

## Round 2 1st Section Toss-up Questions

#### **Question #1: Science**

10 points

Some organisms in this phylum are eaten by nudibranchs [NOO-dih-branks], who then are protected by maturing structures from this phylum. Some organisms in this phylum have skeleton-like structures made primarily from water, called mesoglea [meh-zoh-GLEE-uh]. The moving animals in this phylum are classified as medusas, while the stationary examples are polyps [PAH-lips]. This phylum is named for cells that are capable of delivering a toxin by stinging other organisms. Some animals from this phylum are responsible for the creation of coral reefs. Name this animal phylum that includes sea anemones [uh-NEH-muh-nees] and jellyfish.

Cnidarians
[ny-DAIR-ee-unz]
[accept coelenterates or coelenterata]

#### **Question #2: Literature**

10 points

At the beginning of a short story by this writer, the narrator mistakenly rings up HiHo crackers twice.

This author ended that story with the narrator quitting his job because he thinks his manager,
Lengel, unnecessarily embarrassed three female customers. In a novel by this author, the protagonist's rivalry with Ronnie Harrison heats up after an affair with Ruth Leonard. This author describes that affair starting after the protagonist visits Marty Tothero, his former basketball coach.

That novel is the first of four novels that this author wrote about Harry Angstrom. Name this author who wrote "A&P" and Rabbit, Run.

John (Hover) Updike



## Round 2 1st Section Toss-up Questions

#### **Question #3: Social Studies**

10 points

This person said "May your chains sit lightly upon you, and may posterity forget that you were our countrymen" in an August 1776 speech delivered in Philadelphia. Four years earlier, this person wrote "The Rights of the Colonists". Thomas Gage exempted John Hancock and this person when Gage offered to pardon people who laid down their arms during the Battles of Lexington and Concord. According to legend, this person said "This meeting can do nothing further to save the country" to start the Boston Tea Party. Name this Massachusetts politician whose cousin became a U.S. president.

Samuel Adams [prompt on Adams]

#### **Question #4: Fine Arts**

10 points

The only library designed by this architect was completed a few years after his 1969 death, and it was recently modernized to increase the amount of natural light. That library, located in northwest Washington, D.C., is this architect's Martin Luther King Jr. Memorial Library. For a 38-story building in midtown Manhattan, this architect designed most of the building, but two large restaurants inside it were designed by Philip Johnson. This designer of the Seagram Building was also the last director of the Bauhaus [rhymes with "cow house"]. Name this German architect who often said "Less is more."

Ludwig <u>Mies</u> van der Rohe [prompt on van der <u>Rohe</u>]



## Round 2 1st Section Toss-up Questions

#### **Question #5: Science**

10 points

During the 21st century there has been debate over the extreme warp in this location's stellar disk, which is likely caused by satellite galaxies.

Observations of several novas in this location by Heber [HAY-bur] Curtis led to the Great Debate between Curtis and Harlow Shapley. Edwin Hubble used images of Cepheid [SEH-fee-id] variable stars in this location to demonstrate that it is not part of the Milky Way. This galaxy is the largest galaxy in the Local Group, about twice as large as the Milky Way but with about the same mass. Name this galaxy that within the next five billion years will collide with us.

Andromeda Galaxy
[prompt on Local Group before the first "galaxy"]

#### **Question #6: Literature**

10 points

In this novel, when one character says "Blessed be
the fruit", the reply is supposed to be "May the
Lord open." Shortly after one of those
introductions, this novel's narrator remembers that
Rita and Cora knew a woman who was recently
shot by guardians. Like many of the people in this
novel, the dead woman is called a "Martha", which
means that she had to wear green. The first person
who says "Blessed be the fruit" in this novel is a
Mayday resistance member named Ofglen
["of-glen"]. Name this novel set in the Republic of
Gilead, where women have lost their freedom, and
which was written by Margaret Atwood.

