NASAT 2011
Round 20
Tossups

1. In the study of this force, the Bjorken scaling helped find the dependence of the structure function in the large angle deflection of electrons in deep inelastic scattering. This led to the parton model. With long wavelengths, particles that interact via this force have a full Yukawa cloud, but for short wavelengths, this force vanishes. In a vacuum below .2 GeV , a condensate of particles that interact via this force can form. Separating two particles that interact via this force that has asymptotic freedom requires infinite energy. Gluons carry this force that confines colors, which means only hadrons can be seen and not the constituent particles. For 10 points, name this force that holds quarks together in the protons and neutrons, as opposed to the weak force.
ANSWER: strong nuclear force/interaction
2. This artist depicted a snorkel emerging from the water as a woman grasps her breasts in Woman in Tub. A recent Hunter Jonakin piece is composed of an arcade game in which the player wanders a museum destroying this man's work with a rocket launcher. He created three identical porcelains of a golden clad pop star holding a monkey titled Michael Jackson and Bubbles. This artist used shiny metallic surfaces for his sculpture of Tulips, which is located in Bilbao near his sculpture of a puppy which is made from flowers. For 10 points, name this American artist best known for kitschy sculptures of balloon animals and other mundane objects.
ANSWER: Jeff Koons
015-11-30-20103
3. In quantum mechanics, the Fourier transform of this quantity's operator is represented by the position operator, and this quantity's operator is equal to negative i times $h$ bar times the gradient. Translation invariance of the Hamiltonian or Lagrangian implies conservation of this quantity, which is equal to the product of $h$ bar and the wave number for a photon. It is conserved in both elastic and inelastic collisions, and its change in a given time interval is the impulse. Its time derivative is equal to the product of mass and acceleration by Newton's Second Law. For 10 points, identify this product of mass and velocity. ANSWER: linear momentum [do not accept "angular momentum"]

081-11-30-20104
4. One of these animals named Maera brought Erigone to the body of her father, Icarius. Another of these animals was depicted next to the throne of Serapis, the official god of Ptolemaic Egypt. The female doctor Procris of Athens was given one of these animals as a gift after she cured King Minos. One of these animals named Orthrus had two heads and was killed by Hercules during the labor involving the cattle of Geryon. One of these animals, Laelaps, was turned to stone by Zeus after he created a paradox by chasing an uncatchable fox. Odysseus owned another of these animals named Argos. For 10 points, name this animal, examples of which include Cerberus.
ANSWER: dogs
5. The man who implemented this policy defended it by claiming a recent eruption of the island of Thera showed God's wrath. Artabasdus seized power to end this policy, but was overthrown and blinded when Constantine retook control. This policy was supported at the Council of Hieria, which prompted the Syrian monk John of Damascus to attack it. It was partially implemented to curtail the influence of Germanus, and it was defended by Empress Irene. It began when a cross was placed over the Chalke Gate at Constantinople. For 10 points, name this policy implemented by Leo III, in which pictures of saints were destroyed.
ANSWER: iconoclasm
080-11-30-20106
6. One section of this poem ends with the declaration, "Everything indicates . . . A necessary film envelops all, and envelops the Soul for a proper time." The speaker claims "the dark threw patches down upon me" before comparing himself to "the wolf, the snake, the hog" to explain his assertion "I am he who knew what it was to be evil." The speaker asks, "What is the count of the scores or hundreds of years between us?" after repeatedly claiming "I am with you" and I project myself." The first section of this poem addresses "Crowds of men and women attired in the usual costumes" and begins, "Flood-tide below me! I watch you face to face." For 10 points, name this member of the "Calamus" poems in which Walt Whitman describes a trip across the East River in Manhattan.
ANSWER: "Crossing Brooklyn Ferry"
024-11-30-20107
7. Though he is not Fragonard, this artist painted a woman in a blue and white dress timidly stepping on the title object in his painting The Swing. He painted a woman in a striped dress in front of a man peering through opera glasses in his painting of a theater box. This artist painted a red background behind a pair of sisters dressed in the title colors in his Pink and Blue. One painting by this artist shows a woman in a blue and yellow striped dress being leaned over by another woman at a party, and in another painting this artist shows a female figure attempting to kiss a small dog as three different people wear yellow straw hats. For 10 points, name this artist of Dance at the Moulin de la Galette and Luncheon of the Boating Party. ANSWER: Pierre-Auguste Renoir

