

Round 1 1st Section Toss-up Questions

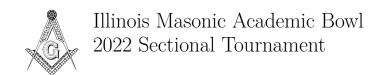
Question #1: Science

10 points

These organs are the primary source of the	<u>lung</u> s
angiotensin [an-jee-oh-TEN-sin]-converting enzyme.	
The collapse of these organs is called atelectasis	
[at-uh-LEK-tuh-siss] and can be caused by a lack of	
surfactants. These organs have oblique fissures on	
both sides but a horizontal fissure only on the right	
side, so there are three lobes on the right one of	
these organs and two on the left. These organs are	
in pleural ["plural"] sacs. These organs expand	
when the diaphragm contracts. The artery going to	
this organ carries deoxygenated	
[dee-"oxygen-ate-id"] blood. This organ has many	
tiny structures called alveoli [al-VEE-uh-"lie"] that	
take in oxygen. Name these organs of the	
respiratory system.	

Question #2: Literature

The end of this short story refers to a "common	" Rip Van Winkle "
wish of all hen-pecked husbands" and states that	
the title character tells this story to "every stranger	
that arrived at Mr. Doolittle's hotel". The end of	
this story also states that whenever there is a	
thunderstorm in the Catskills, people imagine it is	
Henry Hudson playing nine-pins. Earlier in this	
story, the title character is surprised to see a	
picture of George Washington where there used to	
be a picture of King George III. Name this story	
written by Washington Irving about a man who	
sleeps for 20 years.	



Round 1 1st Section Toss-up Questions

Question #3: Social Studies

10 points

Shortly before dying in 1861, this politician stated	Stephen A(rnold) Douglas
"Every man must be for the United States or	
against it. There can be no neutrals in this war;	
only patriots and traitors." Earlier, this person	
stated "the people of a Territory can, by lawful	
means, exclude slavery from their limits prior to the	
formation of a State constitution", which became	
known as the Freeport Doctrine. This senator	
overturned part of the Missouri Compromise by	
writing and sponsoring the Kansas–Nebraska Act.	
This person finished fourth in electoral votes as the	
Northern Democrat in the election of 1860. Name	
this politician who, in 1858, took part in a series of	
debates against Abraham Lincoln.	

Question #4: Fine Arts

Near the beginning of this opera, two of the	Madame Butterfly [or
characters sing "E soffitto e pareti" [ay	$egin{aligned} Madama \ Butterfly \end{aligned}$
soh-FEET-toh ay pah-RAY-tee] while inspecting a	
new house. In Act 2 of this opera, the female lead	
sings "Un bel dì, vedremo [vay-DRAY-moh]" while	
imagining seeing smoke on the horizon. In this	
opera, a man enters a marriage under the	
assumption he will be able to get a divorce, and the	
man is surprised to learn much later that the	
marriage produced a son. That man is U.S. Navy	
Lieutenant Pinkerton. The wife, who uses a sword	
to kill herself near the end of this opera, is	
Cio-Cio-san [cho cho sahn]. Name this Giacomo	
Puccini [JAH-koh-moh poot-CHEE-nee] opera that	
is set in Japan.	



Round 1 1st Section Toss-up Questions

Question #5: Science

10 points

This planet's Elysium Planitia [uh-LEE-zee-um	<u>Mars</u>
pluh-NEE-shuh] is where the InSight lander	
touched down in 2018. The first craft to orbit this	
planet was Mariner 9 in 1971, which arrived just	
before Soviet orbiters. The geography of this planet	
includes Tharsis Bulge, which is near both its	
equator and a large group of canyons called Valles	
Marineris [VALL-uss mair-uh-NEAR-is]. This	
planet is also the location of our Solar System's	
largest volcano, Olympus Mons. This planet's	
surface is covered with iron oxide, which explains	
its color. This planet's moons are Phobos and	
Deimos [DEE-mohss]. Name this red planet, the	
fourth planet from the Sun.	

