

Round 3 1st Section Toss-up Questions

Question #1: Science – Chemistry

10 points

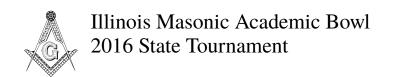
The Zimmerman-Traxler model of the aldol	<u>six</u>
[AAL-dawl] concentration contains an intermediate	
ring formed from this many atoms. This number is the	
denticity of EDTA. A compound with this many	
carbons can exist in a boat conformation, but is more	
stable in its chair conformation. The cycloalkane	
[SYKE-loh-AL-"cane"] with this number of carbons	
experiences the least possible ring strain. This is the	
coordination number of an octahedral complex. A	
compound with this number of carbons and this many	
hydrogens had its ring-structure deduced by August	
Kekulé [KEK-yoo-lay]. Name this number of carbons	
in cyclohexane and in benzene.	

Question #2: Social Studies – U.S. Government

10 points

During the Watergate scandal, George H. W. Bush resigned from this post, which as president he demoted from being a Cabinet-level position. Edward Stettinius resigned from being Secretary of State to become the first American to hold this position. On the other hand, Madeleine Albright resigned from this position to become Secretary of State. Susan Rice and Samantha Power have held this position during the Obama administration. Name this person who represents U.S. interests to an international organization.

United States <u>Ambassador</u> to the <u>United Nations</u> [accept variations like <u>United Nations Ambassador</u>; accept U.S. <u>Permanent Representative</u> to the U.N.; prompt on <u>ambassador</u>]



Round 3 1st Section Toss-up Questions

Question #3: Literature – U.S. Literature

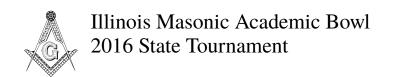
10 points

In this novel, the protagonist repeats the words "I am"	The <u>Bell Jar</u>
to herself as she swims at the beach following a	
discussion with Cal about a play. This novel's	
protagonist's boyfriend, who has an affair with a	
waitress and is placed in a sanitarium when he gets	
tuberculosis, is Buddy Willard. Jay Cee works as an	
editor at Ladies' Day magazine, where the protagonist	
gets an internship. Dr. Gordon and Dr. Nolan	
administer shock therapy as treatments for depression.	
Name this novel about Esther Greenwood, written by	
Sylvia Plath.	

Question #4: Miscellaneous – Agriculture

10 points

Milk from this animal is a key ingredient in cajeta	goat s [accept answers
[kah-HAY-tah], a Mexican syrup. Meat from adults of	containing <u>Capra</u>]
this animal is called chevon [SHEV-un], while khashi,	
which comes from castrated ones, can be found in many	
biryani [beer-YAH-nee] dishes. Mohair is sourced from	
the Angora breed of this animal, and cashmere is also	
made of its wool. This animal is in the same genus	
[JEE-nus] as the ibex ["EYE"-beks] and the same	
family as the antelope and sheep. The young of these	
animals are called kids. Name these horned farm	
animals known for eating almost anything.	



Round 3 1st Section Toss-up Questions

Question #5: Social Studies – World History

10 points

As an adviser to this ruler, Guido Verbeck suggested	the Meiji emperor [accept
sending students to study in other countries. This	Meiji-tenno or Mutsuhito]
leader oversaw the creation of a new constitution that	
would later be replaced by a document stating	
"Sovereign power resides with the people". The	
Satsuma [SAHT-soo-mah] rebellion was an attempt to	
overthrow this ruler, and it was led by Saigo Takamori	
[SIE-go tah-kah-MOR-ee]. He promulgated the Charter	
Oath after taking power by ending the the Tokugawa	
Shogunate [toe-koo-GAH-wah SHOW-gun-ate]. Name	
this Japanese emperor, the namesake of a 19th-century	
"Restoration".	

Question #6: Science – Astronomy

10 points

For this project, students at the University of Colorado	New Horizons
built the Venetia [veh-NEE-shuh] Burney Student Dust	
Counter. This mission observed heat-induced lightning	
strikes away from Earth, took the closest images of the	
Little Red Spot, and made a map of Io ["EYE-oh"].	
Carrying the Ralph telescope, Alice spectrometer	
[spek-TRAH-meh-ter], and Long Range	
Reconnaissance Imager, this spacecraft used a flyby of	
Jupiter to gain speed in 2007. This mission made the	
closest approach to Hydra, Kerberos, Nix, and Styx.	
Name this mission that, during the summer of 2015	
approached Charon ["SHARE-on"] and Pluto.	