088-11-30-20108
8. This state retained control of Seavey's Island in a 2001 Supreme Court case contesting its border with its southern neighbor at the Piscataqua River. The first transatlantic balloon crossing was launched from its city of Presque Isle. Much of this state is watered by the Penobscot River, which becomes navigable after running past the city of Bangor. The "Hundred-Mile Wilderness" in this state culminates in Mount Katahdin, the northern terminus of the Appalachian Trail. For 10 points, name this state which was partitioned entirely out of Massachusetts and which has cities named Portland and Augusta.

## ANSWER: Maine

015-11-30-20109
9. This author wrote a travelogue about his journey through the Caucasus region in which he describes a Jewish peddler who attempted to sell him a cheap watch. This author of In Wonderland included that episode in his novel Vagabonds. He wrote about a writer named Johannes who is unable to marry the title character after she marries a lieutenant named Otto, while in another work the protagonist shoots his dog Aesop rather than give it to his lover Edvarda. This author wrote about Thomas Glahn in Pan and described the peasants Isak and Inger in The Growth of the Soil. He wrote about an unnamed man who meets Ylajali while suffering from the title affliction in a novel that ironically ends with him refusing a free breakfast. For 10 points, name this Norwegian author of Hunger.
ANSWER: Knut Hamsun
10. Iconic photographs of this event were taken by Boris Yaro and Bill Epperidge, one of which showed Juan Romero shaking the target's hand. Irwin Stroll and Paul Schrade were wounded in this event. George Plimpton, Rafer Johnson, and Rosey Grier subdued the instigator of this event. Bill Barry disarmed the aggressor in this event, who is currently serving time in Pleasant Valley State Prison and was believed to be motivated by anti-Zionism. The victim had just spoken after a victory in the California primary. This event took place in the kitchen of the Ambassador Hotel. For 10 points, name this event in which Sirhan Sirhan killed a Senator and brother of an assassinated president.
ANSWER: assassination of Robert Francis Kennedy [or assassination of RFK; accept equivalent answers such as killing of Bobby Kennedy; prompt on assassination of Kennedy]
11. One test of this phenomenon found participants would impulsively touch people holding a live electric wire. In addition to Clark and Word's study about ambiguity's role in promoting it, one test had participants fill out a survey while pumping the room full of smoke, while another test had subjects listen to a recording of a woman screaming. It was first outlined by Bibb Latane and John Darley in an article that argued it may result from the "diffusion of responsibility." For 10 points, name this psychological effect exemplified by the murder of Kitty Genovese that posits people in a large group are less likely to help someone during a crisis.
ANSWER: bystander effect [prompt on Kitty Genovese effect before the name is read]
109-11-30-20112
12. In one section of this work, the double bass plays a slowed-down, ponderous version of the "Dance of the Sylphs" from The Damnation of Faust. Two pianists play rapid scales up and down the piano in its third section. An offstage clarinet repeats the ostinato C, A flat in a section of this work in order to imitate a being "from the depths of the woods." It instructs performers to deliberately hit wrong notes after playing simple scales in its section "Pianists," and mocks its composer by using a xylophone to quote sections of Danse Macabre in its section "Fossils." Featuring the movements "Aviary," "Aquarium," and "The Swan," for 10 points, name this "Grand Zoological Fantasy" by Camille Saint-Saens.
ANSWER: The Carnival of the Animals [or Le Carnaval des animaux]
001-11-30-20113
13. The story that a horned baby of the Devil appeared at this place due to the violent actions of a woman's husband was told in the book The Long Road of Woman's Memory. It began as a kindergarten after its building was rented from Helen Culver for sixty dollars a month. Doctors who lived here included Grace Meigs and Alice Hamilton. This location was based on an institution that provided a place for college students in the summer to gain work experience called Toynbee Hall. It expanded to include the first public baths and playground in its city and advocated social welfare issues to the state legislature. For 10 points, name this Chicago house of Ellen Gates Starr and Jane Addams.