Question #6: Literature

This person's name is used in the title of the	Homer [or Homer os]
posthumously collected papers written by Milman	
Parry, and this person is the subject of much of the	
second half of Albert Lord's The Singer of Tales.	
The hymns named for this person, beginning with	
"To Dionysus ["die"-oh-NY-siss]", praise a variety of	
gods. A work attributed to this writer begins with	
Chryses ["CRY-sees"] trying to get his daughter	
Chryseis ["cry-SEE-us"] back, and that work ends	
with the burial of Hector after King Priam	
["PRY"-um] has retrieved his body. Another work	
attributed to this writer is about a hero's return to	
his wife, Penelope. Name this legendary ancient	
Greek writer credited with writing the <i>Iliad</i> and the	
Odyssey.	



Question #7: Social Studies

10 points per part

Who	en Jesus said "I have come into the world to	
bear	witness to the truth", this person replied by	
aski	ng "What is truth?".	
1	Name this governor of Judea [joo-DEE-uh] who	(Marcus) Pontius Pilate
	presided over the trial of Jesus and ordered the	[accept either underlined
	crucifixion.	name; accept <u>Pilatus</u>]
2	This two-word Latin phrase attributed to	ecce homo [EK-ay
	Pontius Pilate means "behold the man".	HOH-moh]
3	After the crucifixion, Pontius Pilate allowed	Joseph of Arimathea
	this man to take the body of Jesus.	[air-ih-muh-THEE-uh]
		[prompt on Joseph]

Question #8: Social Studies

This	s person is traditionally credited for writing	
the	Book of Proverbs.	
1	Name this person who was David's son and	Solomon [or Shlomo ben
	successor as King of Israel. The Bible claims	David; prompt on
	that he built the First Temple in Jerusalem.	<u>Jedidiah</u> or <u>Yedidiah</u>]
2	Solomon was also traditionally credited with	<u>Ecclesiastes</u>
	writing this book that states "To every thing	$[\underline{ ext{eh-klee-zee-ASS-teez}}]$
	there is a season, and a time to every purpose	[or Kohelet]
	under the heaven."	
3	This mother of Solomon married David after	Bathsheba [or
	her marriage to Uriah the Hittite, whose death	Bat-sheba]
	David indirectly caused. She worked with	-
	Nathan to get David to recognize Solomon as	
	his successor.	



Question #9: Science

10 points per part

Met	als are often used for this purpose.	
1	Name these materials that allow the free flow of	(electrical) conductor s [or
	electrical current, in contrast to insulators.	conducting materials]
2	This material property, which is low in	resistivity [do not accept
	electrical conductors, equals resistance times	variations]
	cross-sectional area divided by length.	
3	This process is the weakening of an electric field	electric-field screen ing or
	due to the presence of conductors. The Debye	shielding or sheathing
	[duh-BY] form of this effect occurs in plasmas.	

Question #10: Science

The	Nobel Prize in Physics in 2014 was given for	
the	invention of the blue light-emitting type of	
this	device.	
1	Name these devices that conduct electric	<u>diode</u> s
	current primarily in one direction.	
2	The diode law is sometimes named for William	(point-contact)
	Shockley, who along with John Bardeen and	<u>transistor</u> s
	Walter Brattain [BRAT-un] invented this	
	three-terminal semiconductor device.	
3	Many early diodes were these devices that take	vacuum tubes [prompt
	advantage of the Edison effect. Early	on electron <u>tube</u> s or
	computers like ENIAC [EE-nee-ak] used	<u>valve</u> s]
	thousands of these devices.	



Question #11: Literature

10 points per part

This	s poem ends "And then my heart with	
plea	sure fills, and dances with the daffodils."	
1	Name this poem that is sometimes just called	"I Wandered Lonely as
	"Daffodils".	a Cloud"
2	This poet wrote "I Wandered Lonely as a	William Wordsworth
	Cloud" and several poems about a girl named	
	Lucy.	
3	William Wordsworth also wrote this poem	"The World Is Too
	which, after starting with its title, states "Late	Much With Us"
	and soon, getting and spending, we lay waste	
	our powers."	

