

16. **A countercurrent version of this technique is performed in a Craig apparatus or a mixer-settler. This technique can be used alongside a quaternary ammonium salt in a form of catalysis. A version of this technique using isoamyl alcohol and phenol-chloroform is used on proteins and DNA. It’s not titration, but a funnel with a stopcock on the bottom is commonly used to perform this technique. This technique, which is commonly done as part of the (*) workup of a microscale reaction, relies on a substance having a decent partition coefficient between an aqueous phase and an organic phase, which layer on top of one another. For 10 points, name this technique in which a mixture is separated based on its differential solubility between two non-mixing liquids.**

ANSWER: liquid-liquid extraction [prompt on separation]

17. **One type of these systems can be called “proper” if it has no cycles or epsilon productions, in addition to two other requirements. In the conversion from these systems to pushdown automata, the terminal and nonterminal symbols of these systems make up the stack alphabet of the PDA. These systems are formally defined as a tuple of those symbols as well as production rules and a start symbol. A (*) hierarchy of these systems divides them into types 0 through 3. There exist tree-adjointing ones of these, and Backus-Naur Form is used to notate the context-free type of these. A theory about the universal one of these systems states that humans have the innate ability to learn these systems. For 10 points, name these sets of rules that govern the combination of words to form correct phrases in a language.**

ANSWER: grammars [or formal grammars; accept context-free grammars before “types 0” is said; prompt on “languages”]

18. **This collection includes a poem that begins, “The same stream of life that runs through my veins night and day runs through the world and dances in rhythmic measures.” Religious imagery in this work can be seen in poems like one beginning “Thy gifts to us mortals fulfill all our needs” as well as one in which the speaker stands “alone and speechless” before the “King of kings.” One work in this collection ends, “Ages pass, and still thou pourest, and still there is room to fill” after stating, “This (*) frail vessel thou emptiest again and again.” An introduction about a conversation with a doctor was written for this collection by W. B. Yeats, and its first work begins “Thou hast made me endless, such is thy pleasure.” For 10 points, name this collection of “song offerings” by the Bengali Nobel Laureate, Rabindranath Tagore.**

ANSWER: Gitanjali [prompt on “song offerings” before mentioned]

19. **A popular Taoist legend has Xu Xian marry a woman who was originally a white one of these creatures. A minister of Gong Gong was one of these creatures named Xiangliu, who was killed by Yu the Great. While visiting Mount Black Wind, Sun Wukong kills the White-Robed Scholar, who took this form. The creator gods Fu Xi and Nu Gua were often depicted as half human, half this creature. One of these creatures was defeated with the help of a woman turned into a comb and a series of doors hiding (*) vats of wine; that example of these creatures had eight heads, was the source of the sword Kusanagi, was named Orochi, and was killed by Susanoo. For 10 points, name these creatures, who in other Asian mythologies make up the animal half of a Naga.**

ANSWER: snakes [or serpents or dragon]

20. **One member of this dynasty sent an embassy including the diarist Ghiyath al-din Naqqash to the Yongle Emperor. The death of that member of this dynasty allowed Jihan Shah to declare independence for the White Sheep Turkomans. Another ruler of this dynasty founded and is sometimes the namesake of the Gurkhani Zij, a large observatory. One ruler of this dynasty enlisted the scribe Omar Aqta to inscribe the entire Qu'ran on a ring and used flaming (*) camels to defeat the war elephants of the leader of the Tugluq dynasty in one battle. This dynasty's founder hails from Transoxania and defeated Tokhtamysh, the leader of the Golden Horde. 10 points, name this dynasty whose members include Ulugh Beg and Shah Rukh, whose namesake founder sacked Delhi and brought a bunch of treasure back to his capital at Samarkand.**

ANSWER: Timurid dynasty [accept answers like Tamerlane's family, etc]