The Handmaid's Tale



### **Question #7: Mathematics**

10 points per part

Con	nputers often generate these numbers using	
ther	rmal noise or mouse movements because they	
are	unpredictable, while humans may generate	
ther	m by rolling dice.	
1	Name these numbers that are chosen by chance.	<u>random</u> numbers
2	If two fair six-sided dice are rolled, find the	1/36
	probability that both of them come up 1. Give	
	your answer as a fraction.	
3	If three dice are rolled, find the probability that	125/216
	none of them comes up 1. Give your answer as	
	a fraction.	

### **Question #8: Mathematics**

The	type of distribution named for this	
mat	hematician is a special case of the binomial	
dist	ribution with one trial.	
1	Identify this mathematician whose name is	Jacob <mark>Bernoulli</mark>
	similarly used for a trial with exactly two	[bair-NOO-lee] [accept
	possible outcomes.	James <b>Bernoulli</b> or
		Jacques <u>Bernoulli</u> but not
		other first names]
2	If a Bernoulli trial has a probability of success	0.4 [or <u>2/5</u> ]
	of 0.6, then what is the probability of failure?	
3	If a coin is tossed four times, what is the	<u>1/16</u> or 0.0625
	probability of getting four heads?	



### **Question #9: Social Studies**

10 points per part

This	s article of the U.S. Constitution states that	
fede	ral judges' compensation "shall not be	
dim	inished during their Continuance in Office".	
1	Name this article that addresses the judicial	Article <b>III</b> [or the <b>third</b>
	branch.	article]
2	Article III was clarified by this amendment,	11th Amendment
	which states that an individual cannot use the	
	federal court to sue a state they do not live in.	
	This amendment was ratified in 1795.	
3	Article III states that treason can involve	aid and comfort [either
	making war against the United States or by	order]
	adhering to enemies by giving enemies these	
	two concepts.	

#### **Question #10: Social Studies**

		i o pointe poi part
Thi	s constitutional amendment includes the	
Esta	ablishment Clause.	
1	Name this amendment stating that Congress	<u>1</u> st Amendment
	can make no law "abridging the freedom of	
	speech, or of the press; or the right of the	
	people peaceably to assemble, and to petition	
	the Government for a redress of grievances".	
2	Complete this phrase from the beginning of the	religion
	1st Amendment: "Congress shall make no law	
	respecting an establishment of"	
3	Many Establishment Clause legal cases now are	Alton (Toussaint) Lemon
	decided based on a test named for this plaintiff	[accept <b>Lemon</b> test]
	in a 1971 Supreme Court case. The test tries to	<u>-</u>
	prevent excessive government entanglement	
	with religion.	



### **Question #11: Science**

10 points per part

Mol	ecules with this molecular geometry have	
90-0	legree bond angles.	
1	Name this geometry in which there are six	octahedral
	atoms bonded to the central angle with zero	[ahk-tuh-HEE-drull]
	lone pairs.	geometry
2	Several octahedral molecules contain this	carbonyl
	organic group that is characterized by a double	[KAR-buh-nill] group
	bond between carbon and oxygen.	
3	This element that can bond to six carbonyl	$\underline{\mathbf{tungsten}}$ [accept $\underline{\mathbf{W}}$ ]
	groups is taken from the ore wolframite	
	["WOOL"-fruh-"might"] along with iron,	
	manganese [MAN-guh-neez], and oxygen.	

## **Question #12: Science**

This	s person's most famous work was done at	
Kin	g's College London, where she worked from	
1951	1 to 1953.	
1	Name this X-ray crystallographer	Rosalind (Elsie) <b>Franklin</b>
	["crystal"-AH-gruh-fur] whose work was used	
	by James Watson, Francis Crick, and Maurice	
	Wilkins to discover the structure of DNA.	
2	After her work on DNA, Franklin studied this	tobacco mosaic virus
	pathogen that affects certain plants. This	[prompt on $\overline{\mathbf{TMV}}$ ]
	pathogen was the first one to be identified as a	
	virus.	
3	In the early 20th century, X-ray crystallography	William Lawrence <b>Bragg</b>
	was advanced by this father-and-son team that	and William Henry Bragg
	shared a Nobel Prize. The law named after the	or the <b>Bragg</b> s
	son is used to calculate a scattering angle.	