Question #12: Literature

According to this poem, "The falcon cannot hear		
the	falconer."	
1	Name this poem that ends "And what rough	"The Second Coming "
	beast, its hour come round at last, slouches	
	towards Bethlehem to be born?".	
2	This Irish poet wrote "The Second Coming"	W(illiam) B(utler) <u>Yeats</u>
	and "Lake Isle of Innisfree".	[rhymes with "gates"]
3	"The Second Coming" contains this two-word	"Spiritus Mundi"
	Latin phrase that can be translated as "world	
	soul".	



Question #13: Mathematics

10 points per part

Equ	ivalence relations have a reflexive property, a	
sym	metric property, and this property.	
1	Name this property stating that if x is related	transitive property or
	to y and y is related to z , then x is related to z .	<u>transitivity</u>
2	This relationship between sets exists when all	subset relationship or
	the elements of one set are contained in another	subsets or "is a subset
	set. This relationship is transitive but not	of" [accept answers that
	symmetric.	additionally include
		"proper"]
3	Find the number of subsets for a set that has	16 subsets
	four elements.	

Question #14: Mathematics

Mat	rix columns sometimes represent these	
mat	hematical things.	
1	Name these things that have magnitude and	(coordinate) vector s
	direction.	
2	This operation finds a vector perpendicular to	cross product [accept
	two vectors. The result has a magnitude equal	<u>crossing</u> ; prompt on
	to the product of the original vectors'	vector $\mathbf{product}$
	magnitudes times the sine of the angle between	
	the vectors.	
3	Find the x-component of the cross product of	<u>6</u>
	the vector "1, 2, 3" and the vector "4, 0, 3".	



Round 1 3rd Section Toss-up Questions

Question #15: Social Studies

10 points

The premier of the northern part of this country was Ahmadu Bello [uh-MAH-doo BELL-oh] from 1954 until his assassination in 1966. This country's first prime minister, Abubakar Tafawa Balewa [uh-BOO-bah-kar tuh-FAH-wuh bah-LAY-wuh], was also assassinated in 1966. Soon after that, Odumegwu Ojukwu [aw-doo-MAY-goo oh-JOOK-woo] declared that the southern part of this country was the Republic of Biafra [bee-AH-fruh]. More recently in this country, 276 girls were kidnapped in 2014 in Chibok [chee-BOHK] by the terrorist group Boko Haram. This country is the most populous country in Africa. Name this country that in 1991 moved its capital from Lagos [LAH-gohss] to Abuja [ah-BOO-jah].

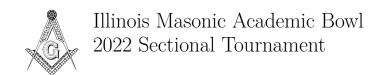
(Federal Republic of) **Nigeria**

Question #16: Science

10 points

The use of these devices is sometimes described by the adjective "isopycnic" ["ice-oh-picnic"], which originally referred to surfaces of constant density inside a fluid. One of these devices is used to find the packed cell volume of blood. The Zippe [ZIP-uh] type of these devices is sometimes regulated by international treaties because it is used to enrich uranium. The basket type of these devices is used to process cane sugar and is good at separating liquids from solids. These devices are named after a fictitious force. Name these devices that separate mixtures according to density by spinning quickly.

centrifuges
[SENT-rih-fyooj-ez]



Round 1 3rd Section Toss-up Questions

Question #17: Literature

10 points

This god got nine servants to kill each other by throwing a whetstone in the air. He then changed himself into a snake to get to Gunnlod ["gun-LOAD"], whom he was able to seduce. This god then drank mead that was made from blood and changed himself into an eagle to escape. This god uses magic to preserve Mímir's [MEE-mir'z] head, which he consults because it can divine the future. This god made the world with the body of Ymir [EE-mir] along with his brothers, Vili and Vé. This god is often helped by the wolves Geri ["GEAR"-ee] and Freki [FREK-ee], the ravens Huginn [HYOO-gin] and Muninn [MYOO-nin], and the eight-legged horse Sleipnir [SLAYP-neer]. Name this husband of Frigg who oversees Valhalla.

