Question #1: Social Studies

10 points

This leader was blamed for the attempted assassination of Bernardo Leighton [LAY-tun] in Rome. This leader was replaced by Patricio Aylwin [puh-TREE-see-oh EL-ween] in 1990. In 1998, this person was indicted by a judge in Spain and then was arrested in London. When he died in 2006, this person was on trial for the abduction and murder of over 100 dissidents during Operation Colombo. This leader made free-market economic reforms based on advice from a team dubbed the "Chicago Boys". This leader came to power in a 1973 coup backed by the United States that removed Salvador Allende ["eye"-EN-day]. Name this leader of Chile.	Augusto **Pinochet** [**pee-noh-shay**] (Ugarte)

Question #2: Mathematics

10 points

A factorial plus 1 is set equal to the result of performing this function on an integer in Brocard's problem. Carl Gustav Jakob Jacobi [YAH-kohb yah-KOH-bee] developed a formula to determine how many ways a number can be expressed as the sum of four integers that have had this function applied to them. The most common form of regression analysis minimizes the sum of this function applied to residuals. When this function is performed on complex numbers in cis [siss] form, the angle is doubled. Name this operation that is performed on the three parts of a Pythagorean triple before setting the sum of two of the results equal to the other result.	**squaring** or **square**d or **multiplying by itself** or raising to the **2nd power** or raising to the **power of 2** [prompt on raising to a **power** or raising to an **exponent**]

Question #3: Miscellaneous

10 points

A Chinese book from the 12th century showed how to make the stepped bevel [BEV-ul] splice and sliding dovetail types of these things. These things are sometimes formed by combining a dado [DAY-doh] with a rabbet, where the word rabbet is spelled with an 'E'. Another type of these things is the half-lap, which is formed by removing half of the material. Similar versions of these things include the dovetail crossed lap and mitred ["MITE"-urd] half-lap. These things are often strengthened using dowels, adhesives, or fasteners. Name these things where two pieces of wood meet.	**joint**s

Question #4: Science

10 points

A follow-up to this experiment included hydrogen sulfide and was analyzed by Jeffrey Bada after this experiment's original scientists died. Another recent analysis of this experiment found that its use of boro·silicate [BOR-oh-SILL-ih-kut] glass was more significant than originally thought. At the end of this experiment, alpha-alanine [AL-uh-neen] and beta-alanine were detected. This experiment combined methane, ammonia, hydrogen, and water vapor, and it also used sparks between electrodes. Name this experiment which showed that amino acids could be created naturally in Earth's early atmosphere.	**Miller-Urey** experiment [accept **Urey-Miller** experiment; prompt on partial answer]

Question #5: Social Studies

10 points

This psychologist's first major book examined the myth of wise people and the culture of avoidance among Yurok [YUR-ahk] Native Americans, and it also examined the effects of education on a Sioux [soo] reservation. That book was *Childhood and Society*, and this psychologist later wrote *Young Man Luther*. This person believed that the first 18 months of life were important to develop a sense of trust. This person described a problem that arises from inappropriate adolescent development using the phrase "identity crisis". Name this German-American scientist who included both "initiative vs. guilt" [pause] and "industry vs. inferiority" among his eight stages of psycho·social development.	Erik **Erikson** [accept **Homburger** or **Salomonsen**]

Question #6: Literature

10 points

In one novel by this author, the narrator is surprised to get a call from Elliott Templeton when in Chicago. This author began that novel with the line "I have never begun a novel with more misgiving." That novel is about World War I pilot Larry Darrell. This author's best-known protagonist, like this author himself, was an orphan who became a doctor. That protagonist eventually marries Sally Athelny and takes a job in Dorsetshire [DOR-set-shur]. In the same book, this author wrote about the suicide of Fanny Price. Name this author of *The Razor's Edge* whose character Philip Carey is born with a club foot in *Of Human Bondage*.	W(illiam) Somerset **Maugham** [mawm]

Question #7: Social Studies

10 points per part

	Svetambara [sveh-TAHM-buh-rah] monks in this religion wear white, while Digambara [dih-GUM-buh-ruh] monks in this religion go naked.	
1	Name this religion in India that practices extreme non-violence and which follows the teachings of tirthankaras [tir-TUNK-uh-ruhz].	**Jain**ism [or **Jain**st religion]
2	This Sanskrit term refers to the non-violence practiced by Jains, Hindus, and Buddhists.	**ahimsa** [or **ahinsa**]
3	Svetambara monks wear a mukhavastrika [MOO-kuh-vah-STREE-kuh], which covers this part of the body.	**mouth** [prompt on **face**; do not accept "head"] (the nose is not covered)