### **Question #13: Literature**

10 points per part

In t	his play, Shelley Levene [luh-VEEN] tells	
Wil	liamson "If you can't think on your feet, you	
oug	ht to keep your mouth shut."	
1	Name this play in which real estate salesmen	Glengarry Glen Ross
	compete for good leads.	
2	This author of Glengarry Glen Ross also wrote	David (Alan) Mamet
	the screenplays for <i>The Untouchables</i> and <i>Hoffa</i> .	$[\underline{\mathbf{MAM} ext{-}\mathbf{it}}]$
3	Another play by Mamet is centered around the	Buffalo(-head) <u>nickel</u>
	fact that Don Dubrow [doo-BRAU] thinks that	[accept <u>5-cent coin</u> or
	he has sold one of these items at too low a price.	<b>5-cent piece</b> ; prompt on
		<u>coin</u> or American <u>buffalo</u> ]

## **Question #14: Literature**

The	title character of this novel walks with a limp	
beca	ause he steered a sled into a tree.	
1	Name this novel set in Starkfield,	Ethan Frome
	Massachusetts.	
2	This author wrote Ethan Frome and The Age of	Edith <b>Wharton</b> [or Edith
	Innocence.	Newbold <u>Jones</u> ]
3	The narrator of <i>Ethan Frome</i> often sees the	post office
	title character at this location in Starkfield	
	around noon.	



## Round 2 3rd Section Toss-up Questions

#### **Question #15: Social Studies**

10 points

This leader was criticized for the *Gukurahundi* [goo-kuh-rah-OON-dee] massacres, and Peter Tatchell tried to arrest him when he went to London. This person came to power after fighting a three-way war against Joshua Nkomo [nuh-KOH-moh] and Ian Smith, which led to the Lancaster House Agreement. When this person came to power, he forcibly took land from white farmers so it could be redistributed. By 2009, this leader had his country recognize U.S. dollars as legal tender in order to address hyperinflation. This leader left office in 2017 and died in 2019. Name this former president of Zimbabwe.

Robert (Gabriel) Mugabe
[moo-gah-bay]

#### **Question #16: Mathematics**

Operators that use this technique do not have an	recursion or recursive
effect on some partial computable functions	[or <b>recursing</b> ]
according to Kleene's [KLAY-nee'z] theorem about	
this technique. The course-of-values type of this	
technique can be related to the primitive type by	
using Gödel ["girdle"] numbers. This technique is	
closely related to induction because it allows some	
problems to be solved using a basis and steps.	
Some programming languages use this technique	
instead of loops, though languages can allow both.	
Name this characteristic of an algorithm that	
allows it to call on itself.	



## Round 2 3rd Section Toss-up Questions

#### **Question #17: Literature**

10 points

At the beginning of a play by this writer, the title character tells his servant "Open the shrine, that I may see my Saint," causing the servant to put gold and jewelry on display. In that play, this writer has Corbaccio [kor-BAH-chee-oh], Corvino [kor-VEE-noh], and Voltore [vohl-TOR-ay] try to flatter the title character in an attempt to get into his will. This writer used the line "He was not of an age but for all time" in his poem "To the Memory of My Beloved the Author, Mr. William Shakespeare", and he used the opening line "Drink to me only with thine eyes" in his poem "To Celia". Name this playwright of *Volpone [vol-POH-nay]*, or *The Fox*.

Ben(jamin) Jonson

#### **Question #18: Science**

In a 1920 speech, Albert Einstein replaced the	luminiferous <u>ether</u> [or
adjective that usually goes in front of this word	$[\underline{\text{æther}}]$
with the adjective "gravitational". In order to study	
this substance, Georges Sagnac [zhorzh sanh-yahk]	
demonstrated the Sagnac effect. Lorentz	
transformations were originally put forth to	
describe properties of this material, though	
ironically they are now used to support an	
alternative theory, special relativity. This substance	
was not found in the Michelson	
["Michael-sun"]—Morley experiment, which found	
that light traveled at the same speed in all	
directions. Name this medium that supposedly	
propagated light.	