TB. **The most serious complication of Kawasaki's disease is an abnormal dilation of one of these structures. The function of these entities can be determined via a common 64-slice scan or by using thallium. One of these structures has several diagonal or obtuse marginal branches. The "handedness" or dominance of these structures is determined by the ones of these structures that feed into the posterior descending one. They include the right circumflex, (*) left circumflex, and left anterior descending, and blockage of one of these structures is treated using catheterization and stenting. For 10 points, name these structures which branch off of the aorta and whose blockage causes myocardial infarction, the vessels supplying the heart.**

ANSWER: coronary vessels [accept coronary arteries or coronary veins]

Bonuses

1. This type of scale is equivalent to the Aeolian mode, and its “relative” type can be constructed by starting from the VI of another type of scale. For 10 points each:

[10] Name these scales that come in melodic and harmonic types.

ANSWER: **minor** scales

[10] In the natural minor scale, name the three scale degrees that are a half step lower than in the parallel major scale.

ANSWER: **III, VI, and VII** [**three, six, and seven** in any order]

[10] In the harmonic minor scale, because a certain scale degree is raised from the natural minor, the III chord is this type of triad.

ANSWER: **augmented**

2. Nelson Goodman’s tract about a pair of gems that change color at a given time posits a “New Riddle” of this concept. For 10 points each:

[10] Name this method in which a generalization is drawn from a handful of cases. In mathematics, this method involves proving a base case, assuming the proposition is true for some integer, then proving for the next one.

ANSWER: **induction**

[10] This work by Francis Bacon is an exposition of the scientific method. Its first section is devoted to debunking syllogism in favor of induction.

ANSWER: ***Novum Organum Scientiarum***

[10] This philosopher listed 5 different types of inferences as part of an outline of inductive logic in his *Logical Foundations of Probability*.

ANSWER: Rudolf **Carnap**

3. Answer some questions about oil companies behaving badly, for 10 points each:

[10] The company at the center of this disaster secretly negotiated damages with the Seattle Seven. This tanker crashed in Prince William Sound and killed a bunch of sea otters and gulls because its captain was drunk.

ANSWER: **Exxon Valdez** oil spill

[10] This BP-owned platform on the Gulf of Mexico exploded in 2010, spilling a lot of oil into the Ocean. This disaster is currently the largest oil spill in history.

ANSWER: **Deepwater Horizon**

[10] PEMEX’s Sedco 135F rig dug this oil well, which blew out in June 1979. The volume of this spill was surpassed by Deepwater Horizon.

ANSWER: **Ixtoc I** [prompt on partial answer]

4. This character wants to divorce his wife, Hippolita, who has failed to bear him children, and plans to wed Isabella. For 10 points each:

[10] Name this man who goes to Jerome’s church where he accidentally stabs his daughter, Matilda, thinking she is actually Isabella having an affair with Theodore.

ANSWER: **Manfred**

[10] Manfred is a crazy lord in this novel, in which he tries to maintain control of the title estate after his son, Conrad, dies when a helmet falls on him.

ANSWER: ***The Castle of Otranto***

[10] *The Castle of Otranto* is a work in this genre. Ann Radcliffe’s *The Mysteries of Udolpho* is another famous novel in this genre.

ANSWER: **gothic** novels

5. Answer some questions about solvents and solvation, for 10 points each:

[10] This device vaporizes the solvent from a sample by putting it into a vacuum flask and spinning it in a warm fluid bath.

ANSWER: **rotary evaporator** [or **rotovap**]

[10] Solvents that are polar and have this property are often used for SN2 reactions. Acetone and THF fall into this category of solvents, which do NOT serve as hydrogen bond donors.

ANSWER: **aprotic**

[10] A common non-polar organic solvent consists of a bunch of isomers of this six-carbon linear alkane. It has formula C₆H₁₄.

