1. This composer slid paper between piano strings to give the instrument a more mechanical sound for *The Sting of the Jellyfish* in what is perhaps the first formal use of a prepared piano. He composed *Danses gothiques* as a novena for "the greatest calm and tranquility of [his] soul" while having an affair with Suzanne Valadon. He created *Le Picadilly* and *Je te veux* while working as a cabaret pianist. This first modern composer to use barless notation helped form Nouveaux Jeunes, the forerunners of Les Six. In addition to composing 7 Gnossiennes, he named another set of compositions after an ancient Greek dance. For 10 points, name this French composer of 3 Gymnopédies.
ANSWER: Erik **Satie**

066-12-59-13102

2. This document ridicules one man's plan to catch another off-guard by awakening him with a sudden flash of light from a lantern, and compares the actions taken by that man, Armand du Platy de Clam, to "some fifteenth century chronicle" based around "that idiot *bordereau*." Citing the work of Auguste Scheurer-Kestner and George Picquart, this document argues the real author of the *bordereau* is Ferdinand Esterhazy, who was acquitted two days before this document's publication. First appearing in Clemenceau's newspaper *L'Aurore*, this document led to its author being charged with libel for attacking the French War Office. For 10 points, name this open letter written by Émile Zola defending Alfred Dreyfus.
ANSWER: **J'accuse** Letter [or **I Accuse**; accept answers such as **Zola's open letter defending Dreyfus** before mentioned]

121-12-59-13103

3. One of these constructs defined on the reals is used to generate a probability distribution of a random variable defined on a probability space. Two of these constructs are known as the "discrete" and "trivial" varieties; those constructs refer to collections of sets over which measures are defined and are denoted by the letter sigma. This word also refers to numbers that are roots of non-zero polynomials with rational coefficients and are thus the counterpart to transcendental numbers. Every non-constant single-variable polynomial with complex coefficients has at least one complex root according to the fundamental theorem of this discipline. For 10 points, name this discipline, the manipulation and solving of variables.
ANSWER: **algebra**

020-12-59-13104

4. There are two Senate elections on this state's 2012 ballot, with the same candidates running in each. That Senate race features a rematch of a 2010 election in which the Republican candidate argued that the country needed to put "a thousand lasers" in the sky and issued a casting call for Philadelphia actors that "look hicky." In this state's Democratic presidential primary, Keith Judd won 42% of the vote despite living in a Texarkana, Texas jail. This state's dissatisfaction with Barack Obama has led Democratic Governor Earl Ray Tomblin and Senator Joe Manchin to distance themselves from the President. For 10 points, name this state whose 2012 Senate election oddity is a result of a 2010 Special Election following the death of Robert Byrd.
ANSWER: **West Virginia**

003-12-59-13105

5. This region's Yarlung River forms a "Grand Canyon," the deepest in the world. This region is where the practice of blessing land with "prayer flags" originated. Lakes Siling and Namu are found in this region's northern Changtang area. Its traditions include ritually incising a corpse and leaving it to be eaten by vultures in a "sky burial." An animist religion called Bon is native to this region. The capital of this region contains Jokhang Temple, built by Songtsen Gampo, and Potala Palace. It is located southwest of Qinghai and directly south of Xinjiang. For 10 points, name this Himalayan region with a capital at Lhasa, controversially taken over in 1951 by China.
ANSWER: **Tibet** [or **Xizang**]

6. One character created by this man mysteriously replies, "Do I not?" when asked if he understands the shouting of a group of natives. In one work by this man, a Dutch trader moves into an abandoned house and begins an opium addiction after his daughter Nina marries a native of the East Indies. In another work by this author of *Almayer's Folly,* a man in love with the revolutionary Antonia is assigned to guard a hoard of silver until he kills himself, forcing the title character to take over. This author also wrote a novel in which the butterfly collector Mr. Stein finds a post for the title character on Patusan, where he befriends Dain Waris. For 10 points, name this author of *Nostromo* and *Lord Jim*, whose recurring character Marlow also narrates *Heart of Darkness.*
ANSWER: Joseph **Conrad** [or Jozef Teodor Konrad **Korzeniowski**]