## Round 2 3rd Section Toss-up Questions

#### **Question #19: Social Studies**

10 points

In both 1973 and 1993, ancient versions of this text were found in tombs, and those findings supported theories that this text was written by several authors. According to legend, this text was written by somebody who was born old and lived for 990 years. According to this book, "He who knows does not speak; he who speaks does not know." The first of this text's 81 sections states "The name that can be named is not the enduring and unchanging name." Name this text whose title means "Classic of the Way of Power" and which, according to legend, was written by Lao Tzu.

Tao Te Ching [the 'T's may be pronounced like 'D's; prompt on The Book of Lao Tzu or The Way of Lao Tzu or Classic of the Way of Power]

#### **Question #20: Miscellaneous**

10 points

Like bull and bear contracts, this financial instrument can be classified as callable ["CALL-uh-bull"], which allows this instrument to be redeemed early. For historical reasons, the yield of this type of financial instrument is called its coupon rate, and when this financial instrument does not pay interest, it is called zero-coupon. Treasury bills are this type of security. Corporate and government credit ratings have a major effect on this financial instrument. Companies and governments issue this type of security to raise money. Name this investment alternative to stocks.

bonds [prompt on
fixed-income security/ies
or treasury bills]



### **Question #21: Science**

10 points per part

The	melanogaster [mel-AN-oh-gass-tur] species of	
this	animal is often used in genetic experiments.	
1	Name this genus [JEE-nus] of fruit flies. Some	Drosophila
	people argue that Tephritidae	$[\underline{\text{druh-SAH-fih-luh}}]$
	[teh-FRIH-tih-day] are the real fruit flies	
	instead of this genus.	
2	The first sex-linked mutation discovered, which	white eyes [prompt on
	was by T. H. Morgan, causes <i>Drosophila</i> to	whiteness or less specific
	have this characteristic. This mutation was	answers regarding eye
	discovered before the miniature wing mutation.	color]
3	Morgan also studied these large chromosomes	polytene [PAH-lee-teen]
	with many strands in <i>Drosophila</i> salivary	chromosomes
	glands.	

#### **Question #22: Science**

Tay	-Sachs and Gaucher disease are caused by		
prob	olems with this organelle.		
1	Name this organelle that contains enzymes.	lysosome(s)	
		["LIE"-soh-sohm]	
2	This other organelle is similar to a lysosome	$ \underline{\mathbf{peroxisome}}(\mathbf{s}) $	
	but has more catalase ["CAT-uh-lace"] to break	[puh-"ROCK"-sih-sohmz]	
	down a specific chemical.		
3	The lysosomal ["lice"-oh-SOH-mull] disease	<u>oligosaccharide</u> s	
	mannosidosis [muh-NOH-sih-DOH-siss] leads to	OH-lih-goh-"sack-uh-rides	s"]
	a build-up of this type of sugar that is made of		
	a few saccharides ["SACK-uh-rides"]—more		
	than two, but not many more.		



### **Question #23: Literature**

10 points per part

At t	the beginning of this novel, a light turns green	
but	one car does not move forward.	
1	Name this novel in which the title epidemic	(Essay on) <b>Blindness</b> [or
	does not affect the doctor's wife.	Ensaio sobre a <u>cegueira</u> ]
2	This Portuguese author wrote Blindness as well	José (de Sousa)
	as Baltasar [bahl-tah-SAHR] and Blimunda	Saramago [zhoo-zeh
	[blee-MOON-duh].	$\underline{\mathbf{sah}}$ - $\underline{\mathbf{rah}}$ - $\underline{\mathbf{MAH}}$ - $\underline{\mathbf{goo}}$
3	This author wrote about a place where nobody	H(erbert) G(eorge) Wells
	could see in "The Country of the Blind". This	
	author also wrote The Invisible Man, in which	
	Griffin cannot be seen.	