ANSWER: **hexane**

6. This character joins Joe Bonecrusher's traveling band of prostitutes and serves as their chef after she miscarries during a voyage with Tao Chi'en. For 10 points each:

[10] Name this character who searches for her lost love, Joaquin Andieta. This character's granddaughter, Aurora del Valle, is the protagonist of *Portrait in Sepia*.

ANSWER: **Eliza Sommers** [accept either]

[10] Eliza Sommers is the title character of *Daughter of Fortune*, a novel by this author of *Eva Luna*.

ANSWER: Isabel **Allende**

[10] The frame story of this Allende novel is about the journals kept by Clara. In the main story, Clara can predict the future and marries Esteban Trueba, the man who builds the title structure.

ANSWER: *The **House of the Spirits*** [or *La **casa de los espíritus***]

7. These places will serve meat on the holiday of Holla Mohalla. For 10 points each:

[10] Name these communal kitchens found within Gurdwaras.

ANSWER: **Langar**

[10] Langar are the communal kitchens founded by this religion, whose sacred sites include the Golden Temple at Amritsar. This religion was founded by Guru Nanak and venerates the Adi Granth as its holiest text.

ANSWER: **Sikhism**

[10] This fifth Sikh guru established the Langar. He was killed on the orders of Jahangir when he refused to remove Hindu and Muslim ideas from the Adi Granth, which he compiled.

ANSWER: Guru **Arjun** Dev

8. This method for solving programs in computer science utilizes a technique called memoization to skip over computations that have already been done. For 10 points each:

[10] Name this technique that optimizes solutions to problems that may have subproblem overlap by caching values. Pathfinding algorithms may use this technique to store paths while calculating better ones.

ANSWER: **dynamic** programming

[10] Exhaustively searching all possible solutions for an optimum is known as this type of search. These types of algorithms and mathematical methods are so named for their lack of cleverness as well as the amount of time and effort required.

ANSWER: **brute force**

[10] This other optimization technique uses a probability function to choose when to change states in a method that produces better solutions over time in an analogue to the minimization of internal energy.

ANSWER: **simulated annealing** [prompt on "SA"]

9. This statesman overthrew a member of the Karadordevic Dynasty, named Peter II, and this co-founder of the Non-Aligned movement survived the Nazi raid on Drvar. For 10 points each:

[10] Name this socialist dictator who had a notable split with Stalin.

ANSWER: Josip Broz **Tito**

[10] Tito was the leader of this no-longer extant country, which broke up into countries like Macedonia and Serbia about a decade after his death.

ANSWER: Socialist Federal Republic of **Yugoslavia** [or SFR **Yugoslavia**; or **SFRY**; or *Socijalistička Federativna Republika **Jugoslavija***; or *Socialistična federativna republika **Jugoslavija***]

[10] This Archbishop of Zagreb spoke out against Yugoslav atrocities during World War II; in response, Tito's government had him arrested for war crimes and executed.

ANSWER: Aloysius Viktor **Stepinac**

10. This author interviewed a bunch of Cuban revolutionaries in his *Listen, Yankee*. For 10 points each:

[10] Name this American sociologist, who is probably most famous for discussing how corporate, military, and political structures interlock to make the average citizen powerless in his *The Power Elite*.

ANSWER: Charles Wright **Mills**

[10] This work by C. Wright Mills discusses the rise and alienation of a management-based middle class that has replaced a labor-based one.

ANSWER: **White Collar**: *The American Middle Class*

[10] C. Wright Mills's *The Sociological Imagination* challenged this method, which sees society as a complex system with many different parts that work together and sees society like an organism. Adherents include Robert Merton.

ANSWER: **structural functionalism** [prompt on partial answer]

11. One monster in this mythology was lured using a fake crab. For 10 points each:

[10] Name this mythology whose epic, the *Popul Vuh*, tells of the journey of the Hero Twins and ballgame players extraordinaire Hunahpu and Xbalanque.

ANSWER: **Mayans**

[10] Part of the Hero Twins' adventures included going into this Mayan underworld. Among the figures found here are Camazotz, the Bat God.