7. After the fall of Troy, one man with this ability married Andromache and ruled a "little Troy" in Epirus. Helenus obtained this power through the instruction of his sister. The first humans to possess this ability owed their power to Themis. Two men named Mopsus possessed this ability, as did Manto. This is also the ability of a woman raped by Ajax the Lesser in Athena's temple who became the concubine of Agamemnon. Apollo gave this ability to a woman he loved, but later cursed her when she refused him. For 10 points, name this ability possessed by individuals like the Cumaean Sibyl, Cassandra, and Tiresias.
ANSWER: **prophecy** [or **telling the future**; or **seeing the future**]

8. Members of this group replaced fallen family members by adopting captives taken in Mourning Wars. Some members of this group killed the Jesuit priests Jean de Lalande and Isaac Jogues, who became two of the eight North American Catholic martyrs. Those priests were killed during a larger conflict with this group against the French and Huron known as the Beaver Wars. This group sold land in the Shenandoah Valley to Governor Gooch of Virginia and later sided with the British during the French and Indian War. For 10 points, name this group consisting of the Onondaga, Oneida, Mohawk, Cayuga, and Seneca nations.
ANSWER: **Iroquois** League [or **Iroquois** Confederacy]

9. In one industrial process that uses this technique, calcium chloride is added to rock salt to decrease its melting point. Aqueous chlorine gas cannot be produced by this process because oxygen is preferentially oxidized. This process is governed by a law stating that the amount of product is proportional to the amount of electrons supplied. This technique is used in the Downs process to make sodium, and in plating chromium metal surfaces. For 10 points, name this process governed by Faraday's law, in which a redox reaction separates pure compounds from an ionic substance and drives a reaction that would normally not be spontaneous.
ANSWER: **electrolysis** [prompt on **electrochemical reaction** or similar answers]

10. One Edna St. Vincent Millay poem begins with the speaker claiming that "I know I am but summer to" one of these objects. In William Butler Yeats's poem "The Circus Animals' Desertion," the speaker claims that he must lie down in "the foul rag and bone shop of" this object. The speaker of one poem by e. e. cummings "fear[s] no fate" and "want[s] no world" because he carries this object with him. In one of his *Holy Sonnets,* John Donne asks a three-personed God to batter this object. For 10 points, identify this organ, a "Tell-Tale" one of which thumps under the floorboards in a short story by Edgar Allan Poe.
ANSWER: the **heart** [or any pronoun followed by **heart**, e.g. accept "my **heart**" or "your **heart**"]

11. In one scene from this film, a character gets out of a black car to urinate in "amber waves of grain" with the Statue of Liberty in the background. Another character puts an orange peel in his mouth to chase his grandson around a tomato patch before dropping dead. This film climaxes with a sequence that intersperses footage of the protagonist swearing to renounce Satan during a baptism with shots of his enemies being assassinated. Other famous incidents from this film include the delivery of Luca Brasi's vest with a fish inside it and a studio director waking up next to his horse's bleeding head. For 10 points, name this Francis Ford Coppola film about the Corleone mafia family.
ANSWER: The *__Godfather__* [do not accept "*The Godfather: Part 2*" or "*The Godfather: Part 3*"]

12. After first leaving the city where it was constructed, this ship collided with the *Atlantik* without damage. During its first fighting action, this ship sank the *Hood* and exchanged fire with the *Prince of Wales*. Days later, Fairley Swordfish from the *Ark Royal* were responsible for destroying this ship's steering gear, and the *King George V* and *Rodney* incapacitated this ship. This ship was finally sunk by the *Dorsetshire*, and only 110 men from its crew survived. Taking part in the Battle of the Denmark Strait and commanded by Günther Lütjens, for 10 points, name this short-lived pride of the German Navy during World War II.
ANSWER: *__Bismarck__*

13. This quantity's tangential component is continuous across the surface of a dielectric. One method for finding this quantity depends on the uniqueness of solutions to Poisson's equation; that technique is the method of images. The acceleration of a point charge introduces kinks into this quantity. Its gradient is not always zero, but it is crossed with a quantity that is, to form the Poynting vector. One law for calculating this quantity sets its flux proportional to the total enclosed charge. For 10 points, name this vector quantity equal to the force on a point charge divided by the charge, which can be calculated by Coulomb's and Gauss' laws.
ANSWER: **electric field** [or **E**-field]