Question #8: Social Studies

10 points per part

	This Buddhist concept is similar to the Hindu concept moksha [MOHK-shah].	
1	Name this state of perfection that can be achieved when there is no more desire.	**nirvana**
2	Moksha is the release from this Hindu cycle of death and reincarnation.	**samsara**
3	Patanjali wrote that samsara is caused by ignorance in his sutras [SOO-truhz] named for this term. This term originally meant "union", "yoke", or "harness" in Sanskrit.	**yoga**

Question #9: Science

10 points per part

	This phenomenon occurs below the Curie temperature.	
1	Name this type of magnetism that occurs in iron, cobalt, and nickel.	**ferro**magnetism
2	Ferromagnets exhibit this dependence on prior conditions rather than only present conditions, exemplified by the fact that a ferromagnet remains magnetic after an external magnetic field is removed.	**hysteresis**
3	This element has a Curie temperature of 19 kelvins, but it is combined with iron and boron to make a strong permanent magnet that is often used to produce sounds and vibrations in cell phones.	**neodymium** [**nee-oh-"DIE"-mee-um**] [accept **Nd**]

Question #10: Science

10 points per part

	The spherical type of this problem is often corrected by combinations of convex and concave lenses.	
1	Name this type of problem that causes a lens's image to be unfocused.	(spherical or optical) **aberration**s
2	This type of aberration occurs due to different colors of light having different indices [IN-duh-sees] of refraction.	**chromatic** aberration [or **sphero·chromatism** or **color fringing** or **purple fringing** or **purple fringe**; prompt on **fringing** or **fringe**]
3	Camera lenses with wide apertures often have this problem in which an image is brighter in the middle than around the periphery.	**vignetting** [**vin-YET-ing**] or **vignette**

Question #11: Literature

10 points per part

	In this novel, George Hurstwood steals money from Fitzgerald and Moy's in Chicago; then he moves to New York City and changes his name to "George Wheeler".	
1	Name this novel in which the title character performs in the play *Under the Gaslight*.	***Sister Carrie***
2	*Sister Carrie* was written by this naturalist author of *An American Tragedy*.	Theodore (Herman Albert) **Dreiser** ["DRY"-zur]
3	Theodore Dreiser tried to get this other naturalist author to write a review of *Sister Carrie*, but this author did not do so because he disliked the book. Dreiser wrote an article about this author of *The Rise of Silas Lapham*.	William Dean **Howells**

Question #12: Literature

10 points per part

	In this novella, the narrator holds Brenda's glasses when she dives, and he later picks her up at the end of a tennis match.	
1	Name this novella about a man who attends Newark Colleges of Rutgers University [pause] and dates a wealthy woman who attends Radcliffe College.	***Goodbye, Columbus***
2	This author of *Goodbye, Columbus* also wrote *Portnoy's Complaint*.	Philip (Milton) **Roth**
3	*Goodbye, Columbus* is the title story in a collection with this story in which Rabbi Binder hits Ozzie Freedman.	"The **Conversion of the Jews**"

Question #13: Fine Arts

10 points per part

	Glenn Miller mainly played this instrument.	
1	Name this brass instrument with a slide.	(slide) **trombone**
2	This other trombonist often teamed up with Kai Winding [WIN-deeng]. Their pairing was called "Jay and Kai".	(James Louis) "J.J." **Johnson**
3	Glenn Miller often performed this song whose lyrics begin "I stand at your gate" and end "We can stay, till break of day."	"**Moonlight Serenade**"

Question #14: Fine Arts

10 points per part

	This musician co-wrote the song "Manteca" [man-TAY-kuh].	
1	Name this trumpeter with huge cheeks who often played a bent instrument with its bell pointing up.	(John Birks) "Dizzy" **Gillespie**
2	"Dizzy" Gillespie wrote this song with Afro-Cuban rhythms that he called "Interlude". Somebody else gave this song a name that set it in Africa.	"A **Night in Tunisia**"
3	"Dizzy" Gillespie teamed with this other trumpeter on the album *Roy and Diz*. This musician was nicknamed "Little Jazz".	(David) Roy **Eldridge**

