Question #1: Social Studies – U.S. Government

10 points

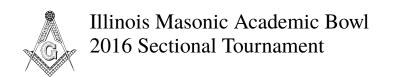|	
The first Cabinet nomination to be rejected was a recess appointment of Roger Taney [TAW-nee] to head this department. In the line of succession, the leader of this department follows the Secretary of State. Prior to the creation of the Department of Homeland Security, the Secret Service was under this department, which still includes the Internal Revenue Service. It was first headed by Alexander Hamilton, and is now led by Jack Lew. Name this Cabinet department that oversees the United States Mint.	Department of the **Treasury** [accept Secretary of the **Treasury**; accept Roger (Brooke) **Taney** before "Roger"]

Question #2: Miscellaneous – Agriculture

10 points

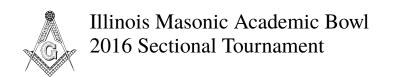|	
The Karakul are the only fat-tailed breed of this animal found in the United States. The Book of Genesis features a spotted breed of this animal owned by Jacob. In the Western United States, the Rambouillet [ram-boo-yeh] breed of this animal is the most common. Milk from this animal is the main ingredient in ricotta and roquefort [ROHK-for] cheeses. Lanolin comes from the glands of these creatures. Depending on age, meat from this animal is called mutton or lamb. Name this animal, the primary source of wool.	**sheep** [accept **lamb** before it is mentioned]

Question #3: Science – Astronomy

10 points

The *Magellan* spacecraft mapped the surface of this planet, including the Colette and Sacajawea [SAK-uh-juh-WEE-uh] calderas on the Lakshmi [LAK-shmee] Planum. Scientists have not figured out why concentric fractured ovals called arachnoids [uh-RAK-noydz] form on the surface of this planet. Its mass is the closest of all the Solar System planets to the mass of Earth. Of the terrestrial planets, this one has by far the greatest surface pressure due to the high density of carbon dioxide in its atmosphere. The greenhouse effect contributes to this planet being the hottest one in the solar system. Name this second planet from the Sun.	**<u>Venus</u>**

Question #4: Literature – U.S. Literature

10 points

The eyes of the title figure in this poem "have all the seeming of a demon's that is dreaming". The narrator of this poem asks "is there balm in Gilead?" before directing the title creature "back into the tempest and the Night's Plutonian shore". The narrator of this poem implored for forgiveness for "the fact that I was napping, / and so gently you came rapping". This poem opens with the line, "Once upon a midnight dreary, while I pondered, weak and weary". Name this Edgar Allan Poe poem in which "Nevermore" is uttered by the title bird.	"The **<u>Raven</u>**"

Question #5: Social Studies – World History

10 points

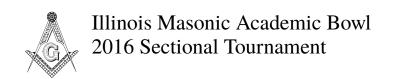| A program for this nation, based on the Marshall Plan and meant to undermine left-wing rebels, was proposed by Andrés Pastrana and backed by the Clinton administration. The murder of Jorge Eliecer Gaitan [HOR-hay el-ee-AY-sair "guy"-TAHN] sparked riots in this nation's capital, which led to the period known as *La Violencia [lah vee-oh-LEN-see-ah]*. Violence in this country continues to be carried out by Marxist FARC [fark] rebels. Pablo Escobar's Medellín [may-day-YEEN] drug cartel was headquartered in this country. Name this South American nation whose capital is Bogotá.	(Republic of) **Colombia** [or República de **Colombia**]

Question #6: Science – Chemistry

10 points

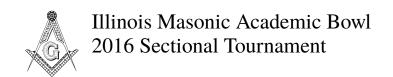| Ethers [EE-thurz] of this element are used to protect alcohols in organic synthesis. This element is bonded to four carbons in the zero-chemical-shift NMR standard TMS. This compound bound to oxygen is used in resins for chromatography, and it serves as a dessicant. This compound is found in diatomaceous ["DIE"-uh-tuh-MAY-shus] earth, since diatoms [DIE-uh-toms] integrate this element into their cell walls. Like germanium [jur-MAY-nee-um], this element's small band gap makes it an effective material for semiconductors. Name this element whose oxide comprises quartz, and whose atomic symbol is Si [S-I].	**silicon** [accept **Si** before the end]