14. One chapter of this book describes magazine articles about the Duke of Windsor and a "barbecue bonanza." This book praises Margaret Mead for finding a "vision of the infinite variety of sexual patterns," but ultimately concludes that Mead's functionalism reinforced the title concept. In the fifth chapter, the author compares Sigmund Freud to Torvald Helmer. Its first paragraph poses the silent question, "Is this all?" This book was inspired by a survey the author conducted of former Smith College classmates. It begins by describing "the problem that has no name" and argues the title condition is created by magazines that depict only frustrated career women or happy homemakers. For 10 points, name this book by Betty Friedan.
ANSWER: The *__Feminine Mystique__*

15. In this play's second act, one character will not let his wife take the horses into town because he is using them in the field. At the beginning of this play's second act, the characters criticize Maupassant's *Bel Ami.* In this play's final act, the characters play a card game called lotto and pass around a magazine. This play's title character gives her lover a medallion engraved with the page and line number of the quotation "if you ever need my life, come and take it" from that lover's book *Days and Nights.* The poor schoolteacher Medvedenko loves Masha in this play set on Sorin's estate, and an aspiring actress has an affair with Arkadina's lover Trigorin. For 10 points, name this Chekhov play in which the struggling author Treplev shoots the title bird.
ANSWER: The *__Seagull__* [or *__Chayka__*]

16. Conditions that must accompany this practice, including "sincerity," "love," and "truthfulness," are divided by adherents into seven to nine criteria. Criteria for this practice's validity also include submission to its requirements and perfect knowledge of carrying it out. Without those conditions, this practice, which is promoted by the flag of Saudi Arabia, is considered meaningless and cannot be used for conversion. The first part of this practice is called tawhid, and Shiites add the phrase "and Ali is his vice-regent" to the words of this practice. For 10 points, name this pillar of Islam, a declaration often translated, "there is no God but Allah, and Muhammad is his prophet."
ANSWER: **shahada** [prompt on **confession of faith**, etc.]

17. This organism is the subject of the Illinois Long Term Selection Experiment, which has been running since 1896. One phenotype of this organism lead to the discovery of the Knotted1 homeobox gene. The evolution of the Tb1 gene is believed to have lead to many of this organism's distinguishing features. Observations of this organism's chromosomes lead to the discovery of breakage-fusion-bridge cycles. One phenotype in these organisms is explained by the presence of Ds and Ac units. This organism is derived from teosinte. The "Controlling Units" of this organism were the first discovered transposons. For 10 points, name this grain studied by Barbara McClintock.
ANSWER: **corn** [or **maize**; or *__Zea mays__*; prompt on **teosinte** before mentioned]

18. This emperor was declared the New Serapis in Alexandria, where his spit cured a blind man and his heel cured an invalid. He had the Stoic thinker and Senator Helvidius Priscus executed, though he sponsored more favorable historians like Josephus. As this emperor died, he reportedly exclaimed, "I think I am becoming a god." Before becoming emperor, this man took part in the invasion of Britain and captured the Isle of Wight. He constructed the Temple of Peace to celebrate his son's successful conquest of Jerusalem. After his forces defeated Vitellius, this man became emperor in 69 CE. For 10 points, name this founder of the Flavian Dynasty, who was succeeded by his sons Titus and Domitian.
ANSWER: Caesar **Vespasian**us Augustus [or Titus Flavius **Vespasian**us; do not accept "Titus"]

19. This painter parodied the classical story of Hercules picking between virtue and pleasure in his depiction of a famous actor looking at a blue robed woman. Another of this man's paintings shows a young child in the same outfit and pose as Henry VIII. He represented order being restored to a court-martialed navy officer by having Lord Keppel rest his hand upon a sword. This man painted two aristocratic men on a hunt, stringing their bows, in a painting subtitled "The Archers." A horrific-looking woman holding a goblet stands on the left of an enthroned Welsh actress in his most famous painting. For 10 points, name this first president of the Royal Academy, a portraitist best known for *Sarah Siddons as the Tragic Muse*.
ANSWER: Sir Joshua **Reynolds**