ANSWER: **Xibalba**

[10] The Hero Twins were born after a skull performed this action on their mother. Kvasir was created after a group of gods did this.

ANSWER: **spitting** [accept word forms; accept equivalents]

12. This man once threatened to kill Sir Francis Drake if he did not share the plunder from the *Rosario*. For 10 points each:

[10] Name this naval captain, better known for his three expeditions during which he mined a lot of FeS₂.

ANSWER: Martin **Frobisher**

[10] Frobisher threatened Drake while serving in the English fleet that defeated this other fleet led by the Duke of Medina Sidonia. This fleet was sent by Philip II to overthrow Elizabeth I in 1588.

ANSWER: Spanish **Armada** [or the Great and Most Fortunate **Armada**; or the Invincible **Armada**; or *Grande y Felicísima **Armada***; or ***Armada Invencible***; prompt on answers of **navy** or **fleet**]

[10] Frobisher met cosmographer John Dee through Michael Lok, an agent of this British chartered trading company that frequented ports such as Archangelsk.

ANSWER: **Muscovy** Trading Company [or **Russian** Company; or ***Moskovskaya kompaniya***]

13. The knowledge of this is lost after Nana watches another character burn it, and several years later, another character is tasked with rediscovering this. For 10 points each:

[10] Name this secret, which Damon offers to buy for any price on behalf of the Central Committee. Damon then offers himself up to be dissected.

ANSWER: Rossum's **formula for making robots** [accept answers that mention that this is a **formula** to make **robots**; prompt on "formula" or equivalents like "recipe"; prompt on "robots"]

[10] This author of *War with the Newts* wrote about a revolution led by robots in his *R.U.R.*

ANSWER: Karel **Capek**

[10] At the end of *R.U.R.*, Alquist threatens to kill two robots that have developed human-like love for each other. Name either.

ANSWER: **Primus** or **Helena** [do not accept "Adam" or "Eve"]

14. It is sometimes called the Hatch-Slack pathway after its discoverers. For 10 points each:

[10] Name this mode of carbon fixation used by maize and sugarcane. This mechanism avoids the photorespiration problem by sequestering Rubisco away from oxygen in bundle sheath cells.

ANSWER: **C4**

[10] This enzyme is responsible for fixing CO₂ into its namesake substrate to create oxaloacetate, which is then pumped into the bundle sheath.

ANSWER: **PEP Carboxylase** [or **phosphoenolpyruvate carboxylase**]

[10] These crystalline inclusions in the chloroplasts of algae have very high concentrations of Rubisco.

ANSWER: **pyrenoids**

15. This artist depicted a dove at the feet of the title character in a scene with many luxurious cloths as well as jewelry and flowers in his *The Toilet of Venus*. For 10 points each:

[10] Name this Rococo artist who painted several portraits of his patron, Madame de Pompadour.

ANSWER: Francois **Boucher**

[10] This other work in the Rococo style shows a woman's outstretched arm holding onto a garment that indicates a path from one open door to another, where a young man enters and kisses her on the cheek.

ANSWER: *The **Stolen Kiss***

[10] Fragonard, the artist of *The Stolen Kiss*, also created this work in which a woman in a pink dress on the title conveyance loses a shoe while a man in the lower left looks up her dress.

ANSWER: *The **Swing***

16. One poet with this last name published the collection *Salve Deus Rex Judaeorum* as one of the earliest female English poets. For 10 points each:

[10] Give this name shared by Emilia and another poet who wrote about "the length and breadth of the marvelous" title place in one poem and created a speaker who says, "In my sleep I was fain of their fellowship," in "Sunrise."

ANSWER: **Lanier** [accept Emilia **Lanier** or Sidney Clopton **Lanier**]

[10] Sidney Lanier wrote a "Boy's" version of this man's legend. John Steinbeck retold this man's legend in a book about his "Acts" based on the Winchester Manuscript of a fifteenth century author.