Odin [or Wotan]

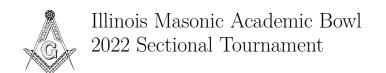
Question #18: Social Studies

10 points

In this U.S. state, almost the entire town of			
Elkinsville was taken by eminent domain during the			
construction of Lake Monroe Reservoir. This state			
used to be the location of the Miami tribe city of			
Kekionga [KEE-kee-ahn-guh]. That location is now			
a town named for a fort that in turn was named for			
a Revolutionary War general nicknamed "Mad			
Anthony". The capital and most populous city of			
this state has a Soldiers' and Sailors' Monument at			
the intersection of Meridian and Market, and it is			
also the home of Butler University. This state is			
also the site of Ball State, Purdue, and Notre Dame			
universities. Name this state between Ohio and			
Illinois.			

Indiana

(The town is Fort Wayne, and the capital is Indianapolis.)



Round 1 3rd Section Toss-up Questions

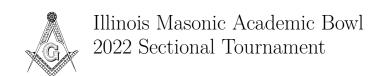
Question #19: Mathematics

10 points

If this formula is used to solve a monic [MAH-nik]	quadratic formula
problem, then the denominator equals 2. The	
golden ratio can be found by plugging the numbers	
1, -1, and -1 into this formula. This formula can	
be verified by using the sum and product of its	
solutions, and it is often derived by completing the	
square. This formula has a discriminant that is	
negative when this formula gives complex solutions.	
Name this formula used to find either the	
x-intercepts of a parabola or the solutions to a	
second-degree polynomial equation.	

Question #20: Miscellaneous

The ground on which this sport is played is marked	(lawn) <u>tennis</u>
by tramlines. Jimmy Van Alen [AL-un] both	
started this sport's hall of fame and designed its	
tiebreaker system. One of the biggest rivalries in	
the history of this sport was between Chris Evert	
and Martina Navratilova. Some matches in this	
sport have been hyped as the "Battle of the Sexes",	
including two matches in 1973 featuring Bobby	
Riggs, who claimed he could beat any woman; he	
defeated Margaret Court but lost to Billie Jean	
King. More recent stars in this sport have included	
Roger Federer [FED-ur-ur] and Serena Williams.	
Name this sport in which a ball is hit over a net.	



Question #21: Science

10 points per part

	s sense is sometimes called olfaction -FAK-shun].	
1	Name this sense that detects odors.	sense of smell (ing)
2	The olfactory nerves are usually designated number one out of the 12 pairs of these nerves that connect directly to the brain rather than via the spinal cord.	<u>cranial</u> nerves
3	This term is used both to describe a round structure in the nasal cavity used to detect smells and a round structure made of capillaries in a kidney nephron.	glomerulus or glomeruli

Question #22: Science

Para	asites are technically this type of creature, but	
this	word more commonly refers to big carnivores	
like	lions, tigers, and bears.	
1	Give this term for an animal that kills and	(apex) predator s
	consumes prey.	
2	Some species avoid predators by imitating	mimicry [accept
	another species. What term refers to that	mimic king]
	practice?	
3	These differential equations are called	Lotka-Volterra equations
	predator-prey equations because they model	
	population changes in predators and prey.	



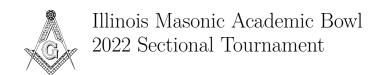
Question #23: Literature

10 points per part

The	protagonist of this novel is exiled after his	
gun	goes off at a funeral, causing a death.	
1	Name this novel about Okonkwo	Things Fall Apart
	[oh-KAHNK-woh] that is set primarily in the	
	village of Umuofia [oom-WOH-fee-uh].	
2	Things Fall Apart was written by this Nigerian	(Albert) Chinua Achebe
	author who wrote about Okonkwo's grandson	[CHIN-wah
	in No Longer at Ease.	uh-CHEB-ay]
3	Many of the characters in <i>Things Fall Apart</i> ,	(new) yam s [do not accept
	including Okonkwo, grow this food. Before each	"sweet potato(es)"]
	harvest, the village holds a feast to honor the	
	goddess Ani [AH-nee] for this food.	