Question #7: Fine Arts – Musical Theatre

10 points per part

	In this musical, Max Bialystock and Leo Bloom conspire to stage an intentionally horrible musical.	
1	Name this musical based on a Mel Brooks film.	*The **Producers***
2	This is the name of the musical that they produce. Its title song contains the line "The Führer is causing a furor."	"**Springtime for Hitler**"
3	*The Producers* broke the record for Tony Awards, which had previously been held by this musical about a woman who wants to marry Horace Vandergelder.	***Hello, Dolly!***

Question #8: Fine Arts – Musical Theatre

10 points per part

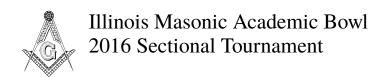|	Near the opening of this musical, several politicians sing "Sit down, John!".	
1	Name this musical about the drafting of the Declaration of Independence.	***1776***
2	In *1776*, this character sings about being from the first family of Virginia.	Richard Henry **Lee**
3	One of the musicals that *1776* beat out for the 1969 Tony is this one featuring the song "Age of Aquarius".	***Hair***

Question #9: Science – Biology

10 points per part

	These organelles contain stacks of thylakoids ["THIGH"-luh-koydz] which are surrounded by the fluid stroma [STROH-mah].	
1	Name these organelles in which photosynthesis takes place.	**chloroplast**s [KLOR-oh-plasts]
2	Chloroplasts contain chlorophyll [KLOR-oh-fil], which absorbs red and blue light and reflects this primary color of light.	**green**
3	Chlorophyll consists of a porphyrin [POR-fuh-rin] ring coordinated to a central atom of this element.	**magnesium** [accept **Mg**]

Question #10: Science – Biology

10 points per part

	These compounds are linked together by peptide bonds.	
1	Name these molecules that make up proteins. Of the twenty common examples, nine of them are "essential".	**amino acid**s
2	Amino acids are linked together to form proteins in this process, in which an mRNA transcript is read on a ribosome ["RYE"-boh-sohm].	**translation** [accept answers mentioning **translating**]
3	This smallest amino acid is the only one that is not chiral [KY-rul].	**glycine** [GLY-seen]

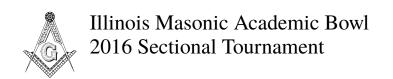## Question #11: Literature – Mythology

10 points per part

	One of this god's epithets means "He Who Is In the Place of Embalming".	
1	Name this jackal-headed god who served as the psychopomp, or guide for dead souls, in the Egyptian underworld.	**Anubis** [accept **Anpu** or **Inpu**]
2	In the Egyptian underworld, if one's heart weighed unfavorably against the feather of Ma'at, this demon — depicted with a crocodile head — would devour the heart.	**Ammit**
3	In the trial, this husband of and brother of Isis served as the judge. This god was killed by Set but was able to father Horus after dying.	**Osiris**

Question #12: Literature – Mythology

10 points per part

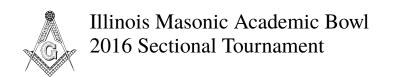|	This god was born from his father's thigh after his mother was killed by being exposed to his father's glory.	
1	Name this youngest of the Olympians who was rescued from Semele's [SEH-muh-lee'z] womb. In another tale, he was ripped to shreds by the Titans, but his heart was implanted in Semele.	**Dionysus** ["die"-uh-NY-sis] [accept **Bacchus** or **Zagreus**]
2	Dionysus granted a wish to this Phrygian [FRIJ-ee-un] king. This king decided that everything he touches should turn to gold.	King **Midas**
3	After being kidnapped, Dionysus turned a group of sailors into these animals.	**dolphin**s