## ANSWER: Hull House

040-11-30-20114
14. Ferroxyl solution is prepared by adding sodium chloride, potassium hexacyanoferranate, and this substance to water, and when bonded to two extra hydrogen atoms it contains a benzene ring fused to a gamma-lactone. Fluorescin has a higher quantum yield than this molecule due to an additional bridging oxygen, and its most notable property occurs when one of its benzene rings twists out of plane with respect to the other two. When mixed with bromothymol blue, thymol blue, and methyl red, it forms a universal indicator. For 10 points, name this chemical which turns pink in basic solutions and orange in acidic ones. ANSWER: phenolphthalein
15. This thinker defended his belief in the world-to-come in his Treatise on Resurrection. In another work this man used the example of a winged elephant to demonstrate how belief in a corporeal god is tantamount to idolatry. This thinker propounded thirteen principles of faith and, though he is not Muslim, this man's most famous work is written in Arabic. In that work, this man attempts to reconcile Aristotelian philosophy with Judaism. For 10 points, name this Jewish philosopher who wrote commentaries on the Mishnah in addition to his Guide for the Perplexed.
ANSWER: Moses Maimonides [or Rambam]
16. This character convinces the swineherd Gurth to open a gate by whispering a few unknown words into his ear. That incident occurs while he is disguised as a palmer and helping out Isaac of York. He enters a tournament under the name "Desdichado," is captured by Maurice de Bracy, and fights a duel with the Templar Brian de Bois-Guilbert. This son of Cedric the Saxon befriends the outlaw Robin Hood and the disguised Richard the Lionhearted. He rescues the Jewess Rebecca from burning at the stake but ultimately marries Lady Rowena. For 10 points, name this title character of a Sir Walter Scott novel. ANSWER: Wilfred of Ivanhoe

015-11-30-20117
17. The kenning for Baldr's funerary boat contains the name of this figure, whose descendent Grani is a companion of the hero Sigurd. In the Prose Edda, Gangleri is told how Thor bet Hrungnir that this figure was superior to Gullfaxi. He is born after the gods wager the sun, the moon, and Freyja against a builder's ability to build Valhalla without another man's help. The builder makes incredible progress with his animal helper Svadilfari, so Loki seduces Svadilfari while disguised as a mare, later giving birth to this figure. For 10 points, name this eight-legged horse of Odin.
ANSWER: Sleipnir
079-11-30-20118
18. Some members of this class remain stationary with the help of byssal threads. The species Crassostrea gigas in this class introduced the parasite MSX to a closely related species. When this class of animals first evolved, they outcompeted and almost entirely replaced a phylum of similar-looking animals called brachiopods. These animals often feed by using elongated siphons to filter water. These animals have an open circulatory system with hemolymph, and like other members of their phylum they move using a single fleshy foot. Unique parts of their anatomy include a hinge, and they are bilaterally symmetrical. For 10 points, name this class of mollusks with two shells, which includes clams and oysters.
ANSWER: bivalves [or bivalva; or pelecypoda; prompt on "mollusks" or "mollusca"]
021-11-30-20119
19. This man related finding himself standing in "Ten million emblems and mementos of Modern Love" during a beachside stroll with Thomas Mann in his essay on sanitation engineering, "Hyperion to a Satyr." He represented D. H. Lawrence as Bill Hamblin in The World of Light, and earlier represented him as the painter Mark Rampion in a work also featuring excerpts from the journal of Philip Quarles. In another work, this man described the sport of Centrifugal Bumble-Puppy, the Bokanovsky process, and a caste system of Alphas through Epsilons. For 10 points, name this author of Point Counter Point who also envisioned the Malthusian Drill in his Brave New World.
ANSWER: Aldous Huxley
20. According to Pliny, this man lost a bet when his lover drank a pearl dissolved in a glass of vinegar. This man violated sanctuary laws in ordering the death of Arsinoe IV at the Temple of Artemis in Ephesus. He paved the way for Herod the Great's rule by killing Antigonus the Hasmonean after his disastrous attempt to recapture Crassus's eagles from the Parthians. This target of Cicero's Philippics lost a naval battle to Agrippa and defeated Cassius at Philippi. With Lepidus and Octavius, he formed the second triumvirate. For 10 points, name this loser at Actium, the friend of Julius Caesar and lover of Cleopatra ANSWER: Mark Antony [or Marcus Antonius]
21. One of this poet's speakers claims "I rocked shut as a seashell" so they "had to pick the worms off me like sticky pearls." This poet wrote a poem opening "Perfection is terrible, it cannot have children" while another poem has an image of a "statue with one grey toe big as a Frisco seal and a head in the freakish Atlantic." The speaker asserts "I have done it again. One year in every ten I manage it" in a poem ending with the line "I eat men like air." This poet of "Munich Mannequins" and "Tulips" wrote a poem whose speaker asserts, "There's a stake in your fat black heart" before telling the title figure "you bastard, I'm through." For 10 points, name this wife of Ted Hughes who wrote "Lady Lazarus" and "Daddy." ANSWER: Sylvia Plath