# **Question #24: Literature**

This	s poem begins "Before the wig and the dress	
coat	there were rivers, arterial rivers."	
1	Name this history of the Western Hemisphere in	Canto General
	15 cantos, beginning with "A Lamp on Earth".	$[{ m KAHN-toh}]$
		hen-ay-RAHL]
2	Canto General was written by this Chilean poet	Pablo <b>Neruda</b> [or
	who also wrote Twenty Love Poems and a Song	(Ricardo Eliécer) Neftalí
	of Despair.	Reyes Basoalto]
3	In an ode to these objects, Pablo Neruda wrote	"Ode to My <u>Socks</u> "
	"Beauty is twice beauty, and what is good is	
	doubly good."	



### **Question #25: Fine Arts**

10 points per part

In t	his musical's opening number, several	
chai	racters ask "How many people does he need?	
How	v many boys, how many girls?".	
1	Name this musical about a Broadway audition	A <u>Chorus Line</u>
	that begins with the song "I Hope I Get It".	
2	This song from A Chorus Line follows its title	" <u>One</u> "
	with the words "singular sensation, every little	
	step she takes" and "thrilling combination,	
	every move that she makes".	
3	This composer won a Tony and a Pulitzer for	Marvin (Frederick)
	composing A Chorus Line. Edward Kleban	<u>Hamlisch</u>
	[KLEE-ban] wrote the lyrics.	

## **Question #26: Fine Arts**

Pos	ters for this musical often show a white	
half	-mask.	
1	Name this musical about a disfigured man who	The <b>Phantom of the</b>
	loves Christine and lives below a stage. Give	<u>Opera</u>
	the full name of the show.	
2	In this song, the Phantom sings to Christine	"The Music of the
	"Slowly, gently night unfurls its splendor. /	$\underline{\mathbf{Night}}$ "
	Grasp it, sense it, tremulous and tender. / Turn	
	your face away from the garish light of day."	
3	The opening number of The Phantom of the	Hannibal
	Opera is a rehearsal for this fictional opera.	



### **Question #27: Social Studies**

10 points per part

This	s name for the Qing [cheeng] dynasty came	
fron	n the clan that started it.	
1	Give this name that is the shortened name of a	Manchu
	region of China and also the name of a haircut	
	that the Qing dynasty required.	
2	The Qing dynasty survived this enormous	Taiping (Heavenly
	rebellion that was started in 1850 by a person	Kingdom) Rebellion
	who claimed to be the younger brother of Jesus.	
3	The Qing dynasty ended in 1912, though their	Mukden incident
	last emperor—Puyi—became the puppet ruler	
	of Manchukuo [man-choo-kwoh] after this 1931	
	incident in which a bomb went off near a	
	railway controlled by Japan.	

#### **Question #28: Social Studies**

This	s country was led by Josip Broz Tito from	
1953	3 to 1980.	
1	Name this Balkan country that broke up	(Socialist Federal Republic
	violently during the 1990s.	of) Yugoslavia
2	This person became the first president of the	Slobodan <u>Milošević</u>
	Republic of Serbia in 1991. He was on trial for	[mi-LOH-shuh-vich $]$
	war crimes when he died.	
3	Franjo Tudjman [FRAHN-yoh TOOJ-mun]	(Republic of) <b>Croatia</b> [or
	became the first president of this country by	(Republika) <u><b>Hrvatska</b></u> ]
	promising to protect it from Milosević.	



## Round 2 5th Section Toss-up Questions

#### **Question #29: Science**

10 points

The way that this phenomenon occurs around carbon can be classified as tet, trig, or dig. The existence of directional bonds and this phenomenon explain the low melting points of neptunium [nep-TOO-nee-um] compared to similar elements. In the isovalent ["eye"-soh-VAY-lent] types of this phenomenon, the size differences can be explained by Bent's rule. Types of this phenomenon correspond to types of molecular geometries. This phenomenon occurs when atomic orbitals combine to distribute their energy more evenly. Name this phenomenon that can be classified, for example, as  $sp^2$  ["S P two"] or  $sp^3d$  ["S P three D"].

orbital **hybrid**ization [accept **hybrid**ized orbitals or **hybrid**izing]