Question #13: Mathematics – Geometry

10 points per part

	The base of this kind of solid may be any polygon, and all the other faces must be triangles.	
1	Name these solids that have a point on top called an apex [AY-peks].	**pyramid**s
2	This is the name of the triangle-based pyramid that is a Platonic [pluh-TAH-nik] solid.	**tetrahedron** [or **tetrahedra**; prompt on 3-**simplex**]
3	If the base of a pyramid is an octagon, how many total edges does the pyramid have?	**16** edges

Question #14: Mathematics – Geometry

10 points per part

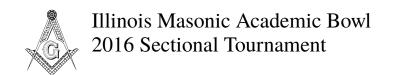|	The area of this kind of shape can be found using Brahmagupta's [brah-muh-GOOP-tah's] formula if it is cyclic.	
1	Name this class of polygons with four sides and no other restrictions.	**quadrilateral**s or **quadrangle**s
2	This type of quadrilateral has one pair of parallel sides.	**trapezoid**s [or **trapezium**s]
3	Find the area of an isosceles ["eye"-SAH-seh-lees] trapezoid if its bases are three units and seven units long, and its other sides are each five units long.	**5 root 21** square units [or **5 times the square root of 21** or **5 radical 21** or equivalents]

Question #15: Literature – British Literature

10 points

One poem by this person is narrated by a soldier who asks his comrades to leave him and states "Knowledge comes, but wisdom lingers." This writer of "Locksley Hall" wrote the line "'Tis better to have loved and lost than never loved at all" in a poem dedicated to another poet. The speaker of another poem by this author hopes "to see [his] Pilot face to face" while performing the title action in "Crossing the Bar." In one of his poems, 600 soldiers ride into the valley of Death. Name this author of "In Memoriam A.H.H." and "The Charge of the Light Brigade".	Alfred, Lord **Tennyson**

Question #16: Science – Physics

10 points

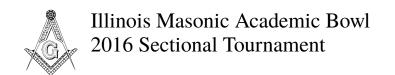| This quantity is the boundary between a space-like and a time-like interval. Calculations of the Lorentz factor use the ratio of a particle's velocity and this quantity. The non-existence of the luminiferous ether [loo-min-IF-ur-uss EE-thur] was shown by analyzing this value in different directions in the Michelson-Morley experiment. Special relativity assumes that this quantity is constant in all reference frames. Energy is equivalent to rest mass times this quantity squared. Name this quantity that in a vacuum is about equal to three times ten to the negative eighth meters per second.	**speed of light** [or **c** or **velocity of light**]

Question #17: Fine Arts – Art History

10 points

A jeweled Tiffany glass screen was added to this building in 1882, the year after most of its contents were sold at public auction. The south and north porticos were added to this building 24 and 29 years, respectively, after the original part was built. It has a Vermeil [vur-MEE-il] Room named for the tableware used in it. This building is located between Lafayette Square and The Ellipse. James Hoban designed it after Pierre Charles L'Enfant was fired by George Washington. Name this building at 1600 Pennsylvania Avenue, whose West Wing includes the Oval Office.	**<u>White House</u>**

Question #18: Mathematics – Math Concepts

10 points

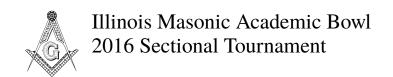|	
The average value for this quantity can be found using a difference quotient. The length of a line on a graph can be calculated by multiplying the change in x by the square root of the quantity one plus this quantity squared. The arctangent of this value gives the angle between a line and the x-axis. This quantity equals the opposite of the x coefficient divided by the y coefficient if a line is given in standard form, while in other forms for a line, it acts as a coefficient of x, and is often represented by the letter m. Name this value equal to the change in y divided by the change in x, also known as rise over run.	**<u>slope</u>** [prompt on first **<u>derivative</u>**]