109-11-30-20122
22. The antibiotic rotenone inhibits one step of this process, whose final protein has an oligomycin sensitive region. This process sees a protein containing an iron-sulfur cluster interact with a semiquinone intermediate. Coenzyme Q is responsible for transferring substrates to the cytochrome bc 1 complex in this process, which then transfers those substrates to cytochrome c oxidase. Peter Mitchell showed that this process operates by chemiosmosis, in which a proton gradient drives the rotation of ATP synthase. NADH and FADH2 from the Krebs cycle feed into this process, which occurs on the inner membrane of the mitochondria. For 10 points, name this final step of oxidative phosphorylation in which 32 ATP are synthesized by moving namesake negatively charged particles from one complex to another.
ANSWER: Electron transport chain [prompt on oxidative phosphorylation; prompt on aerobic respiration; prompt on ATP synthesis]

048-11-30-20123
23. In one campaign, this man convinced King Bocchus I of Mauretania to betray a former ally. In The Prince, Machiavelli describes this man as being half fox and half lion. This man is credited as being the primary brains behind the victory of the Cimbri tribe at the Battle of Vercellae. Sulpicius Rufus's opposition to the appointment of this man to a high post, along with the ensuing chaos, led this man to lead a march on his capital. After a brief skirmish with Dorylaeus, this man defeated Archelaus at the Battle of Orchomenus. Along with Crassus, this man defeated Samnite forces at the Battle of Colline Gate. This man defeated the forces of the Kingdom of Pontus led by Mithradates VI and earlier captured King Jugurtha of Numidia while working under Gaius Marius. For 10 points, name this Roman dictator who ruled in 81 BC. ANSWER: Lucius Cornelius Sulla Felix