ANSWER: King **Arthur**

[10] Sidney Lanier also wrote a poem titled for this president's wife, but a more famous poem titled for this president begins with images of a "Celestial choir! enthron'd in realms of light" and was written by Phillis Wheatley.

ANSWER: George **Washington**

17. One formulation of this law states that the line integral of dQ over T around a closed path is less than or equal to zero. For 10 points each:

[10] Name this fundamental law which states that for a closed system, the entropy inevitably increases.

ANSWER: **second law** of thermodynamics

[10] The second law of thermodynamics puts an upper limit for this value of an engine. For a Carnot engine, this value, symbolized η , is equal to one minus the ratio of the temperature of the cold reservoir to the hot reservoir.

ANSWER: **efficiency**

[10] This value for a heat engine is equal to the heat transferred divided by the work consumed by the engine

ANSWER: **coefficient of performance** [or **cop**]

18. Stephen Harper has vowed to boycott this organization's 2013 Heads of Government Meeting, which will also not be attended by its head for the first time in 40 years. For 10 points each:

[10] Name this organization whose rotating presidency will shift from John Rudd to the Sri Lankan president in 2013. This organization's namesake "games" overcame hygiene concerns when held in Delhi in 2010.

ANSWER: **Commonwealth** of Nations [or British **Commonwealth**; do not accept "British Empire"]

[10] Both Harper and the UK House Foreign Affairs Committee cited the human rights violations of this Sri Lankan president who used heavy-handed tactics to end his country's long-running civil war.

ANSWER: Mahinda **Rajapaksa**

[10] That civil war, which ended in 2009, was fought against this non-Sinhalese Sri Lankan ethnic group. A terrorist group supporting this ethnicity was the LTTE, or this group's namesake Tigers.

ANSWER: Sri Lankan **Tamils** [or **tamilar**ka]

19. This Roman square with a cat sanctuary contains the remains of four Republican temples excavated in the 1920s. For 10 points each:

[10] Name this square that has the remains of Pompey's Theatre, which is covered by a namesake theatre that is the oldest of the *Teatro di Roma*. This square takes its name from a tower built by a bishop from Strasbourg.

ANSWER: **Largo di Torre Argentina**

[10] A horologium sundial was erected on the Campus Martius by this ruler whose mausoleum was designed to be larger than any other Roman's and, unlike Antony's, was to be in Rome. The Roman Senate erected the *Ara Pacis*, or Altar of Peace, for this ruler.

ANSWER: Imperator Caesar Divi Filius **Augustus** [or Gaius Julius Caesar **Octavianus**; or **Gaius Octavius**; or **Imperator Caesar Divi Filius**; or **Gaius Julius Caesar Divi Filus**; prompt on **Octavius**; prompt on **Caesar**; prompt on **Gaius**; do not prompt on "Julius Caesar" or "Gaius Julius Caesar"]

[10] Both of the aforementioned locations were renovated while this Italian leader was in power. He also promoted the use of Futurism in the EUR sector and in the headquarters for his Fascist party.

ANSWER: Benito Amilcare Andrea **Mussolini** [or *Il* **Duce**]

20. US-Soviet tensions during this event were elevated because Korean Airlines Flight 007 was shot down two months earlier. For 10 points each:

[10] Name this NATO exercise, which was allegedly nearly taken by the Soviets as a ruse of war to launch a first strike because NATO simulated going to DEFCON 1.

ANSWER: NATO **Able Archer** 83

[10] The Soviets were misled by increased US-UK chatter which was actually due to the diplomatic brouhaha caused by the American attack on this Commonwealth island nation in Operation Urgent Fury.

ANSWER: **Grenada**

[10] The US invaded Grenada during this man's presidency, whose claims that the USSR would be relegated to the "ash heap of history" and promotion of SDI made Soviets wary during Able Archer.

ANSWER: Ronald Wilson **Reagan**