Question #15: Literature

10 points

One of the characters in this novel is told "I always told you that nobody should carry as good a watch as that." The mother of the character whose watch is stolen later asks this novel's narrator "Why are you living then, when he is dead?". This novel's narrator tells the mother that Franz died instantly from a shot to the heart, which is a lie. Many of the characters in this novel are students of Kantorek [kan-TOR-ek], who encourages them to fight in World War I. Name this novel about Paul Bäumer [BOY-mur] that was written by Erich [AIR-ik] Maria Remarque ["remark"].	***All Quiet on the Western Front*** or ***Im Westen nichts Neues***

Question #16: Science

10 points

So-called "binders" of this ion are used as a medicine for people with chronic kidney disease. A pathway parallel to glycolysis [gly-KAH-luh-siss] is named for pentose [PEN-tohss] and this ion. This ion is used to make the bridge in an NAD [spell out] molecule, and a common co·factor used in the Calvin cycle is made by adding this ion to the molecule. This ion combines with calcium and hydroxide to form hydroxyapatite ["hide-ROCK-see-appetite"], which is the primary component in bones. This ion is part of the head of the lipids that make up the cell membrane bi·layer. Name this ion that a molecule of ADP has two of, while ATP has three.	(ortho)**phosphate** [accept **$PO_4{}^{3-}$** ["P O 4, 3 minus"] or **$PO_4{}^{-3}$** ["P O 4 minus 3"]]

Question #17: Fine Arts

10 points

In one painting by this artist, it is uncertain whether the two young girls being held up by old women on the right side are about to be initiated or eaten. In that painting, this artist depicted a circle of women around a large goat. That painting, *Witches' Sabbath*, is part of this painter's series of *Black Paintings*. Another painting by this artist depicts a man in a white shirt with his hands up just before he is killed by a firing squad. That painting, which is one of this painter's works portraying the horrors of war, glorifies Spanish resistance to Napoleon. Name this painter of *The Third of May, 1808*.	Francisco (José de) **Goya** (y Lucientes)

Question #18: Social Studies

10 points

Four months after his biggest victory, this person helped Wesley Merritt increase its scope. This leader's major victory was a six-hour fight against troops under Patricio Montojo y Pasarón [pah-TREE-see-oh mohn-TOH-hoh ee pah-sah-ROHN]. Leading up to that second battle, this person worked closely with Emilio Aguinaldo [ah-gwee-NAHL-doh]. This person won victory near Cavite [kah-VEE-tay] Island after commanding "You may fire when you are ready, Gridley." This person was the only person ever named U.S. Admiral of the Navy. Name this commander who destroyed the Spanish Pacific fleet in 1898 at the Battle of Manila Bay.	George **Dewey**

Question #19: Literature

10 points

In one novel by this author, Father Vaughan is described as a privileged person of a good family. This author later reveals that the priest is Sir Frederick in disguise, which means he is the father of Diana Vernon, who was tutored by Frank Osbaldistone [ahz-BAHL-duh-"stone"]. In another novel by this author, the title character is healed by a Jewish woman named Rebecca, who is the daughter of Isaac of York. At the end of that novel, Rebecca leaves England, and the title character marries Rowena. Name this early-19th-century author of *Rob Roy* and *Ivanhoe*.	Sir Walter **Scott**(, 1st Baronet)

Question #20: Science

10 points

A probe that studied this region from 2012 to 2019 found a surprisingly high number of electro·static double-layer plasma waves and determined that in addition to this region's two primary subregions, there are transient subregions. This region was discovered using data from Explorer I [1], which was the first U.S. satellite. This region has an inner and an outer part, each of which contains particles traveling between the Earth's poles. In the inner part of this region, the particles are mostly protons, while the outer part is more varied. This region is part of Earth's magneto·sphere [mag-NEE-toh-"sphere"]. Name this region of charged particles that is named after its discoverer.	**Van Allen** (radiation) belts [prompt on **magnetosphere** before it is mentioned]