1. This building is locally known as "The Quarry," and it presaged many other buildings built in a biomorphic style. For 10 points each:
[10] Name this large apartment block which was built for the wealthy widow Rosario Segimo.
ANSWER: Casa Mila
[10] Casa Mila was designed by this Catalan architect who also designed the Casa Batllo and other Barcelona landmarks.
ANSWER: Antoni Gaudi
[10] Gaudi's most famous building is this still unfinished church located in Barcelona. The original plan called for 18 spires which represented various holy figures.
ANSWER: Basilica and Expiatory Church de la Sagrada Familia [or Church of the Holy Family]
100-11-30-20201
2. This theory involves multi dimensional membranes. For 10 points each:
[10] Name this 11 dimensional theory that attempts to unite previous theories with supergravity as a low energy limit.
ANSWER: $\underline{\mathbf{M}}$ theory
[10] $M$ theory is one of these theories that attempts to unite quantum mechanics and general relativity. It involves small one dimensional vibrating lines.
ANSWER: string theory
[10] M theory incorporates this symmetry between particles of different spin. If it is unbroken, every boson has a corresponding fermion with the same mass and other quantum numbers. However, this symmetry is generally thought to be broken.
ANSWER: supersymmetry
3. During the French revolution he had a central role at the Battle of Valmy. For 10 points each: [10] Name this man who came to power in his own right following the July Revolution.
ANSWER: Louis Philippe I
[10] Louis Philippe replaced the solid white flag used by the Bourbon restoration with this revolutionary flag of France.
ANSWER: the tricolor
[10] To come to power, Louis overthrew this Bourbon monarch who had decreed the Saint Cloud ordinances.
ANSWER: Charles $\mathbf{X}$
015-11-30-20203
4. The pimp Mr. Edwards beats this character when he discovers she murdered her parents. For 10 points each;
[10] Name this character who adopts the name Kate while working at Faye's brothel, which she takes over by poisoning Faye. She abandoned her husband when she gave birth to the twins Caleb and Aron.
ANSWER: Cathy Ames
[10] Cathy Ames marries Adam who is a member of this central family of the novel East of Eden. ANSWER: The Trask family
[10] This California author wrote East of Eden and described the Joad family in another novel.
ANSWER: John Steinbeck
5. This language's words for "sea monster" and "poison" contain masculine endings but are actually neuter. For 10 points each:
[10] Identify this basis of the Romance languages that has five declensions of nouns, some of which end in "u."

## ANSWER: Latin

[10] This Latin case is often used to indicate agency and is often taught as being used for motion away from an object. Its not the dative, but the singular suffix form of this case for masculine and neutered second declension nouns replaces the "us" with "o."
ANSWER: ablative case
[10] This type of clause uses a noun and accompanying participle, both in the ablative case, and is usually translated with an awkward English construction such as "with the bonus having been answered."
ANSWER: ablative absolute
6. This technique often uses fludeoxyglucose tagged with the radioactive isotope fluorine-18. For 10 points each:
[10] Name this type of imaging that labels cells by their metabolic activity, often used in conjunction with CT scans and MRIs. Images are detected when emitted radiation annihilates with nearby electrons.
ANSWER: PET imaging [or Positron Emission Tomography imaging; accept equivalents for "imaging" such as "scan"]
[10] PET imaging works because fludeoxyglucose is taken up instead of glucose in this metabolic pathway that generates a net of 2 ATP molecules and two pyruvate molecules.
ANSWER: glycolysis
[10] This other imaging technique uses a radioactive tracer like PET, but the tracer emits gamma rays. The device rotates a camera around the subject and obtains true 3D information.
ANSWER: SPECT [or single photon emission computed tomography]
7. Name these William Golding novels, for 10 points each.
[10] In this novel, Ralph and Jack lead rival groups of boys on an isolated island after a plane crash. ANSWER: Lord of the Flies
[10] Golding's favorite, this novel concerns the extinction of a pre-human tribe including Lok and Fa. ANSWER: The Inheritors
[10] Golding won the 1980 Booker Prize for this novel, which is in the form of a journal written by Edmund Talbot as he travels to Australia aboard a British warship.

## ANSWER: Rites of Passage

015-11-30-20207
8. This policy was enacted in part with the May 1988 Law on Cooperatives. For 10 points each:
[10] Name this Soviet policy, literally meaning "restructuring," that along with one of political openness paved the way for the dissolution of the Soviet Union.

## ANSWER: perestroika

[10] Perestroika is often contrasted with the "socialism with Chinese characteristics" put forth by this man, who became paramount leader of China in 1978.
ANSWER: Deng Xiaoping
[10] Gorbachev's reforms led to the creation of this new legislature, the highest Soviet body from 1989 to 1991. Only one set of members was elected to this body in competitive elections.