Question #24: Literature

In t	his play, Joseph Garcin [gar-san] says "Hell is	
othe	er people."	
1	Name this French play in which Garcin is in a	No Exit [or Huis Clos;
	room with Inèz Serrano and Estelle Rigault	accept <u>In Camera</u> or <u>No</u>
	[ree-gawl].	Way Out or Dead End
2	No Exit was written by this existentialist who	Jean-Paul <u>Sartre</u> [zhahn
	also wrote the novel Nausea.	"Paul" <u>sart</u> -ruh]
3	The room in No Exit has an ornament or statue	bronze [prompt on metal]
	that is made of this material and is too heavy	
	to lift.	



Question #25: Social Studies

10 points per part

The	se two wars were fought from 1839 to 1842	
and	from 1856 to 1860.	
1	Name these wars between China and the	Opium Wars
	United Kingdom that were fought over China's	
	attempt to reduce trade in the namesake drug.	
2	Name the queen of the United Kingdom during	Queen (Alexandrina)
	those wars.	<u>Victoria</u> (Hanover)
3	The First Opium War ended with this treaty.	Treaty of Nanking or
	This first unequal treaty gave the U. K. control	Treaty of Nanjing
	of Hong Kong.	

Question #26: Social Studies

This	s international organization lasted from 1920	
to 1946.		
1	Name this organization that Woodrow Wilson	League of Nations
	called for in his Fourteen Points and which at	[accept LON]
	one point had 58 members, though the United	
	States never joined.	
2	The Soviet Union was expelled from the League	(Republic of) Finland [or
	of Nations after it invaded this country in the	Suomi or Suomen
	Winter War in 1939. This country declared	tasavalta or Republiken
	independence from Russia in 1917.	$\overline{\mathbf{Finland}}$
3	The first action by the League of Nations	Åland [AW-lund] Islands
	allowed Finland to maintain control over these	
	islands even though its leaders wanted to be	
	part of Sweden.	



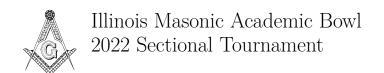
Question #27: Fine Arts

10 points per part

Thi	s cathedral was built during the 12th and 13th	
cent	turies, and it suffered extensive fire damage in	
2019	9.	
1	Name this cathedral on the Île de la Cité [eel	<u>Notre-Dame</u> de Paris
	deh lah see-tay] in Paris.	
2	Notre-Dame's flying buttresses are examples of	French <u>Gothic</u>
	the use of this style of architecture that	
	remained popular through the 16th century.	
3	Notre-Dame was one of the first cathedrals to	<u>rib(bed)</u> vault
	use this type of vault, which became common in	
	Gothic architecture. It is named for its thin	
	network of supports.	

Question #28: Fine Arts

This	s painter's fresco The Last Judgment covers	
the	altar wall of the Sistine [SISS-teen] Chapel.	
1	Name this artist who also painted the Sistine	Michelangelo (di
	Chapel's ceiling.	Lodovico) Buonarroti
		(Simoni) [accept either
		underlined name]
2	This panel on the Sistine Chapel ceiling shows	The Creation of Adam
	God almost touching a man's hand.	[or <i>Creazione di</i>
		[Adamo]
3	The Vatican also contains this 18th- and	Antonio <u>Canova</u>
	19th-century sculptor's Monument to the Royal	
	Stuarts and his Perseus Triumphant.	



Round 1 5th Section Toss-up Questions

Question #29: Mathematics

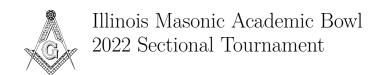
10 points

The Karatsuba [kar-at-soo-bah] algorithm is used to perform this operation on large numbers. When this operation is supposed to be applied in an iterative [IH-tuh-ruh-tiv] fashion, pi notation is used. This operation can only be applied to two matrices if the number of columns of the first matrix equals the number of rows of the second matrix. Applying this operation before taking a logarithm has the same impact as addition after taking a log. This operation can be distributed over addition and subtraction. Name this operation that takes factors into a product.

multiplication or
multiplying [accept
product before the end;
accept times but not
"timesing"]

Question #30: Literature

Much of this novel consists of diary and journal	Dracula
entries, though one chapter is two cuttings from	
"The Dailygraph" describing the wreck of the ship	
Demeter [dih-MEE-tur], in which the captain's	
body is tied to the wheel. A note at the end of this	
novel states that two characters had a son who was	
born on the anniversary of Quincey Morris's death.	
As Morris died, he noticed that the scar on Mina's	
[MEE-nuh'z] forehead had gone away. Earlier in	
this novel, Lucy Westenra died despite Abraham	
Van Helsing's attempts to protect her with garlic.	
Name this novel by Bram Stoker about a vampire.	