Question #21: Mathematics

10 points per part

It is hard to specify a Lissajous [lees-ah-zhoo] curve in Cartesian or polar coordinates, but easy in this system.		
1	Name this system in which coordinates such as x and y are defined in terms of another variable, often t.	**parametric** equations or **parametric** system
2	Name the curve generated by the set of equations "x equals 3 sine t" and "y equals 5 cosine t".	**ellipse** [prompt on **conic** section]
3	Find the area of the that ellipse. Again, its parametric equations are "x equals 3 sine t" and "y equals 5 cosine t".	**15 pi** [do not prompt on partial answers]

Question #22: Mathematics

10 points per part

For this type of probability, a vertical bar is written between two events.		
1	Name this measure of the probability of one event given that another event has occurred.	**conditional** probability [or **conditioned** probability]
2	This theorem states that the probability of A given B equals the probability of B given A, times the probability of A, divided by the probability of B.	**Bayes**' theorem
3	If two standard dice are rolled and the first die is a 5, what is the probability that the sum of the dice is 10?	**1/6** [or **1 in 6**; accept 0.**16** repeating with any reasonable number of 6's stated]

Question #23: Social Studies

10 points per part

	This event started with forced closures of courts and grew to an attack on the Springfield Arsenal.	
1	Name this rebellion in Massachusetts in 1787.	**Shays**'(s) Rebellion [do not accept "Shay"]
2	This person was the Secretary of War at the time and later became President Washington's first Secretary of War. He helped stop the rebellion but was mostly powerless because the federal government was so weak.	Henry **Knox**
3	This person led a militia that stopped the rebellion. Earlier, this person accepted Charles O'Hara's sword to signify the British surrender at Yorktown.	Benjamin **Lincoln**

Question #24: Social Studies

10 points per part

	This act criminalized making false statements critical of the federal government.	
1	Name this act signed by President John Adams the same year he signed the Alien Friends Act, Alien Enemy Act, and Naturalization Act.	**Sedition** Act
2	Thomas Jefferson and James Madison wrote these responses stating that the Alien and Sedition Acts were illegal. These responses are named for the states that passed them.	**Kentucky** and **Virginia** Resolutions [either order; prompt on **Kentucky** or **Virginia** alone]
3	The harshest sentence under the Sedition Act was given to David Brown by this Supreme Court associate justice who was later impeached by the House but acquitted by the Senate.	Samuel **Chase**

Question #25: Literature

10 points per part

	This play begins with a watchman seeing a fire that indicates the fall of Troy.	
1	Name this play in which Clytemnestra [kly-tem-NESS-truh] kills the title character, who is her husband.	***Agamemnon* [ag-uh-MEM-nahn]**
2	*Agamemnon* is the first play in this writer's *Oresteia* [or-eh-STY-uh] trilogy.	**Aeschylus [ESS-kuh-luss]**
3	*Agamemnon* is followed by *The Libation Bearers*, in which Orestes [or-ESS-teez] kills Clytemnestra and this man whom she marries after the death of Agamemnon.	**Aegisthus [ih-JISS-thuss]**

Question #26: Literature

10 points per part

	A poet and editor in this novel are discussing Jesus Christ and atheism when a third character appears and tells the editor that a woman will cut off his head.	
1	Name this novel whose setting alternates between Moscow and Jerusalem.	*The **Master and Margarita*** [or ***Master ee Margarita***]
2	*The Master and Margarita* is a posthumously published novel by this author of *Heart of a Dog.*	Mikhail (Afanasyevich) **Bulgakov [buul-GAH-kawff]**
3	When Koroviev [ko-ROHV-yeff] meets Margarita, he tells her that every visitor to the ball will kiss her on this body part. Hella applies ointment to Woland on this body part.	(right) **knee** [do not accept or prompt on "leg"]

Question #27: Science

10 points per part

	Every time this number goes up by one, there are two more possible azimuthal [az-ih-MOO-thull] quantum numbers.	
1	Name this first of four quantum numbers for electrons in an atom, typically represented as a lowercase n.	**principal** quantum number
2	This type of orbital is allowed when n equals 4, but it does not exist when n equals 3.	f orbital
3	The number of these spherical nodes in an orbital equals n minus 1.	**radial** nodes