ANSWER: Congress of People's Deputies of the Soviet Union
9. This character claims "we were the first that ever burst into that silent sea" after stopping a wedding guest and telling his story. For 10 points each:
[10] Name this character who reveals "I shot the Albatross" in a "rime" by Samuel Taylor Coleridge. ANSWER: the Ancient Mariner
[10] The title character in Coleridge's "Kubla Kahn" decrees a stately pleasure dome in this location, where "Alph, the sacred river, ran through caverns measureless to man."
ANSWER: Xanadu
[10] In this unfinished Coleridge poem, the title character goes to pray at night and finds Geraldine, who claims she has been abducted.
ANSWER: "Christabel"
10. One of the disputes during this conflict centered on the rights to the Blue Rock Ferry. For 10 points each:
[10] Name this series of border skirmishes between Maryland and Pennsylvania that occurred during the 1730s. This "war" was ended by intervention from George II.
ANSWER: Cresap's War
[10] The eventual boundary between Maryland and Pennsylvania would be part of this "line," named for two surveyors, that is often considered to be a cultural demarcation between the north and the south.
ANSWER: Mason-Dixon Line
[10] The ferries that were fought over during Cresap's War spanned tributaries of this river. James Clinton dammed this river near its source of Otsego Lake and then destroyed the dam to make it navigable during the Revolutionary War.
ANSWER: Susquehanna River
040-11-30-20210
11. The liquid form of this compound is often employed in the Birch reduction. For 10 points each:
[10] Name this compound with chemical formula NH3.
ANSWER: ammonia
[10] Ammonia created in the Haber process may be used in this process, in which ammonia is oxidized in air to create nitric oxide, which in turn is used to create nitric acid.
ANSWER: Ostwald process
[10] This chemical has formula N2H4 and is made by the Raschig process.
ANSWER: hydrazine
081-11-30-20211
12. Name some things about deer in mythology, for 10 points each.
[10] Some stories claim this daughter of Agamemnon and Clytemnestra was substituted with a deer before she could be sacrificed for better winds.
ANSWER: Iphigenia
[10] This man is turned into a deer and devoured by his dogs after watching Artemis bathe.
ANSWER: Actaeon
[10] In the fourth branch of the Mabinogion, Math turns this magician and his brother Gilfaethwy into deer to punish them for killing Pryderi.
ANSWER: Gwydion
13. He was the first presidential candidate of the Republican Party. For 10 points each:
[10] Name this explorer and politician known as the Pathfinder.
ANSWER: John Charles Fremont
[10] By trampling a Native American with his horse, Fremont saved the life of this man, who often guided his expeditions.
ANSWER: Christopher Houston Kit Carson
[10] After the Battle of Wilson's Creek in this state, Fremont imposed martial law and emancipated its slaves, leading Lincoln to relieve him from command of the Department of the West.
ANSWER: Missouri
015-11-30-20213
14. This character had an epiphany the morning he was planning to duel the man who married his beloved, leading him to drop to his knees and beg forgiveness rather than return fire during the duel. For 10 points each:
[10] Name this monk who was a rival of Father Ferapont and was widely believed to be a saint, which led to disappointment among the townspeople when his corpse began to decay rapidly rather than give any miraculous signs.
ANSWER: Father Zossima
[10] Father Zossima is the mentor of Alyosha in this Dostoevsky novel centering on Dmitri's trial over the murder of his father Fyodor.
ANSWER: The Brothers Karamazov
[10] This illegitimate son of Fyodor suffers from epilepsy, and reveals to Ivan that he was the murderer of their father.
ANSWER: Pavel Fyodorovich Smerdyakov
081-11-30-20214
15. One work by this philosopher advocates for a world whose nations are all republics and is written in the form of a treaty. For 10 points each:
[10] Name this author of Perpetual Peace, who proposed that individuals act as legislators of the "kingdom of ends" by refusing to treat others as means as one formulation of the categorical imperative in his Groundwork of the Metaphysics of Morals.
ANSWER: Immanuel Kant
[10] This aesthetic tract by Kant argues that humans perceive aesthetic beauty by their own internal feelings, but can also ascribe a universal validity to that feeling through the "free play of the imagination." ANSWER: Critique of Judgment [or Kritik del Urteilskraft]
[10] Kant's essay An Idea for a Universal History claims that humans will build the tower of human progress ever higher with reason; despite that, he laments that "no straight thing was ever made" from this metaphorical substance which titles an Isaiah Berlin essay collection.
ANSWER: the crooked timber of humanity [or "warped wood of humanity"; or krummem Holze.]
16. His first symphony was widely known as the "first Russian symphony," and he is sometimes credited with writing the first Russian symphonic poem with Sadko. For 10 points each:
[10] Name this composer who used the Russian Orthdox Liturgy as the basis for his Russian Easter Festival Overture.
ANSWER: Nikolai Rimsky-Korsakov
[10] The title figure of this Rimsky-Korsakov suite is represented by a sinuous solo violin. It is based on One Thousand and One Nights.