Round 1 5th Section Toss-up Questions

Question #31: Science

10 points

One of these devices uses a combination of laser cooling and fountain design to achieve accuracy. That device, which uses six lasers to cool molecules to a few millionths of a degree above absolute zero, is the N.I.S.T.-F1 in Boulder, Colorado. More traditional varieties of these objects use balance wheels and resonators such as quartz crystals. Though rubidium [roo-BID-ee-um] is cheaper, the most precise modern examples of these devices use cesium [SEE-zee-um]. These objects traditionally used pendulums. Name these devices, the analog types of which have a long hand that goes around every hour and a short hand that goes around every 12 hours.

clocks [accept atomic
clocks or timers or
chronographs or
chronometers or
timepieces or
timekeepers]

Question #32: Social Studies

10 points

Narciso [nar-SEE-soh] López, who was born in Venezuela, recruited people from the United States for two failed attempts to take over what is now this country. Pierre Soulé [soo-lay] encouraged the production of a document, probably written by James Buchanan, that called for purchasing this country. That 1854 document is the Ostend Manifesto. The Spanish-American War was sparked when the U.S.S. *Maine* was blown up while it was in what is now this country. In 1961, President Kennedy was heavily criticized for a botched invasion of this country at the Bay of Pigs. Name this Caribbean country where the U.S. tried to overthrow Fidel Castro.

(Republic of) <u>Cuba</u> or (República de) <u>Cuba</u>



Round 1 Extra Section Toss-up Questions

Extra Question #1: Mathematics

10 points

The product of 1 more than this positive number times 1 less than this number equals 1. Half of this positive number equals this number's reciprocal. If this number were written as a fully reduced fraction, then both its numerator and denominator would have to be even, a fact used to prove that this number is irrational. This number equals approximately 1.414. The secant of 45 degrees equals this number, and the sine of 45 degrees equals half of this number. Identify this number equal to the length of a hypotenuse in a right triangle in which each leg has a length of 1.

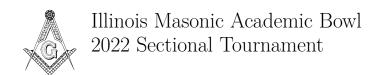
square <u>root</u> of <u>2</u> [accept radical 2 or 2 to the 1/2 power]

Extra Question #2: Fine Arts

10 points

This city is the current location of Jan van Eyck's
[yon vahn "Ike's"] Annunciation, Paul Klee's
["clay's"] Revolving House, and Edgar Degas'
[day-gah'z] The Green Dancer. Those works are on
display at this city's Thyssen-Bornemisza [TEE-sen
bor-nuh-MEE-sah] Museum, which is part of this
city's "Golden Triangle of Art", another museum in
which is named for a queen who lives in this city.
That museum contains works by Juan Gris
["grease"], who was born in this city. The largest
art museum in this city contains many works by
Diego Velázquez, who painted Las Meninas
[may-NEE-nahss] in this city. Name this city that
contains the Reina Sofía [ray-EE-nah soh-FEE-ah]
Museum and Prado Art Museum and which is the
capital of Spain.

Madrid, Spain



Round 1 Extra Section Toss-up Questions

Extra Question #3: Social Studies

10 points

This leader's early policies, passed with the support of his advisor Sextus Afranius [af-RAH-nee-uss] Burrus, included banning capital punishment and allowing slaves to sue their masters. The poet Lucan [LOO-kun] joined a conspiracy against this ruler which was called the Pisonian [pih-SOH-nee-un] conspiracy. This leader's mother Agrippina [a-grih-PEE-nuh] the Younger was initially his regent, but he eventually had her assassinated. This last ruler of the Julio-Claudian dynasty succeeded Claudius. Name this Roman emperor from 54 to 68 who, during the Great Fire of 64, supposedly fiddled.