Question #28: Science

10 points per part

	Identify these types of chemical reactions:	
1	In this reaction, a substance reacts with oxygen gas. Energy is released, usually in the form of light and heat.	**combust**ion reaction(s) [accept **combust**ing or **burn**ing]
2	There are single and double types of these reactions, which are characterized by one element leaving a compound and another element joining the same compound.	**replacement** reactions [or **replacement**s]
3	In organic chemistry, this type of reaction joins two compounds using a metal catalyst.	cross-**coupling** reaction

Question #29: Social Studies

10 points

An earlier version of this country was led in the 11th century by King Anawrahta [ah-nuh-ray-TAH]. A series of three 19th-century wars with Britain led to the end of this country's Konbaung ["CONE-bong"] dynasty, and this country regained independence in 1948. During the 1960s, the U.N. Secretary-General was this country's U Thant [oo thahnt]. This country's 8–8–88 Uprising against General Ne [nay] Win led to the 1991 Nobel Peace Prize for a woman who would later lead this country. A 1989 name change by this country remains controversial, as does a 2006 move of the capital from Rangoon to Naypyidaw [nep-yee-daw]. Name this country that was led by Aung San Suu Kyi [awn san soo chee].	(Republic of the Union of) **Myanmar** or **Burma**

Question #30: Mathematics

10 points

At least four of these points are on a curve that divides a sphere surface into equal areas according to the tennis ball theorem. A limaçon [lee-muh-sawn] has two of these points if the constant coefficient is between 1 and 2 times the trigonometric coefficient. The most similar point to a saddle point on a two-dimensional graph is one of these points, especially when a function has a derivative of 0 but is not at an extremum. Name these points, found using a second derivative, at which a function's graph changes concavity.	**inflection** points or points of **inflection** [accept **flex**]

Question #31: Literature

10 points

A character in this novel claims that you can remember who discovered America by thinking about cucumbers. That character and her sister are praised by the teacher Miss Beasley. The protagonist of this novel gives birth to Olivia and Adam when she is very young, and her children are sold to Corrine and Reverend Samuel. Later in this novel, the protagonist finds letters that had been written over several decades by her sister Nettie. This novel consists of letters written to God by a woman who is treated horribly by her father and husband. Name this novel about Celie [SEE-lee] by Alice Walker.	*The* **_Color Purple_**

Question #32: Science

10 points

This person used probability amplitudes and time integrals of Lagrangians [luh-GRAHN-zhee-uns] to develop a different formulation of quantum mechanics, and the path integrals he used are now named after him. The results of that formulation include a formula named for this scientist and Mark Kac [kahts]. This scientist used spirals to depict gluons [GLOO-ahnz], straight lines to depict fermions ["FAIR"-mee-ahnz], and wavy lines to depict bosons [BOH-zahnz], and he showed anti·particles moving backwards in time. Identify this eccentric Caltech physicist who represented quantum interactions with diagrams named for him.	Richard (Phillips) **Feynman**

Extra Question #1: Literature

10 points

This woman was supposed to become the Queen of Argos, but her husband made a deal so that they became the leaders of Tiryns [TIR-inz] instead, and her descendants ruled Mycenae ["my"-SEE-nee]. A huge fight broke out at this woman's wedding, ending with her husband killing her Uncle Phineus [FIN-ee-uss], who was upset because he wanted to marry her. After this woman's mother, Queen Cassiopeia [KASS-ee-uh-PEE-uh], boasted that this princess was more beautiful than the Nereids [NAIR-ee-idz], this princess was temporarily chained to a rock, but the story ended happily with this woman married to Perseus. Name this woman who was saved by Perseus after Poseidon sent Cetus [SEE-tus] as punishment.	**Andromeda [an-DRAH-meh-duh**]

Extra Question #2: Mathematics

10 points

If you multiply the number you are taking a log of by the base of the log, the result is the same as performing this operation to the value of the log. When using sigma notation, this operation is applied repeatedly to the index to get it from its lower bound to its upper bound. In the most common form of mathematical induction, a statement is assumed true for a counting number, and it is then shown that the statement is still true after this operation is applied to the counting number. To find the anti·derivative of a polynomial, this operation is applied to each exponent. Name this operation that is used every time you count.	**plus 1** or **add**ing **1** [accept **increment**ing or **increase/ing by 1**; prompt on answers that specify the operation but not the amount, except that **increment**ing does not need the amount]