## ANSWER: Sheherazade

[10] Rimsy-Korsakov collaborated with the four other members of the Five on this never-completed ballet. Borodin composed the music of its fourth act, while Mussorgsky adapted his music for its witches' sabbath for Night on Bald Mountain.
ANSWER: Mlada
17. Madame Delise's servant Manna-Loulou tells a tale about the title princess in her short story "La Belle Zoraide." For 10 points each:
[10] Name this American author of "The Storm" and "Athenaise" who wrote a story in which Armand burns all the belongings of his wife Desiree because he falsely believed she was part of black.
ANSWER: Kate Chopin
[10] Kate Chopin wrote about this woman in The Awakening who has a complicated relationship with Robert Lebrun and ends up drowning herself.
ANSWER: Edna Pontellier [prompt on Pontellier]
[10] Chopin also wrote this story ending when Louise Mallard dies of heart attack when she sees her husband Brently after being told he died in a train crash.
ANSWER: "The Story of an Hour"
015-11-30-20217
18. In this process' namesake lamp, a ballast sends voltage through a wire coiled around a ferrous core. For 10 points each:
[10] Name this process by which a voltage is produced in the presence of a changing magnetic field. ANSWER: electromagnetic induction
[10] The negative sign in Faraday's law of induction is a consequence of this law. It states the magnetic flux of an induced current will oppose the change that induced the current.
ANSWER: Lenz's law
[10] In an RL circuit, this is the percent of the maximum current reached after one time constant.
ANSWER: $6 \mathbf{3} \%\left[\right.$ or $63.2 \%$; or $\left.1-\mathrm{e}^{\wedge}-1 \%\right]$
066-11-30-20218
19. Name these sculptors of equestrian statues for 10 points each:
[10] This war correspondent during the Spanish-American War is best remembered for scenes from the old West like 1909's The Bronco Buster.
ANSWER: Frederic Remington
[10] This French Rococo sculptor was commissioned by Catherine the Great to create The Bronze
Horseman an equestrian statue of Peter the Great that rests on a pedestal known as the Thunder Stone.
ANSWER: Etienne Maurice Falconet
[10] This Irish-born American artist sculpted an equestrian William Tecumseh Sherman for Central Park in addition to designing the Robert Gould Shaw Memorial in Boston.
ANSWER: Augustus Saint-Gaudens
20. His son Richard ruled unsuccessfully after his 1658 death and was forced to flee to France to escape his debts. For 10 points each:
[10] Name this key figure in the English Civil War who served as Lord Protector of Ireland.
ANSWER: Oliver Cromwell
[10] Cromwell was instrumental in creating this military unit after a feud with Henry Montagu. It was trained and led effectively by Sir Thomas Fairfax.

## ANSWER: New Model Army

[10] Cromwell advocated this 1645 legislation, whereby members of Parliament were not permitted to have positions in the parliamentary army.
ANSWER: Self-denying Ordinance
015-11-30-20220
21. One type of these organisms are distinguished by their square shell and dense hair on their claws and is the Chinese mitten type. For 10 points each:
[10] Name these decapods which include the fiddler type which has a giant claw.
ANSWER: crabs [or Brachyura]
[10] Crabs are a member of this phylum along with Arachnids.
ANSWER: Arthropoda [or Arthropods]
[10] The European shore crab can adapt to a variety of salt conditions, making it one of these organisms, as opposed to stenohaline organisms.
ANSWER: euryhaline