9

Question #19: Social Studies – U.S. History

10 points

Abraham Lincoln called a governor of this state "the skeerdest man I know of". A safe in that governor's office was deemed a "Bureau of Finance" established by Oliver Morton. Dan Quayle and Benjamin Harrison represented this state in the U.S. Senate. This state was where George Rapp founded his utopian community, New Harmony. William Henry Harrison defeated Tecumseh at Prophetstown in this state. Its recent governors have been Evan Bayh ["bye"], Mitch Daniels, and Mike Pence. Name this Hoosier state bordered to its west by Illinois.	**Indiana**

Question #20: Literature – World Literature

10 points

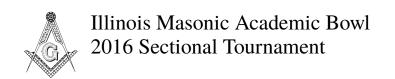|	
A short story by this author opens at Verney's pavilion, where Dmitri Gurov saw a woman and her Pomeranian. This writer of "The Lady With the Dog" concluded one of his works with the footman Firs lying down in front of a locked door as axes are heard cutting down the title location. In a letter to Aleksandr Lazarev, he wrote "One must not put a loaded rifle on the stage if no one is thinking of firing it." Olga, Maria, and Irina [eh-REE-nah] are the title *Three Sisters* in one of his plays. Name this Russian playwright who wrote *The Seagull* and *The Cherry Orchard*.	Anton (Pavlovich) **Chekhov**

Question #21: Science – Chemistry

10 points per part

	When it is used in construction and gardening, this compound is called muriatic [myur-ee-AT-ik] acid.	
1	Name this chemical whose formula is H Cl ["H C L"].	**hydrochloric** ["HIGH"-droh-KLOR-ik] acid [accept **hydrogen chloride**]
2	Hydrochloric acid is mixed with nitric ["NIGHT"-rik] acid in a three-to-one ratio to produce this substance, named for its ability to dissolve gold.	**aqua regia** ["AQUA" REE-jee-uh]
3	Hydrochloric acid is secreted by the parietal [puh-RIE-uh-tul] cells of this organ to aid in digestion.	**stomach**

Question #22: Science – Chemistry

10 points per part

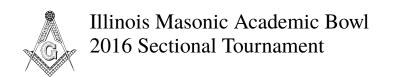|	This phenomenon allows some bugs to walk on water.	
1	Name this phenomenon caused by cohesive forces in a liquid.	**surface tension**
2	Surface tension causes the formation of this curved structure, which is concave in water and convex in mercury. When reading the volume of water in a graduated cylinder, one looks at the bottom of one of these structures.	**meniscus** [muh-NISS-kuss] [prompt on **crescent**]
3	Compounds that lower surface tension are given this name. Detergents are an example of these substances, which the lungs produce to prevent alveoli [al-vee-OH-"lie"] from collapsing.	**surfactant**s

Question #23: Social Studies – U.S. History

10 points per part

	Griselio Torresola [gree-SAY-lee-oh tor-ay-SOH-lah] and Oscar Collazo [koy-YAH-zoh] attempted to assassinate this president to gain attention for Puerto Rican independence.	
1	Name this president who won the 1948 election, though the *Chicago Tribune* printed a headline claiming Dewey had defeated him.	Harry S. **Truman**
2	This law–also called the Labor Management Relations Act–outlawed closed shops, and passed over Truman's veto; he wanted to repeal it as part of the Fair Deal.	**Taft-Hartley** Act
3	Omar Bradley defended Truman's firing of this general, claiming that this general "would have involved us in the wrong war in the wrong place at the wrong time against the wrong enemy".	Douglas **MacArthur**

Question #24: Social Studies – U.S. History

10 points per part

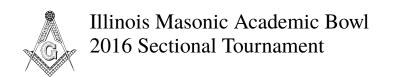|	Kermit Tyler committed a fatal mistake in the buildup to this event.	
1	Name this ambush that resulted in the sinking of the USS *Arizona*, but failed in its primary goal of taking out the United States Pacific Fleet.	the Japanese attack on **Pearl Harbor** [accept equivalents]
2	In a speech the following day, this president described December 7, 1941 as "a day which will live in infamy".	**F**ranklin Delano **Roosevelt** [accept **FDR**; prompt on **Roosevelt**]
3	This Japanese admiral, who was the chief architect behind the Pearl Harbor attack, predicted that Japan would lose a prolonged conflict. He was shot over Bougainville Island in an ambush.	**Yamamoto** Isoroku [accept names in either order]