20. In one poem referring to this mythological couple, the speaker calls himself a "degenerate modern wretch" and jokingly refers to the myth as "a doubtful story" after testing the physical possibility of its premise. Another poem about this mythological couple concludes ambiguously by describing how "ugly Night…danged down to hell her loathsome carriage." George Chapman added a second part to that poem about this couple, diverging from the comical erotic tone of the segment completed by Christopher Marlowe. For 10 points, name this mythological couple, one of whom swam across the Hellespont each night to visit the other.
ANSWER: **Hero** and **Leander**

21. Hox B8 knockout mice were found to engage in this activity twice as often as their control littermates. In the mouse, ritualized steps in this activity were first discovered by Frances Stilwell and include "parallel," "circling," and "shimmy" movements. In lemurs and impala, this activity is accomplished with a "dental comb," and in birds, it is known as "preening." Human disorders of this activity, including trichotillomania (TRY-ko-TILL-oh-MAY-nee-ah), are often classified as part of the obsessive-compulsive spectrum. The "allo" form of this activity is a common social bonding device. For 10 points, name this behavior in which an animal gets parasites, dirt, and other unwanted things out of its or another's hair, fur, or skin.
ANSWER: **groom**ing [or auto**groom**ing; or allo**groom**ing; or social **groom**ing; prompt on **preen**ing before it is read; prompt on answers that reasonably describe grooming]

22. One member of this man's administration formulated this president's policy of "constructive engagement" towards South Africa; that man was Chester Crocker. This President controversially met with Jonas Savimbi and pledged US support for UNITA. During this man's administration, Fawn Hall was used as a witness during a trial held due to a Robert McFarlane-initiated plan that side-stepped the Boland Amendment. That plan, supported by this President, initially sold arms to Iranians, but then provided money to forces that fought against the Daniel Ortega-led Sandinista government in Nicaragua. For 10 points, the Iran-Contra affair occurred during what Republican president's second term?
ANSWER: Ronald Wilson **Reagan**

23. The protagonist of this work publicly humiliates her husband by remarking that when he pulls down his britches, he looks like "the change of life." In this novel, the protagonist grows jealous of Nunkie and fears that her husband will be like Who Flung, who stole Annie Taylor's money after they were married. In this work, the mayor of a certain town needs to feel like a "big voice." This work's protagonist is offered rice by the woman to whom she recounts her story after returning to Eatonville. Earlier, she shoots her lover in self-defense several weeks after he is bitten by a rabid dog. After the death of Jody Starks, the protagonist marries Tea Cake. For 10 points, Janie Crawford is the protagonist of what novel by Zora Neale Hurston?
ANSWER: *Their Eyes Were Watching God*

1. This work contains a description of its author's theory of "bracketing" the external world. For 10 points each:

[10] Name this philosophical work that attacks psychologism in its first volume and considers syntactical and mereological meaning in its second volume.

ANSWER: *Logical Investigations* [or *Logische Untersuchungen*]

[10] This author of *Logical Investigations* also attracted criticism from Gottlob Frege for his psychologically-based *Philosophy of Arithmetic.*

ANSWER: Edmund **Husserl**

[10] Husserl is often credited with beginning this school of philosophy, which examines the experience of distinct events and types of consciousness subjectively.

ANSWER: **phenomenology**

127-12-59-13201

2. This man composed the melodrama *Children of the King* and was the chief copyist of the score for Wagner's *Parsifal*. For 10 points each:

[10] Name this German operatic composer of the *Thorn-Rosie* and the Nativity opera *Toddler's Winter Dream*.?

ANSWER: Engelbert **Humperdinck**

[10] Engelbert Humperdinck composed this opera with a libretto by his sister. Its title characters shove a witch into an oven, which turns her into gingerbread.

ANSWER: *Hansel and Gretel* [or *Hansel und Gretel*]

[10] Humperdinck was an early user of this voice technique that Arnold Schoenberg used in *Pierrot Lunaire*. It is a cross between singing and speaking.

ANSWER: **Sprechstimme**

030-12-59-13202

3. For 10 points each, name the following relating to waves.

[10] This principle holds that when multiple waveforms try to exist in the same space at the same time, they will overlap and interfere.

ANSWER: **superposition**

[10] These are the two types of interference that can occur. In one case, the resultant amplitude is smaller than the component waves; in the other case, it is larger.

ANSWER: **destructive** and **constructive** interference [both required]

[10] A version of Young's double-slit experiment with a solenoid was used to show this effect, in which a beam of electrons experiences a phase shift in a region with no electric or magnetic field.