#### **Question #30: Literature**

According to one story, Neith [neeth] worked out a	Seth
compromise in which the foreign goddess Astarte	
[uh-"STAR-tee"] bcame a consort of this god.	
Peribsen [PEER-ib-sen] associated himself with this	
god, which was unusual for pharaohs. In some	
sources, this god is merged with Apophis	
[AY-puh-fiss], while in other sources this god is very	
strong and protects Ra from Apophis. The animal	
associated with this god looks similar to a jackal	
but is not a real animal. This god of disorder	
controlled the desert after losing a competition	
against his nephew. Name this husband of	
Nephthys [NEFF-thiss] whose stone boat sank,	
causing him to lose a race to Horus.	



# Round 2 5th Section Toss-up Questions

### **Question #31: Social Studies**

10 points

When Miranda v. Arizona was argued before the	Thurgood Marshall
Supreme Court, this person made the final	
argument that the U.S. could not supply counsel to	
all defendants. This person was the U.S. Solicitor	
General at the time. This person claimed that the	
most important case he argued as a lawyer was	
Smith v. Allwright, which made it easier for some	
people to vote in primaries. In his role as NAACP	
chief counsel, this person also represented the	
winning side in Brown v. Board of Education.	
Name this person who in 1967 was appointed to the	
Supreme Court by President Lyndon Johnson,	
making him the first African-American Supreme	
Court justice.	

# **Question #32: Mathematics**

When these things are classified as "impartial", the	<b>game</b> s
Sprague–Grundy theorem states that each position	
within them has a nim-value, which is not true	
when these things are partisan. Sequential examples	
of these things can be represented by decision trees,	
unlike simultaneous examples. These things can be	
classified as cooperative when coalitions can be	
formed. The concept of minimax [MIN-ih-max] was	
developed for the zero-sum examples of these things	
and is often equivalent to the Nash equilibrium.	
Name these things, examples of which include	
Blotto, prisoner's dilemma, and chess.	



## Round 2 Extra Section Toss-up Questions

#### **Extra Question #1: Social Studies**

10 points

The early history of this group of people is described in the *Sharafnama* [shuh-ruf-NAH-muh]. In 1946, these people controlled the Republic of Mahabad [muh-HAH-bahd]. A group using guerrilla tactics to fight for the independence of this group was started in 1978 by Abdullah Öcalan [OH-juh-lahn], who has been a prisoner since 1999. Recent efforts to gain independence for these people have been near the city of Kirkuk [keer-KOOK]. In 1988, the Halabja [huh-LAHB-juh] Massacre of these people took place using mustard gas in Iraq. Name this ethnic group that lives in a region that includes parts of Iraq, Iran, Syria, and Turkey.

Kurds or the Kurdish people [accept Kurdistan]

#### **Extra Question #2: Science**

10 points

This person designed a system in which three bars were joined together so that a point in the center of the middle bar moves in almost a straight line.

That system is the "linkage" named for this person, and a complete loop by it is the "curve" named for this person. This person used his system in a machine that improved efficiency by using a separate condenser, improving the design of a device invented by Thomas Newcomen

[NOO-kuh-men]. In honor of this person, the unit equal to kilogram meters squared per second cubed is named after him. Identify this namesake of the S.I. unit of power and a type of steam engine.

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# Round 2 Extra Section Toss-up Questions

### **Extra Question #3: Literature**

10 points

In one story by this writer, Irene insists that she is	John (William) Cheever
listening to the Sweeneys' nurse, and she later	
worries that other people in the apartment can hear	
her and Jim. This author ended that story with the	
couple listening to the news and weather in front of	
their new cabinet. Another short story by this	
writer ends with the protagonist finding his house	
abandoned. In that story, Neddy Merrill uses	
swimming pools to get home. This author's first	
novel is set in St. Botolphs [BAH-tuulfs],	
Massachusetts, where Moses and Coverly grow up	
and eventually become fathers so they can get part	
of the Wapshot money. Name this author of "The	
Enormous Radio" and "The Swimmer".	