Question #25: Literature – British Literature

10 points per part

	Mulciber [MUL-sih-bur] was the chief designer of this capital, whose builders used liquid fire and gold in its construction.	
1	Name this capital of hell, where Satan boasts about his success against man.	**Pandemonium**
2	The second book of this epic poem opens with a debate taking place in Pandemonium. This epic retells the story of Adam and Eve.	***Paradise Lost***
3	This blind poet wrote *Paradise Lost*. The death of Edward King inspired his poem "Lycidas ["LIE"-sih-dus]."	John **Milton**

Question #26: Literature – British Literature

10 points per part

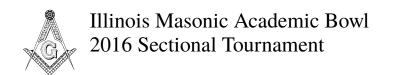|	Residents of this faraway land built a "traveling box" for a diminutive guest of the queen.	
1	Name this location where Glumdalclitch [GLUM-dul-klich] makes clothes and joins the queen's court as a nurse to one of the queen's favorites.	**Brobdingnag** [BRAHB-ding-nag]
2	This doctor fled Lilliput and spent time in Blefuscu [BLEH-fusk-yoo] before arriving in Brobdingnag. He was mistaken for a Yahoo in the Land of the Houyhnhnms [WIN-imz].	(Dr.) **Lemuel Gulliver** [accept either underlined name]
3	This author wrote *Gulliver's Travels*.	Jonathan **Swift**

Question #27: Mathematics – Pre-Calculus

10 points per part

This number equals the limit as *x* approaches infinity of the quantity 1, plus 1 over *x*, end quantity, raised to the *x* power.	
1	Name this irrational number, approximately equal to 2.718.	*e* [or **Euler**'s **number** or **Napier**'s **constant**, do not accept "Euler's constant"]
2	Evaluate the expression the quantity one plus one divided by *x*, end quantity, raised to the *x* power when *x* equals three.	**64/27** [or **2 + 10/27** or **2.370 repeating**]
3	*e* also equals the sum of the reciprocals of all factorials. Find the value of 1 divided by 0 factorial, plus 1 divided by 1 factorial, plus 1 divided by 2 factorial, plus 1 divided by 3 factorial.	**8/3** [or **2 + 2/3** or **2.6 repeating**]

Question #28: Mathematics – Pre-Calculus

10 points per part

This is a point where the second derivative of a function changes either from positive to negative, or from negative to positive.	
1	Name this type of point where concavity changes.	**inflection** point [or **point of inflection**]
2	Find the *x*-coordinate of the point of inflection for the graph of *y* equals the sine of *x*, within the open interval from *x* equals zero to *x* equals 2 pi radians. This point is also the only zero of the function in that interval, and is equivalent to 180 degrees.	(one (times)) **pi** radians
3	Find the *x*-coordinate of the point of inflection for the graph of *y* equals *x* cubed minus *x* squared.	$x =$ **1/3** [or 0.**3 repeating**]

Question #29: Social Studies – World History

10 points

The power of this person was increased by Georges Couthon's [zhorzh koo-tawn'z] Law of 22 Prairial, though that law also increased Jean-Lambert Tallien's [zhahn lam-bair tall-ee-en'z] desire to overthrow him. This founder of the Cult of the Supreme Being was the head of the Paris delegation at the National Convention. Louis de Saint-Just [loo-ee day sawn-zhoos] attempted to set up a dictatorship with this man — known as "the Incorruptible" — at the helm, but he was arrested on the 9th of Thermidor. Name this leader of the Jacobins [zhah-koh-banz], who headed the Committee of Public Safety and ruled France during the Reign of Terror before he was guillotined.	Maximilien (Francois Marie Isidore de) **Robespierre**