ANSWER: Ehrenberg–Siday–**Aharonov–Bohm** effect

147-12-59-13203

4. One member of this family arranges a marriage between Paul Rayley and Minta Doyle while another snaps when Augustus Carmichael asks for a second bowl of soup at a dinner party. For 10 points each:
[10] Name this family that is chronicled for ten years in a novel in which they stay at their summer house in the Hebrides.
ANSWER: **Ramsay**
[10] The Ramsays appear in this novel by Virginia Woolf.
ANSWER: *To the Lighthouse*
[10] This character spends much of the novel trying to paint a portrait of Mrs. Ramsay, and is ridiculed by Charles Tansley, who claims that women cannot paint.
ANSWER: **Lily** Briscoe [or Lily **Briscoe**]

5. During this conflict, a rival senate was established at Corfinium. For 10 points each:
[10] Identify this war eventually ended after concessions were granted by Lucius Julius Caesar and the remaining belligerents defeated by commanders like Gnaeus Pompeius Strabo and Sulla.
ANSWER: **Social** War [or **Italic** War; or **Marsic** War; or War of the **Allies**]
[10] Another Roman participant in the Social War was this rival of Sulla who helped reform Rome's military.
ANSWER: Gaius **Marius**
[10] The Social War was sparked by the murder of this "Patron of the Senate," who proposed giving citizenship to Rome's allies. He tried to resolve a conflict between the Senate and the equestrians by elevating 300 knights to senatorial positions.
ANSWER: Marcus Livius **Drusus**

6. Charles Dickens wrote that one character in this painting looks like a hideous alcoholic who would "stand out from the rest of the company" in "the lowest gin-shop in England." For 10 points each:
[10] Name this oil canvas which depicts the title figure in a carpentry workshop, having cut his hand on a nail and being brought water by John the Baptist. It was extremely controversial for showing grimy conditions.
ANSWER: *Christ in the House of His Parents*
[10] *Christ in the House of His Parents* was painted by John Everett Millais, a member of the Pre-Raphaelite Brotherhood. Millais also painted this female character from *Hamlet*, floating in a river.
ANSWER: **Ophelia**
[10] This other member of the Brotherhood painted *The Scapegoat* and *The Light of the World*.
ANSWER: William Holman **Hunt**

7. For 10 points each, identify the following about genetic mutations in dogs.
[10] A genetic mutation that affects most dalmatians leads to them excreting this compound, rather than allantoin, in their urine. It is also the primary nitrogenous waste product in birds.
ANSWER: **uric acid** [do not accept or prompt on "urea"]
[10] The mutation that causes neuronal ceroidlipofuscinosis (SEA-roid-LIE-poe-FUSE-in-OH-sis) in Tibetan terriers causes a hereditary form of this disease in humans. This disorder affects the basal ganglia and leads to "tics" caused by low dopamine levels.
ANSWER: **Parkinson**'s disease
[10] Many herding dogs have a mutation in this gene that codes for P-glycoprotein, a pump that prevents toxic buildup of acepromazine, loperamide, and other pharmaceutical products in the brain.
ANSWER: **MDR1** [or **multi-drug resistance 1**]

8. He wrote about a Young Republican lawyer who listens to punk rock in "Girl with Curious Hair." For 10 points each:
[10] Name this American author who wrote a novel that takes place in locations such as the Enfield Tennis Academy and the Ennet House Drug and Alcohol Recovery House.
ANSWER: David Foster **Wallace**
[10] Wallace's novel *Infinite Jest* depicts this family, which includes members such as James Orin, a filmmaker who created the Entertainment, as well as Hal, who memorized the dictionary.
ANSWER: **Incandenza**
[10] Wallace wrote a notable review of *Toward the End of Time,* a novel by this other American who created Harry Angstrom.
ANSWER: John Hoyer **Updike**