Nero (Claudius Caesar Augustus Germanicus) [do not prompt on other parts of the name]

Extra Question #4: Science

10 points

These organisms do not exactly fit into a genus [JEE-nus], but the best-known examples are in the genus Agaricus [uh-GAR-ih-kuss]. These organisms sometimes grow in patterns called fairy rings. These organisms are classified as monomitic [mah-noh-MIT-ik] because they only contain generative hyphae ["HI"-fee]. These organisms do not live in the water, but they have structures called gills that can also be called lamella [luh-MELL-uh]. These organisms are easy to recognize by their pileus ["PIE"-lee-uss], which is their cap. Name this group of fungi that includes some poisonous examples, such as the deadly dapperling, and some delicious examples, such as shiitake [shih-tah-keh] and portobello.

mushrooms [accept
toadstools; prompt on
fungus or fungi]



Round 1 Extra Section Toss-up Questions

Extra Question #5: Literature

10 points

A novella by this writer begins "It is a sin to write this" and is mostly set in a tunnel under the earth. In that work, this author wrote about the World Council of Scholars, which rejects a rediscovery of electricity. Another novel by this author is about the use of an alloy that is both lighter and stronger than steel and that is developed by Hank Rearden. In that novel, this author has some characters wonder "Who Is John Galt?". Galt hacks a radio broadcast to give a speech that supports this writer's philosophy, objectivism. Name this author of *Anthem* and *Atlas Shrugged*.

Ayn Rand ["eye"n rand]
[or Alisa (Zinovyevna)
Rosenbaum or Alice
Rosenbaum or Alice
O'Connor]



Extra Question #6: Science

10 points per part

The amount of this energy transferred equals		
temperature times the change in entropy.		
1	Name this form of energy that flows from a warmer object to a colder object.	heat [or thermal energy]
2	For a given substance, this property equals heat change divided by temperature change per mass.	specific heat capacity or heat capacity
3	This law states that the molar specific heats of many metals are nearly the same.	Law of <u>Dulong</u> and <u>Petit</u> [pay-tee] or <u>Dulong-Petit</u> law [both names required without prompting; either order is acceptable]

Extra Question #7: Science

This	s person got into arguments with Robert Koch	
["coke"] about developing the anthrax vaccine.		
1	Identify this French scientist whose namesake	Louis Pasteur [prompt on
	process is the application of heat to milk to	pasteurization or
	make the milk last longer.	pasteurizing]
2	Both the Pasteur effect and the Pasteur point	$\underline{\mathbf{oxygen}} [\mathbf{accept} \ \underline{\mathbf{O}}]$
	are based on levels of this element in the air	
	determining whether a process is anaerobic or	
	aerobic.	
3	Louis Pasteur and his wife Marie studied the	tartaric acid
	properties of this organic acid, whose chemical	
	formula is $C_4 H_6 O_6$ ["C four H six O six"].	
	Those studies led to one of the earliest	
	discoveries of an enantiomer	
	[en-ANT-ee-oh-mur].	



Extra Question #8: Literature

10 points per part

This	s thing "sits looking over harbor and city on	
silent haunches and then moves on".		
1	Name this phenomenon that, in a poem named	$\underline{\text{fog}}$
	for it, "comes on little cat feet".	
2	This poet wrote "Fog", "Chicago", and "The	Carl (August) Sandburg
	People, Yes".	
3	In this other Sandburg poem, the title object	" <u>Grass</u> "
	says, "I cover all" and "Let me work." This	
	poem begins "Pile the bodies high at Austerlitz	
	and Waterloo."	

Extra Question #9: Literature

The	title of this book is based on the name that	
Jonas is told to use for the previous Receiver of		
Memory.		
1	Name this novel, the first in a quartet that	The <u>Giver</u>
	continues with Gathering Blue, Messenger, and	
	Son.	
2	This author wrote <i>The Giver</i> as well as <i>Number</i>	Lois (Ann
	the Stars.	Hammersberg) Lowry
		[accept either underlined
		name]
3	In <i>The Giver</i> , this term is used for the ultimate	being Release d
	punishment. Many people believe this term	
	refers to being kicked out of the community,	
	but it actually refers to being given a lethal	
	injection.	