Question #30: Science – Biology

10 points

Giemsa [GIM-suh] can be used to stain these structures. The long arms of these structures are labeled q, while their short arms are labeled p. The saliva glands of fruit flies contain oversized examples of this kind of structures, called "polytene". An abnormal number of these is called an aneuploidy [AN-yoo-ploy-dee]. These structures are shown from longest to shortest, followed by sex-specific ones, in a karyotype ["CARE"-ee-oh-"type"]. An extra one of these structures is called a trisomy ["TRY"-soh-mee], one example of which is Down's syndrome. Name these structures of which humans have 46 per cell, and whose X and Y varieties determine sex.	**chromosome**s

Question #31: Mathematics – U.S. Literature
Question #31: Mathematics – Math Concepts

10 points

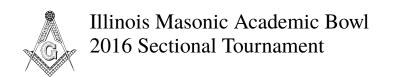| If a matrix has this property, then its eigenvectors are orthogonal. The number of items conserved in a physical system equals the number of versions of this property it has. The graph of a periodic function exhibits the translational type of this property, and may also exhibit the even or odd type of this property. Regular polygons have both the rotational and reflectional type of this property. Name this property that is said to be of the "reflection" type for an object that is the same as its mirror image.	**symmetry** [accept **symmetric** (matrix)]

Question #32: Literature – U.S. Literature

10 points

The opening stanza to one of this author's poems thrice repeats the phrase "because I do not hope". In another of his poems, the speaker is "no longer at ease here, in the old dispensation". This author of "Ash Wednesday" and "The Journey of the Magi" opened one work with the line "Mistah Kurtz — he dead." In that poem, the speaker claims "this is the way the world ends, not with a bang but with a whimper." Another poem by this writer begins its opening section, "The Burial of the Dead", with the line "April is the cruellest month." Name this author of "The Hollow Men" and "The Waste Land."	T(homas) S(tearns) **Eliot**

Extra Question #1: Social Studies – U.S. History

10 points

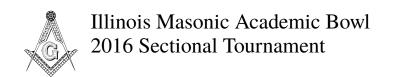|	
In this presidential election, the Democratic candidate was a U.S. Senator from Michigan who was both a former and future Secretary of State. That candidate's support of popular sovereignty caused William Yancey to remove Alabama's delegates from the convention. During this election, Conscience Whigs and former Liberty Party members formed the Free Soil Party, which nominated Martin van Buren. The winner of this election was a Mexican War hero who died in office two years later. Name this presidential election won by the ticket of Zachary Taylor and Millard Fillmore.	United States presidential election of **1848** [prompt on answers referring to the election of Zachary **Taylor**]

Extra Question #2: Mathematics – Math Concepts

10 points

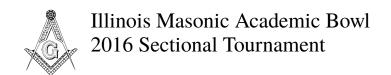|	
Brianchon's [bree-ahn-shawn'z] theorem states that these shapes have concurrent diagonals if they can be circumscribed about a conic section, in which case they have collinear diagonal intersections according to Pascal's theorem. Regular examples of this kind of shape have the most sides of any regular polygon that can tile the plane, and in regular examples of these shapes, the *exterior* angles and central angles are each 60 degrees. Name this polygon, often broken into equilateral triangles, which has six sides.	**hexagon**s [prompt on **6-gon**s]

Extra Question #3: Fine Arts – Composers of the Modern Era

10 points

Starting in 1928, this person hosted a series of concerts with Roger Sessions that featured music by young composers, including his own *Two Pieces for String Quartet*. This composer wrote an opera specifically for school performances, *The Second Hurricane*, and an opera set on a Midwestern farm during the Depression, *The Tender Land*. Martha Graham commissioned him to write an American ballet, which ended up incorporating the Shaker melody *Simple Gifts*, and he used cowboy songs in his ballet *Billy the Kid*. Name this composer of *Appalachian Spring* and *Rodeo [roh-DAY-oh]*.	Aaron **Copland**