# **Extra Question #4: Mathematics**

Behind 41, this is the second-greatest lucky number	<u>17</u>
of Euler [OY-lur] because $n$ squared minus $n$ plus	
this number is prime when $n$ is an integer less than	
this number. This number is the Fermat [fair-mah]	
number between 5 and 257, and it is one of five	
Fermat numbers that are known to be prime. This	
number is how many wallpaper groups there are, so	
it is the number of symmetric ways to tessellate a	
plane. This number together with either 11 or 23	
form a pair of sexy primes, and this number and 19	
are a pair of twin primes. Identify this number that	
is the only prime between 13 and 19.	



# Round 2 Extra Section Toss-up Questions

# **Extra Question #5: Fine Arts**

A motet by this composer uses words from William	Thomas <u>Tallis</u>
Tyndale's translation of the Book of John. This	
composer wrote that work, "If Ye Love Me," when	
King Edward VI required church services to be in	
English. An early five-part harmony written by this	
composer begins "We praise thee O God" and is	
this composer's <i>Te Deum</i> [tee DEE-um]. Another	
work by this composer, Why Fum'th in Fight?,	
inspired an early 20th-century fantasia. Name this	
16th-century composer whose work inspired the	
20th-century composer Ralph [rayff] Vaughan	
Williams to write a fantasia based on his theme.	



### **Extra Question #6: Mathematics**

10 points per part

The	e formula for this quantity is based on the	
Pyt	hagorean theorem.	
1	Give this term for the length of the shortest	$\underline{\text{distance}}$
	path between two points.	
2	Find the distance in three dimensions between	square $\underline{\mathbf{root}}$ of $\underline{6}$ [accept
	the origin and the point "1 comma –1 comma	radical 6; do not prompt
	2".	on "6"]
3	Find the distance between the point whose	square $\underline{\mathbf{root}}$ of $\underline{3}$ [accept
	polar coordinates are "1, 90 degrees" and "2, 30	radical 3; do not prompt
	degrees".	on "3"]

### **Extra Question #7: Mathematics**

One	e consequence of this theorem is that	
poly	ynomials can be written as products of linear	
fact	ors.	
1	Name this theorem which states that all	fundamental theorem
	non-constant polynomials with complex	<u>of algebra</u>
	coefficients have at least one zero in the	
	complex numbers.	
2	Solve for $x$ in the polynomial " $x$ squared minus	<b>2</b> and $7$ [either order]
	9x plus 14 equals 0". Give both answers.	
3	Solve for $x$ in the polynomial " $x$ cubed minus	$\underline{0}$ and $\underline{3}$ and $\underline{-3}$ [any order;
	9x equals 0". Give all three answers.	the 3 and $-3$ can be
		combined as "plus and/or
		minus 3" or "positive
		and/or negative 3"]



### **Extra Question #8: Literature**

10 points per part

This	s character is described by the statement "I	
coul	d see that, if not actually disgruntled, he was	
far	from being gruntled."	
1	Name this person who works for Bertie Wooster	Reginald "Reggie"
	in novels such as The Code of the Woosters.	<u>Jeeves</u> [accept any]
2	This author created Jeeves and wrote several	P(elham) G(renville)
	novels set at Blandings Castle.	Wodehouse
		[ "wood-house" $]$
3	In the Wodehouse novel <i>Psmith</i> ["smith"],	Dr. John Watson [accept
	Journalist, the title character says this	either underlined name]
	character's name after the words "Elementary,	
	my dear." That exact phrase was never said by	
	Sherlock Holmes.	

#### **Extra Question #9: Literature**

This	s poem states "The paths of glory lead but to	
the	grave."	
1	Name this poem that begins "The Curfew tolls	"Elegy Written in a
	the knell of parting day."	Country Churchyard"
2	This poet wrote "Elegy Written in a Country	Thomas <b>Gray</b>
	Churchyard" as well as "Ode on a Distant	
	Prospect of Eton College".	
3	After describing some people whose bodies are	ambition [accept being
	buried, "Elegy Written in a Country	$\overline{ ext{ambitious}}$
	Churchyard" states that this quality should not	
	"mock their useful toil."	