Extra Question #3: Social Studies

10 points

This person's wife started the largest non-profit children's literacy organization in the United States, Reading Is Fundamental. In the preface to this person's memoir *In Retrospect*, he wrote "Yet we were wrong, terribly wrong." Before being a cabinet member, this person was the president of Ford Motors, and afterward, he was the president of the World Bank. As a cabinet member, this person developed the policy of mutual assured destruction by developing a second-strike capability in the case of nuclear warfare. Name this U.S. Secretary of Defense during the Vietnam War during the presidencies of John F. Kennedy and Lyndon B. Johnson.	Robert (Strange) **McNamara**

Extra Question #4: Science

10 points

The amount of this enzyme is measured in the falling number test, which measures sprout damage based on how fast a stirrer sinks. This enzyme was originally called "diastase" ["DIE"-uh-stayss], which was the first time an enzyme was named with the "-ase" ["ace"] suffix. The beta form of this enzyme is produced by bacteria, fungi, and plants and is used to break down cereal grains. A version of this enzyme secreted by the pancreas is used by the body to get maltose. The best-known example of this enzyme, which can be called ptyalin ["TIE"-uh-lin], is secreted in the mouth and continues working in the stomach. Name this enzyme concentrated in human saliva that gets sugars from starch.	**amylase** [accept alpha-**amylase** before "beta"; accept **diastase** before it is mentioned]

Extra Question #5: Fine Arts

10 points

The words to one work by this composer mean "As a heart longs for the flowing streams, so longs my soul for thee, O God." That work, based on Psalm 42, is this composer's *Sicut cervus* [SEE-koot KAR-voos]. One work by this composer uses a theme of a rising perfect fourth and step-wise return. That work, named after somebody who was pope for three weeks, is the *Pope Marcellus Mass.* A legend grew that this conductor's music played a major role at the Council of Trent, leading to the acceptance of music that included different parts harmonizing together. Name this composer credited for the Catholic acceptance of polyphony [puh-LIF-uh-nee].	Giovanni (**Pierluigi** da) **Palestrina** [accept either underlined name]

Extra Question #6: Science

10 points per part

	The primary type of this tissue comes from the pro·cambium [proh-KAM-bee-um], while the secondary type comes from the vascular cambium.	
1	Name this plant tissue that takes water and nutrients from the roots to the rest of the plant.	**xylem** [**ZY-lem**]
2	These xylem cells are longer than vessel elements and are used to convey water and salts.	**tracheid**s [**TRAY-kee-id**z]
3	In trees, water conduction takes place in this wood that is between the heartwood and the bark.	**sapwood** [or **alburnum**]

Extra Question #7: Science

10 points per part

	There is disagreement as to whether or not apes should be considered this type of animal.	
1	Give the common name for most primates, but not humans or lemurs [LEE-murs].	**monkey**s
2	Bonobos [buh-NOH-bohz] and these great apes are believed to be the closest living relatives to humans. Jane Goodall ["GOOD-all"] studied these animals.	**chimp**anzees or **chimp**s
3	These monkeys, including the lion-tailed and Barbary types, are closely related to baboons. There are over one million of the crab-eating type of these monkeys.	**macaque**s [muh**"COCK**S"]

Extra Question #8: Literature

10 points per part

	Identify these ugly gods and creatures from Greek mythology.	
1	This Greek god of blacksmiths was often portrayed as misshapen, which might explain why his beautiful wife Aphrodite [af-roh-"DIE"-tee] often cheated on him.	**Hephaestus**
2	This creature lost a battle with Zeus for control over the gods and mated with Echidna [eh-KID-nuh] to create several monsters.	**Typhon** ["TIE"-fahn]
3	These creatures were part woman and part bird. They are beautiful in early depictions, but over time their portrayals made them uglier and uglier.	**harpy**/ies

Extra Question #9: Literature

10 points per part

	These creatures got carried away at the wedding of Pirithous ["pie"-RITH-oh-uss] and Hippodamia [hip-oh-duh-MY-uh].	
1	Name these creatures with the upper body of a person and lower body of a horse.	(hippo)**centaur**s [or **kentaur**os or **hippocentaur**s]
2	Pirithous was the king of these creatures that defeated the centaurs in their battle at the wedding.	**lapith**s [**LAP-ith**s]
3	This lapith was the father of the centaurs. He was obsessed with Hera, and by some accounts he was also the father of Pirithous.	**Ixion** [ik-SY-ahn]