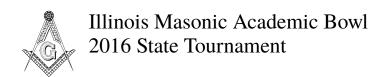
Question #7: Mathematics – Geometry

10 points per part

If yo	ou know the coordinates of the endpoints of a	
segr	ment in two dimensions, this point on the segment	
can	be found by taking the average of the	
x-co	ordinates and the average of the y-coordinates.	
1	Name this kind of point that is halfway between the	midpoint(s)
	endpoints of a segment.	
2	If a triangle has an area of 24 square units, what is	6 square units
	the area of a triangle formed by connecting the	
	midpoints of its three sides?	
3	If a square has an area of 24 square units, what is	12 square units
	the area of a square formed by connecting the	
	midpoints of its four sides?	

Question #8: Mathematics – Geometry

A p	olygon is called cyclic ["SICK-lick"] if this kind	
of c	ircle can be drawn for it.	
1	Name this circle that goes through all of the	circumcircle or
	vertices [VER-tuh-sees] of a polygon.	<u>circumscribed</u> circle
2	Find the radius of a circle circumscribed about a	5 root 2 units [or 5 times the
	square whose sides each measure 10 units.	square root of 2 or 5
		<u>radical 2</u> or equivalents]
3	Find the radius of a circle circumscribed about a	2.5 units [or 2 1/2 or 5/2
	3-4-5 right triangle.	units]



Question #9: Fine Arts – Musical Theatre

10 points per part

Yul	Brynner, who played the pharaoh in the movie	
The	Ten Commandments, also played one of the title	
char	racters in the stage and film versions of this	
mus	ical.	
1	Name this Rodgers and Hammerstein musical set in	The King and I
	Siam.	
2	This is the first name of the female lead in <i>The King</i>	Anna [do not accept "Ann"]
	and I. She is hired to teach the king's children.	_
3	Near the end of the musical, the title characters	"Shall We Dance?"
	sing this song whose title asks a question. In this	
	song, the king repeats, "One, two, three and?"	

Question #10: Fine Arts – Musical Theatre

This	s musical, loosely based on <i>Romeo and Juliet</i> , is	
set i	n New York City and portrays the conflicts	
betv	veen white people and Puerto Rican immigrants.	
1	Name this musical, a collaboration between	West Side Story
	Leonard Bernstein and Stephen Sondheim.	
2	The conflict in West Side Story comes from this	Tony
	former member of the Jets falling in love with	
	Maria.	
3	At the end of the musical, Maria holds Tony and	Somewhere [or There's a
	sings a brief reprise of this song that is performed	Place for Us]
	earlier in the musical. This song says "Hold my	
	hand and I'll take you there."	



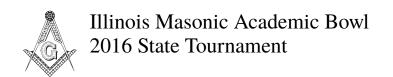
Question #11: Science – Biology

10 points per part

Thi	s protein's affinity for oxygen decreases in low pH	
[P-H	H], a phenomenon known as the Bohr effect.	
1	Name this protein responsible for transporting	<u>hemoglobin</u>
	oxygen in the blood.	
2	Hemoglobin's affinity for this compound is	carbon monoxide [accept
	significantly higher than its affinity for oxygen,	<u>CO</u>]
	which leads to this compound's toxicity.	
3	The mutation in hemoglobin that causes sickle-cell	valine [accept Val; prompt
	anemia results from this amino acid being changed	on <u>V</u>]
	to glutamate [GLOO-tuh-mate].	