Extra Question #4: Literature – World Literature

10 points

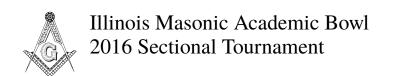| This author wrote of the relationship between the reporter Irene Beltran and photographer Francisco Leal in *Of Love and Shadows*. In another novel, Alexander Cold travels to the home of the *People of the Mist*. This author of *City of the Beasts* wrote about the former fiance of Rosa the Beautiful knocking out Clara's teeth; Clara had ended her nine-year silence to declare that she would marry the patriarch of Las Tres Marias, Esteban Trueba [ES-tay-bahn "true"-AY-bah]. Name this author of *House of the Spirits*, a Chilean novelist.	Isabel **Allende** [EE-sah-bel "eye"-YEN-day] (Llona)

Extra Question #5: Science – Health

10 points

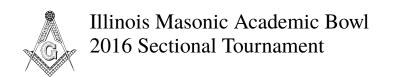|	
This symptom can be caused by the tumors of neurofibromatosis [noo-roe-fie-broe-mah-TOE-sis] type two. In addition to thyroid problems, this symptom is caused by Pendred syndrome. In the future, this symptom may be treated by altering the transmembrane channel-like one gene. This symptom is called presbycusis [pres-bih-KYOO-sis] in old people, in whom it is common, and the permanent type of this symptom is called sensorineural. It is often accompanied by tinnitus [tin-"EYE"-tiss]. This condition is sometimes helped by a cochlear ["COKE"-lee-ur] implant to the inner ear. Name this symptom whose sufferers may read lips or use sign language.	**hearing loss** [accept variations; accept **deaf**ness]

Extra Question #6: Social Studies – World History

10 points per part

	The ultimate goal of this uprising was "Constantine [KON-stun-teen] and a Constitution".	
1	Name this revolt in the winter of 1825 that attempted to prevent Nicholas I from becoming tsar. The five men executed for their role in it were hanged twice, as the ropes broke the first time.	**Decembrist** uprising [or Vosstanie **dekabrist**ov; accept similar naswers that include **Decembrist**s]
2	The Decembrist revolt took place primarily in this city. In 1925, the Senate Square in this city was renamed in honor of the revolt. This city was known as Leningrad when it was in the Soviet Union.	**St. Petersburg**
3	The revolt took place in this country.	**Russia** [or **Russian Empire**]

Extra Question #7: Social Studies – World History

10 points per part

	Before this organization existed, there were similarly-oriented groups called a Common Market and a Coal and Steel Community.	
1	Name this organization established by the Maastricht [MAHSS-"tricked"] Agreement.	**European Union** or **EU**
2	In 2004, this Mediterranean island nation joined the EU despite ongoing disputes between the Turkish-occupied north and the officially recognized government of the southern area.	Republic of **Cyprus**
3	Viktor Yanukovych's [yah-NOO-koh-vich'z] refusal to sign a trade agreement with the EU on behalf of this nation was one factor in his ouster as president of this Eastern European nation.	**Ukraine** [or **Ukrayina**]

Extra Question #8: Mathematics – Trigonometry

10 points per part

	There are six primary trigonometric functions.	
1	Which two of those functions have a period of pi radians?	**tan**gent and **cot**angent [either order; for all parts, accept answers that additionally include a variable]
2	Which two of those functions never output zero?	**sec**ant and **cosecant** [either order; accept **csc** in place of cosecant]
3	Give the angle in radians between 0 and 2 pi where the cosine of x equals the cotangent of x.	**pi over 2** [or **one-half pi** or **pi divided by 2**]

Extra Question #9: Mathematics – Trigonometry

10 points per part

	They must be between 0 to 90 degrees.	
1	Name these angles that describe how far a given angle on the unit circle is from the x-axis.	**reference** angles
2	If an angle is in the second quadrant, what is the relationship between that angle and its reference angle?	**supplement**ary angles [prompt on answers describing angles that **add to 180** degrees or **add to pi** radians; prompt on answers that describe subtracting from 180 degrees or pi radians]
3	Find the reference angle for 311 degrees.	**49** degrees