9. This politician's husband, John Zaccaro, was indicted on felony charges of bribery related to a cable television contract; he was later acquitted. For 10 points each:
[10] Name this former Representative for New York who was chosen to be Walter Mondale's VP nominee in 1984. She died in 2011.
ANSWER: Geraldine Anne **Ferraro**
[10] Ferraro ran for the Senate in 1998, but lost in the Democratic primary to this politician, the current senior Senator for New York. He was instrumental in Alberto Gonzales' resignation as Attorney General after firing eight U.S. Attorneys in 2006.
ANSWER: Chuck **Schumer** [or Charles Ellis **Schumer**]
[10] Ferraro spent time as a host "on the left" on this CNN debate show, often appearing opposite John Sununu or Pat Buchanan. Shortly before it was canceled, Jon Stewart lambasted the show during an appearance as a guest.
ANSWER: *Crossfire*

10. Identify the following about winged cryptids, for 10 points each:
[10] These mythological avians appear in Native American legends of the Western United States. They are named for their ability to influence the weather.
ANSWER: **Thunderbirds**
[10] The Mothman legend in West Virginia is sometimes linked to a 1967 disaster in this town in which 46 people died when the Silver Bridge connecting this town to Gallipolis, Ohio collapsed.
ANSWER: **Point Pleasant**
[10] This winged, hoofed biped was reportedly seen by hundreds of people in 1909 and supposedly lives in its home state's Pine Barrens.
ANSWER: New **Jersey** Devil

11. The first four of these pieces open with the right hand playing a melody alone, which the left hand then imitates an octave lower in the next measure. For 10 points each:
[10] Name this set of 15 Baroque pieces in eight major and seven minor keys. Sometimes paired with the composer's fifteen *sinfonias*, they are pedagogical pieces used to teach keyboard musicians to play in two parts.
ANSWER: the Two-Part **Inventions** [do not accept "Three-Part Inventions"]
[10] The two-part inventions are one work by this Baroque master, also known for works like *The Art of Fugue* and the *Brandenburg Concertos*.
ANSWER: Johann Sebastian **Bach**
[10] Some of the inventions consist of an exposition, development, and recapitulation, meaning that they make use of this overall structure.
ANSWER: **sonata** form

12. This author coined the term "banana republic" in his collection *Cabbages and Kings*. For 10 points each:
[10] Name this American author who was noted for his clever twist endings in short stories like "The Gift of the Magi," in which Jim and Della sell their prized possessions in order to buy each other Christmas presents.
ANSWER: O. **Henry** [or William Sydney **Porter**]
[10] In this O. Henry story, Bill and Sam kidnap the son of a wealthy man, but the lad is actually a nasty brat who terrorizes his kidnappers, until they are willing to pay to give up the kid.
ANSWER: "The **Ransom of Red Chief**"
[10] In the O. Henry story "A Retrieved Reformation," Jimmy Valentine is a former criminal who eventually gives up the profession. At the story's climax, he proves his good intentions by performing this action to save the niece of his fiancée, Annabel.
ANSWER: **breaking into a safe** [or obvious equivalents]

13. These objects for a given number are the elements of a symmetric group. For 10 points each:
[10] Name these arrangements of symbols. The total number of these for a given number *n* is *n* factorial.
ANSWER: **permutation**s [do not accept "combinations"]
[10] The set of permutations can be treated as a group because function composition always has this property, a necessary criterion for a group binary operation.
ANSWER: **associativity** [or word forms; do not accept "commutativity"; do not accept "abelian"]
[10] Symmetric groups have this property if and only if it has order less than or equal to two. Examples of this type of group include the integers over addition.
ANSWER: **commutativity** [or **abelian**; or word forms]

14. The title character of this novel discusses the Calas family and declares, "He that laughs last laughs best." For 10 points each:
[10] Name this novel whose narrator ventures into the Regency Café and strikes up a conversation with the relative of a composer.
ANSWER: *Rameau's Nephew* [or Le *Neveu de Rameau*]
[10] This Frenchman wrote *Rameau's Nephew.* A valet declares that everything that happens is written on a "great scroll" in this man's novel *Jacques the Fatalist.*
ANSWER: Denis **Diderot**
[10] Diderot is better known for co-editing this reference book with Jean Le Rond d'Alembert.
ANSWER: The *Encyclopedia* [or Le *Encyclopedie*]