Question #12: Science – Biology

	to inbreeding, the genetic diversity of these nals is so lacking that they can transmit a face	
	eer by biting.	
1	Name these carnivorous marsupials found on an island south of Australia.	Tasmanian devils [or Sarcophilus harrisii; accept Sarcophilus]
2	Because they are carnivorous, Tasmanian devils are this sort of organism, which hunts for prey.	<u>predator</u> s
3	Predator-prey interactions can be modeled by this pair of non-linear differential equations.	Lotka-Volterra equations



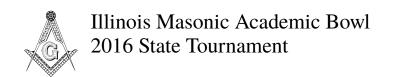
Question #13: Literature – Mythology

10 points per part

This	daughter of Peneus [puh-NAY-us] was turned	
into	a laurel tree.	
1	Name this nymph who was shot with a lead-tipped	Daphne
	arrow and called out to her father for help.	
2	After this god insulted Eros's [AIR-ohss'z] archery	<u>Apollo</u>
	skills, Eros shot him with a gold-tipped arrow. The	
	arrow made this god fall in love with Daphne and	
	made the laurel tree sacred to him.	
3	Daphne's father Peneus was this kind of god.	river god(s) [prompt on
	Collectively called the <i>Potamoi</i> , they possessed the	water god(s)]
	power of transformation. Heracles defeated one of	
	them for the hand of Deianeira [day-uh-NAIR-uh].	

Question #14: Literature – Mythology

One	Chinese tale concerning this event involved	
Pan	gu growing 10 feet per day until he burst apart.	
1	Name this process that in Greek mythology was undertaken by Eurynome [yur-IN-oh-mee] and Ophion ["OH-fee-on"] acting on Chaos.	creation of the Universe [accept equivalents, including "Earth" in place of "Universe"; do not accept answers referring to people]
2	The creation myth with Pangu revolved around one of these objects from which Pangu was born. These objects are commonly painted for a holiday celebrating the resurrection of Jesus.	eggs [accept more specific answers]
3	These creation deities of Aboriginal tribes live in permanent waterholes and awoke during Dreamtime. Their bodies created rivers, mountains, and valleys.	Rainbow Serpents [accept Rainbow Snakes; prompt partial answers]



Round 3 3rd Section Toss-up Questions

Question #15: Social Studies – U.S. History

10 points

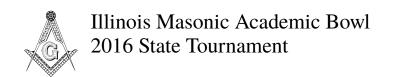
In an 1893 speech on the moral leadership of the	Susan B(rownell) Anthony
religious press, this person complained about being	
called an infidel for fifty years. This advocate's writings	
are found in the collection Failure is Impossible. When	
the University of Rochester promised to widen its	
acceptance policies if it raised enough money, this	
person pledged her life insurance policy. She never	
paid the 100-dollar fine levied against her for voting in	
the 1872 presidential election. This person and	
Elizabeth Cady Stanton started the National Woman	
Suffrage Association. Name this activist whose	
likeness is on some dollar coins.	

Question #16: Science – Physics

10 points

A method of analyzing these structures plots intensity	<u>crystal</u> s [or <u>cry</u>
against 2 times theta. The orientation of a plane in one	substances; pro
of these structures can be depicted with a Miller index.	cells; prompt or
These structures can be idealized with a construct	
named for Bravais [bruh-VAY]. The angle at which an	
X-ray will diffract through one of these structures is	
determined by Bragg's law. Compounds composed of	
these structures are defined by a unit cell, and thus have	
long-range order, unlike amorphous substances. Name	
these solids with repeating structures, such as table salt	
and diamonds.	

<u>ystal</u>line ompt on unit on **solid**s]



Round 3 3rd Section Toss-up Questions

Question #17: Literature – British Literature

10 points

The speaker of this poem gets much pleasure from rest and sleep, and claims that poppy or charms can have the same effect as this poem's subject. This poem looks forward to a time in which "we wake eternally". The subject of this poem dwells with "poison, war, and sickness", and the speaker calls the title figure "a slave to fate, chance, kings, and desperate men". Give the common name, or first line, of Holy Sonnet X ["ten"] by John Donne [dun], in which the speaker ridicules the Grim Reaper.

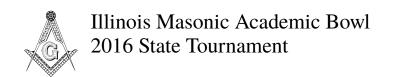
"Death Be Not Proud"
[accept Holy Sonnet X
before "Holy"]

Question #18: Mathematics – Math Concepts

10 points

This type of mathematics combined with addition produces the cyclic groups. Pocklington's algorithm uses this type of mathematics to find quadratic residues. Euler's totient [OY-lur'z TOE-shent] relies on this type of math and is a generalization of Fermat's [fair-mah'z] little theorem, which also uses it. This system reduces numbers to equivalence classes based on their residues, or remainders when divided by a given number. It is sometimes compared to counting on a clock. Name this kind of arithmetic in which numbers are said to be "congruent" rather than equal, a fact symbolized by a "triple equals sign".

modular arithmetic [accept
modulo or modulus; prompt
on clock arithmetic]



Round 3 3rd Section Toss-up Questions

Question #19: Fine Arts – Art History

10 points

One painting by this artist has a bright white spot at the	Georgia (Totto) O'Keeffe
bottom surrounded by white strokes that get	
progressively darker at the top. That painting was	
renamed by this artist from White Rose — Abstraction	
to Ballet Skirt or Electric Light. One painting by this	
painter showed an expanse of hills behind a very close	
cross. Flying across the country inspired this painter's	
series Sky Above Clouds, and many paintings by this	
artist depict large flowers or animal skulls. Name this	
painter of Black Cross, New Mexico who was the wife	
of the photographer Alfred Stieglitz.	

Question #20: Literature – World Literature

10 points

A civil war in this country inspired a play in which	(Federal Republic of)
Cripple and Blindman wager body parts in a dice game.	<u>Nigeria</u>
The drama A Dance in the Forests was written in	
commemoration of this nation's independence. In one	
drama set in this country, Simon Pilkings was able to	
stop Elesin from taking his own life, but not Olunde;	
that play is <i>Death and the King's Horseman</i> . Name this	
country, the setting for many plays by Wole [waw-leh]	
Soyinka and novels by Chinua Achebe.	



Question #21: Science – Chemistry

10 points per part

An '	"R" is sometimes added to the name of these	
cons	structs to refer to the reaction.	
1	Name these tables which use initial concentrations	RICE tables
	to find final concentrations of reactants and	
	products.	
2	The concentrations found using an ICE table can be	equilibrium constant
	used to determine this constant, symbolized <i>keq</i>	
	["K sub E Q"].	
3	Equilibrium constants can also be written in terms	partial pressure [prompt on
	of this quantity, which is related to the mole	pressure]
	fraction of a gas by Dalton's law.	

Question #22: Science – Chemistry

This	s technique typically uses an indicator like	
phei	nolphthalein [fee-nawl-THAY-leen] as a reference.	
1	Name this technique which uses a substance of	acid-base <u>titration</u> [or
	known concentration to find the concentration of	<u>titrating</u>]
	another substance.	
2	A titration is finished at this point, where the	equivalence point
	known has fully reacted with the unknown.	
3	Titration is used in this test which uses manganese,	Winkler test
	iodide, and hydroxide to determine the	
	concentration of dissolved oxygen in solution.	



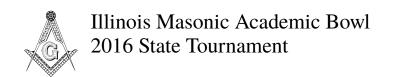
Question #23: Social Studies – U.S. History

10 points per part

In 2	003, Gray Davis lost a recall election and was	
repl	aced in this post by Arnold Schwarzenegger.	
1	Name this position that was held by Earl Warren when he was nominated to become Chief Justice. During the Civil War, Leland Stanford held this post for two years.	governor of California [accept equivalents; prompt on governor]
2	This person served two terms as governor of California before seeking the 1976 Republican presidential nomination. He lost that nomination, but four years later he won both the nomination and the presidency.	Ronald (Wilson) Reagan
3	This man, nicknamed "Moonbeam," succeeded Reagan as governor. He was twice elected mayor of Oakland before becoming governor again in 2011.	(Edmund Gerald) Jerry Brown (Jr.)

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

The	Clark Memorandum concerning this policy was	
writ	ten in response to the Kellogg-Briand Pact.	
1	Name this policy dating back to 1823, expressing	Monroe Doctrine
	American opposition to European interference in	
	the affairs of countries west of the Atlantic Ocean.	
2	This was the name of Franklin Roosevelt's Latin	Good Neighbor policy
	American policy. He used these words in his	
	inaugural address, saying the United States would	
	respect the rights of other countries.	
3	Theodore Roosevelt's corollary to the Monroe	<u>Venezuela</u>
	Doctrine was issued as a response to European	
	"gunboat diplomacy" with regard to this South	
	American nation, later led by Hugo Chávez.	