15. This body passed a law forbidding its dissolution without its members' consent, and it lasted from 1640 to 1653, which earned this body its moniker. For 10 points each:
[10] Name this legislative body that passed the Grand Remonstrance against Charles I and was diminished to the Rump Parliament by Pride's Purge.
ANSWER: **Long** Parliament
[10] Charles I was also the target of this 1628 document issued by Parliament that outlined complaints. It sought no taxation without Parliamentary consent, no imprisonment without cause, no quartering of troops, and no martial law in peacetime.
ANSWER: **Petition of Right**
[10] The Petition of Right was created by this British jurist who defended the supremacy of the Common Law against the Stuarts.
ANSWER: Edward **Coke**

16. A series of sedimentary rock layers that stretches from this park to the Grand Canyon is known as the Grand Staircase. For 10 points each:
[10] Name this National Park in which frost-wedging and water erosion have formed a series of spires called "hoodoos."
ANSWER: **Bryce Canyon** National Park
[10] Bryce Canyon National Park is located in this state, which is majority Mormon.
ANSWER: **Utah**
[10] This city to the north of Salt Lake City is the closest to Promontory Peak and is the site of Weber State University.
ANSWER: **Ogden**

17. Critic John Lahr wrote that before this play, "I thought words were just vessels of meaning; after it, I saw them as weapons of defense." For 10 points each:
[10] Name this play in which Max, his brother Sam, and his three sons Lenny, Joey, and Teddy one-up each other in their sexual games with Ruth.
ANSWER: The *Homecoming*
[10] *The Homecoming* was a Tony-winning play by this British playwright who also wrote *The Caretaker* and *The Dumbwaiter.*
ANSWER: Harold **Pinter**
[10] Max accuses his wife Charlotte of infidelity in a play within the earlier Tony-winning play *The Real Thing*, written by this playwright of *Travesties*.
ANSWER: Tom **Stoppard** [or Tomas **Straussler**]

18. The magnitude of this effect can be measured with an ebullioscope (eh-BYOO-lee-oh-scope). For 10 points each:
[10] Name this phenomenon that occurs when the presence of a solute decreases the vapor pressure of a substance.
ANSWER: **boiling point elevation** [prompt on partial answer]
[10] The amount of boiling point elevation, like many other colligative properties, is proportional to this quantity, the moles of solute divided by kilograms of solvent.
ANSWER: **molality** [do not accept "molarity"]
[10] The number of dissolved particles per solute particle is given by this factor denoted *i*.
ANSWER: **van't Hoff** factor

19. This declaration is divided into five parts, the first of which is the TANU "Creed." For 10 points each:
[10] Name this Tanzanian declaration of "African Socialism" that outlined the policy of Ujamma, or "brotherhood."
ANSWER: **Arusha** Declaration
[10] The Arusha Declaration was issued by this first prime minister of Tanganyika. This man kept John Okello from returning to Zanzibar, an action that allowed him to oversee the creation of Tanzania and become its first president.
ANSWER: Julius Kambarage **Nyerere**
[10] During Nyerere's presidency, Tanzania went to war with this Idi Amin-led country after it attempted to annex Kagera. Earlier this country had expelled all Asians from its borders.
ANSWER: Republic of **Uganda**

20. The incidence of this value is where the burden of paying it ultimately falls. For 10 points each:
[10] Name this value, the ratio of income or consumption that becomes government revenue.
ANSWER: average **tax** rate
[10] For consumption taxes, the incidence depends on this property of supply and demand. For demand, this is the percentage change in quantity demanded given a one percent change in price.
ANSWER: price **elasticity**
[10] Deadweight loss can theoretically be minimized with this type of tax. This tax is constant for households regardless of behavior, so there are no distortionary effects, but is also regressive.
ANSWER: **lump-sum** tax

21. For 10 points each, give the following about experiments important to our understanding of DNA.
[10] This doubly eponymous experiment used *E. coli* to prove that DNA replication is a semi-conservative process.
ANSWER: **Meselson-Stahl** experiment [accept answer in reverse order]
[10] In his namesake experiment, this man injected mice with both non-virulent bacteria and heat-killed virulent bacteria, and some of the mice died. Knowing that heat denatures proteins, he concluded that proteins could not have been responsible for transferring the genetic material between bacteria, as some thought.
ANSWER: Fred **Griffith**
[10] The Hershey-Chase "blender" experiment used a radioactive form of this element, which in DNA and RNA forms a type of diester bond.
ANSWER: **phosphorus**