Question #25: Mathematics - Pre-Calculus

10 points per part

If th	ese figures are horizontal or oblique lines, then	
grap	ohs approach them as x approaches positive or	
nega	ative infinity.	
1	Name these figures approached, but not necessarily	asymptote s
	reached, by graphs. A hyperbola always has two of	["ASS-imp-totes"]
	them.	
2	In graphs of rational functions, some	hole [or removable
	discontinuities are at values of x with vertical	discontinuity]
	asymptotes. If a rational function's graph has a	
	discontinuity that is not a vertical asymptote, then	
	what feature does it have instead?	
3	Find the <i>y</i> -coordinate of the hole in the graph of <i>y</i>	<u>-6</u> [or $(-3, -6)$; do not
	equals the quantity x squared minus nine, end	accept "6"]
	quantity, divided by the quantity x plus three.	

Question #26: Mathematics – Pre-Calculus

This	s type of change can be represented by a matrix.	
1	Name this kind of change that may shift, stretch, or reflect points or functions.	(linear) transformation s (prompt on bijection s or bijective functions)
2	This type of linear transformation consists of moving points in one direction based on their initial position in a perpendicular direction.	<pre>shearing [or shear mapping or shear transformation or transvection]</pre>
3	The way in which a transformation affects area is dependent on its determinant. Find the determinant of the two-by-two matrix whose top row is 3, 5 and whose bottom row is 6, 3.	<u>-21</u> [do not prompt on "21"]



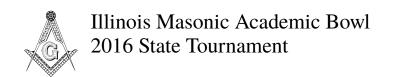
Question #27: Literature – British Literature

10 points per part

A pe	erformance of <i>Pyramus and Thisbe [THIZ-bee]</i> by	
a gr	oup of "rude mechanicals" occurs during a	
wed	ding in this play.	
1	Name this play in which Theseus gives Hermia	A Midsummer Night's
	four days to submit to her father and marry	<u>Dream</u>
	Demetrius, or be put to death.	
2	In A Midsummer Night's Dream, this	Robin Goodfellow or Puck
	mischief-maker gives Nick Bottom the head of a	[accept any underlined
	donkey, and when told to find a certain flower,	name]
	bragged that he could go around the world in 40	
	minutes.	
3	Puck's love potion blunder caused this character,	Lysander
	the beloved of Hermia, to fall in love with Helena.	

Question #28: Literature – British Literature

Whi	le at the Salem House Academy, this character is	
force	ed to wear a sign that says "beware of him, he	
bites	3."	
1	Name this narrator who is unsure as to whether he	David Copperfield [accept
	"shall be the hero of [his] own life".	either]
2	This author of <i>David Copperfield</i> occasionally	Charles (John Huffam)
	published works under the pseudonym "Boz".	<u>Dickens</u>
3	This rival of David taught himself law and planned	Uriah Heep [accept either]
	to marry Agnes Wickfield, but his schemes are	
	undone by Wilkins Micawber.	



Round 3 5th Section Toss-up Questions

Question #29: Mathematics – Math Concepts

10 points

This quantity can be calculated by dividing a covariance by a product of standard deviations. A quantity used for similar purposes to this one is named for Spearman and based on rankings. This quantity is squared to find the coefficient of determination, which tells what percent of a variation in one variable is determined by the variation in another variable. This quantity measures how linear the relationship between two variables is, and it must fall between negative one and positive one, inclusive. A large value for this quantity does not imply causation. Name this quantity often represented by a lower-case $\it r$.

(Pearson product-moment)

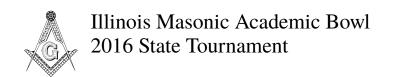
correlation coefficient
[accept PPMCC or PCC;
accept Pearson's r before the end]

Question #30: Social Studies – World History

10 points

This country's colonies were liberated via the Armed		
Forces Movement. This country sent political prisoners		
to Tarrafal Camp, which became known as "Camp of		
the Slow Death". This country and the Vatican signed		
the Concordat of 1940. That agreement was made		
under António de Oliveira Salazar, whose policies were		
called the Estado Novo and were ended by the		
Carnation Revolution in 1974. This country was the		
predominant colonial power in Angola and		
Mozambique. Name this country that occupies the		
southwest part of the Iberian Peninsula, which it shares		
with Spain.		

Portugal [or Portuguese Republic or República Portuguesa]



Round 3 5th Section Toss-up Questions

Question #31: Literature – U.S. Literature

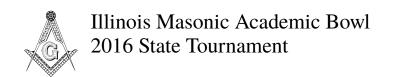
10 points

In one of this writer's novels, a professor of classics at	Philip (Milton) <u>Roth</u>
Athena College was accused of racism, and it is	
revealed that he was an African-American passing as a	
Jew. That professor, Coleman Silk, was the neighbor of	
one of this author's recurring characters who served as	
the narrator for a novel about the Swede. In another	
novel, the Pilgrim, the Pumpkin, and the Monkey are	
revealed in psychoanalysis sessions held by Dr.	
Spielvogel. Name this author of American Pastoral,	
The Human Stain, and Portnoy's Complaint.	

Question #32: Science – Biology

10 points

proventing the action of this compound as atroning.	leen1
preventing the action of this compound, as atropine [uh-SEE-tul-KOH-	icciij
[ay-TROH-peen] blocks this compound's muscarinic [prompt on <u>ACh</u>]	
[mus-kuh-RIN-ik] receptors. A large amount of this	
compound is found in the basal nucleus of Meynert.	
This neurotransmitter's re-uptake is performed through	
the action of a namesake esterase [ESS-tur-"ace"]	
enzyme. The release of this compound opens	
ligand-gated sodium channels, which in turn stimulate	
the t-tubules, causing the sarcoplasmic reticulum	
[SAR-koh-PLAZ-mik reh-TIK-yoo-lum] to release	
calcium. This compound is found in vesicles at the	
neuromuscular junction. Name this neurotransmitter	
responsible for muscle contraction.	



Round 3 Extra Section Toss-up Questions

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

10 points

Chinese participants referred to this event's location as *Gum San*. James Polk's inaugural address included the results of Richard Mason's report concerning this event. Initially centered in the New Helvetia [hel-VESH-yuh] settlement on the American River, it exploded after a public display by Sam Brannan. This event resulted from a discovery by James Marshall at Sutter's Mill, and participants in it were known as Forty-Niners. Name this event in which people traveled towards the Pacific in hopes of striking it rich.

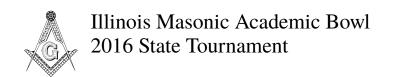
California gold rush
[accept 1849 gold rush
before "Forty-Niners";
prompt on gold rush; accept
answers referring to the
finding of gold at Sutter's
Mill or Sutter's Ranch before
"Sutter's"]

Extra Question #2: Mathematics – Math Concepts

10 points

This adjective refers to data collected from a person without that person's knowledge, and to a data structure that as much as possible only includes actual data. This type of differentiation is equivalent to using the opposite of the partial derivative with respect to x, divided by the partial derivative with respect to y. This form of differentiation uses the chain rule and the fact that one variable depends on another variable. Name this adjective that refers to functions whose expressions cannot be solved for the dependent variable.

implicit [accept implicit
data or implicit
differentiation or implicit
derivatives]



Round 3 Extra Section Toss-up Questions

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

10 points

This composer's only symphony, completed in 1928, is less than 10 minutes long even though the first minute is immediately repeated and some parts are played backwards to create palindromes. This composer claimed that all of his pieces addressed the death of his mother. This composer lost his job composing for the Vienna Workers Symphony Orchestra at about the time he wrote *Concerto for Nine Instruments*. His most performed piece is his Opus One *Passacaglia* [pah-sah-KAH-lee-ah]. Name this composer who, along with Alban Berg and Arnold Schoenberg [SHURN-burg], was part of the Second Viennese School.

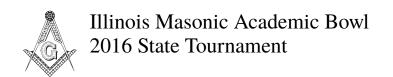
Anton Webern [VAY-burn]

Extra Question #4: Literature – World Literature

10 points

This play's last act opens with the Head of
Construction cursing the lack of written documentation
on the part of two other department heads, Dr. Gall and
Dr. Hallemeier. The opening scene of this play features
a poster advertising "the cheapest workforce you can
get", as well as one of the title characters taking
dictation from Domin. It ends with Primus
[PREE-mus] and Helena falling in love. Name this
Karel Capek [CHAH-pek] play in which almost all of
humanity is destroyed by robots.

R.U.R.: Rossum's Universal Robots [or R.U.R.: Rossumovi univerzální roboti; accept any underlined portion]



Round 3 Extra Section Toss-up Questions

Extra Question #5: Science - Health

10 points

This disease can be treated by isoniazid ["eye"-suh-NYE-uh-zid], and the FDA has recently approved bedaquiline [beh-DAK-wih-leen] for it. This disease can be prevented in children by the Bacillus [buh-SIL-lus] Calmette-Guerin vaccine. Like leprosy, this disease is caused by mycobacteria [MY-koh-"bacteria"]. A detection method for it involves injecting a small amount of fluid under the skin in the arm. That injection, called the Mantoux [man-too] test, leads to a raised hard skin region in positive cases. Name this infectious disease, once known as consumption, that most commonly affects the lungs.

tuberculosis [or **TB**; prompt on **consumption** before it is mentioned]



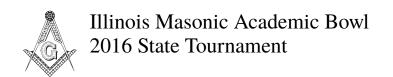
Extra Question #6: Social Studies – World History

10 points per part

He 1	ed the victorious Ottoman forces at the Gallipoli	
[guh-LIP-uh-lee] Campaign and became the first		
pres	ident of Turkey.	
1	Name this rival of Enver Pasha who was victorious	(Mustafa) Kemal Atatürk
	over the Greeks at the Battle of Sakarya. The	[accept either]
	subsequent deposition of Sultan Mehmet VI [6] led	
	to his transition from a military career to a political	
	one.	
2	Following the Sultan's resignation, the Allied	Treaty of Lausanne
	Powers agreed to this treaty that set the boundaries	
	of modern Turkey.	
3	This group of principles promoted by Atatürk	Six Arrows [or Alti ok;
	included adopting the Latin alphabet and	prompt on Kemalism or
	expanding state-owned manufacturing.	Atatürkism]

Extra Question #7: Social Studies – World History

The	turning point in this uprising was Louis Riel's	, , ,
[loo	-ee ree-el'z] agreement with the decision to	
exec	cute Thomas Scott.	
1	Name this uprising in which Scott had been held at	Red River Rebellion [accept
	Upper Fort Garry, a key position later recaptured	synonyms for "Rebellion"]
	by Garnet Wolseley.	
2	The Red River Rebellion occurred during John	(Dominion of) Canada
	MacDonald's first time as Prime Minister of this	
	country.	
3	The Red River territory was eventually folded into	Manitoba
	this Canadian province. A late-19th-century	
	compromise solved a crisis over the segregation of	
	Catholics in its public schools.	



Extra Question #8: Mathematics – Trigonometry

10 points per part

uses	ead of a unit circle, this version of trigonometry y the graph of the equation x squared minus y ared equals one.	
1	Name this version of trigonometry whose functions are often given in terms of the exponential function.	hyperbolic trig(onometry) [prompt on hyperbola]
2	This function equals one-half the quantity e raised to the x power minus e raised to the opposite of x power.	hyperbolic sine of x [or sinch x or sinh x; do not prompt on "sine" or "sin"]
3	Find the limit as <i>x</i> approaches infinity of the hyperbolic tangent of <i>x</i> .	one

Extra Question #9: Mathematics – Trigonometry

One of these identities for the tangent function is the quantity one minus the cosine function, end quantity, divided by the sine function; it can also be written as the sine function divided by the quantity one plus the cosine function.		
1	Name this set of trigonometric identities.	<pre>half-angle identities [accept more specific answers]</pre>
2	The half-angle identity for sine has this function inside a square root, subtracted from one and then divided by two.	cosine [accept answers additionally mentioning any letter]
3	If the sine of an angle in the first quadrant is one-half of the square root of three, then what is the sine of half that angle?	<u>1/2</u> [or 0 <u>.5</u>]