



### Question #1: Social Studies

10 points

Ruins near this river were discovered by James Lewis, who used the pen name “Charles Masson”. One of the early settlements just west of this river was at Mehrgarh [“MARE”-gar]. An ancient city next to this river has a Great Bath on one of its mounds, and it contained a bronze statuette now called *Dancing Girl*. That city is Mohenjo-daro, and the ancient cities near this river made up the Harappan civilization. Name this river that mostly goes through Pakistan, though its name was used to make the name of a different country.

Indus River

### Question #2: Science

10 points

Oskar Minkowski performed experiments that removed this organ from dogs. This organ develops in embryos from dorsal and ventral buds. A lung transplant or the replacement of enzymes from this organ are used to treat cystic fibrosis. The duct in this organ is called the duct of **Wirsung** [VEER-soonk], whose opening is the major **duodenal papilla** [doo-AH-dih-nul PAP-ih-luh]. The ampulla of Vater combines this organ’s duct with the common bile duct. This organ’s islets of Langerhans produce **glucagon** [“GLUE”-kuh-gahn] and insulin. Name this organ behind the stomach that is part of both the digestive and endocrine systems.

pancreas



**Question #3: Literature**

*10 points*

This god could be symbolized by a bloody ox-hide hanging from a pole. When the Romans took over Egypt, this god was combined with **Hermes** [HUR-meez]. In some stories, **Nephthys** [NEF-thiss] gave birth to this god after seducing **Osiris** ["oh-SIGH"-riss]. The organs of Osiris were given to this god as a gift, and this god then helped Isis embalm Osiris. **Thoth** ["tote"] recorded the results and Ammut enforced the results in the Hall of **Ma'at** [mah-AHT] when this god weighed the hearts of people who had died. Name this god of mummification who protected the dead and had the head of a jackal.

Anubis [or Anpu]

**Question #4: Miscellaneous**

*10 points*

A 2003 change to this program was pushed hard by Billy Tauzin and costs the federal government about 50 billion dollars each year. That change to this program originally had a provision that was commonly called "the donut hole". Many non-profit companies get customers through this program using a feature that was originally named "Plus Choice", but is now called "Advantage". People who receive Social Security Disability Insurance payments can also receive benefits through this program. Name this U.S. government program that provides health insurance to people who are at least 65 years old.

Medicare [do not accept "Medicaid"]



**Question #5: Science**

10 points

<p>The Wilson effect describes the shape of these objects, while Sporer's law describes their change in position over a cycle. The visible number of these objects is known as the Wolf number, whose calculation includes a coefficient to account for differences in visibility of these objects due to telescope instrumentation. During the Maunder Minimum, very few of these objects were visible, a phenomenon linked to the Little Ice Age. The magnetic field flux inhibits convection at these locations, leading to a lower temperature. Name these dark places on the photosphere of our nearest star.</p>	<p><u><b>sunspots</b></u> [accept <u><b>starspots</b></u> before "Sporer's" and prompt thereon thereafter]</p>
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**Question #6: Literature**

10 points

<p>This author wrote about Kathy, Ruth, and Tommy at Hailsham boarding school. Kathy is a carer, which means that she is a clone who takes care of other clones. In another novel, one of this author's characters says "We treated each other decently over six months of shelling each other"; those words describing Herr Bremann during World War I were spoken by Lord Darlington and remembered by Darlington's butler Stevens. Name this Japanese-born British author who wrote <i>Never Let Me Go</i> and <i>The Remains of the Day</i>.</p>	<p>Kazuo <u><b>Ishiguro</b></u></p>
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**Question #7: Mathematics**

*10 points per part*

A question asked by this person gave an experimental method of approximating pi.		
<b>1</b>	Name this 18th-century Frenchman who asked how often a needle would cross a border if it was dropped on a floor made of wooden strips.	Georges-Louis <b>Leclerc</b> , Comte de <b>Buffon</b> [accept either underline part or <b>Buffon's needle</b> ]
<b>2</b>	Buffon's needle is classified as this type of method because it uses random sampling. This type of method got its name after Stanislaw Ulam used it while working on the Manhattan Project.	<b>Monte Carlo</b> method or <b>Monte Carlo</b> experiment
<b>3</b>	Monte Carlo methods take advantage of this statistical law which states that when many trials are conducted, the average approaches the expected value.	law of <b>large numbers</b>

**Question #8: Mathematics**

*10 points per part*

Given an equation, name the type of shape that is generated by graphing it in polar coordinates. A one-word answer is sufficient for each part; you don't need any details about the shape.		
<b>1</b>	$r$ equals the cosine of the quantity 6 theta	<b>rose</b> (with 12 petals)
<b>2</b>	$r$ equals 6	<b>circle</b> (with radius 6)
<b>3</b>	$r$ squared equals 2 times the cosine of the quantity 2 theta	<b>lemniscate</b> [LEM-niss-kate]



**Question #9: Social Studies**

*10 points per part*

This name of this belief system was coined by T.H. Huxley, the grandfather of Aldous Huxley.		
<b>1</b>	Give this term for the position that whether God exists is unknown or unknowable.	<u>agnosticism</u>
<b>2</b>	This person wrote that he told philosophers he was agnostic but common people that he was an atheist. This author of <i>Why I Am Not a Christian</i> made an analogy between belief in God and belief in a teapot orbiting the Sun.	Bertrand (Arthur William) <u>Russell</u> (, 3rd Earl Russell)
<b>3</b>	The third type of proof of god criticized by Russell is the argument from design, which is often given this name.	<u>teleological</u> [TEE-lee-oh-“logical”] proof or <u>teleology</u>

**Question #10: Social Studies**

*10 points per part*

This is the most popular Protestant denomination in the United States. Its Southern Convention has 15 million members.		
<b>1</b>	Identify this denomination whose name comes from its doctrine that a certain act should be done by believers instead of by infants.	<u>Baptist</u> [prompt on <u>baptism</u> ]
<b>2</b>	The First Baptist Church in America was started in this state in 1638 by the person who first established this state as an independent colony after fleeing another colony.	<u>Rhode Island</u>
<b>3</b>	Before starting Baptism with a confession in 1611, Thomas Helwys followed a theology started by this Dutch Reformed theologian who died in 1609.	Jacobus <u>Arminius</u> [ar-MIN-ee-uss] [or Jakob <u>Hermanszoon</u> ; accept <u>Arminianism</u> ]



### Question #11: Science

*10 points per part*

In this technique, a mobile phase flows through a stationary phase.		
<b>1</b>	Name this method of separating mixtures. Its name comes from its original use, separating pigments.	<b><u>chromatography</u></b>
<b>2</b>	This type of chromatography is named for the format of the silica gel or alumina that is placed on a sheet of glass or plastic.	<b><u>thin-layer</u></b> chromatography
<b>3</b>	Chromatography depends on constituents having different values for this quantity, equal to the ratio of concentrations between the two phases.	<b><u>partition coefficient</u></b> or <b><u>distribution coefficient</u></b>

### Question #12: Science

*10 points per part*

Catalysts have no impact on applications of this principle.		
<b>1</b>	Name this principle stating that certain changes to systems at equilibrium lead to the establishment of a new equilibrium.	<b><u>Le Châtelier's</u></b> [luh shaht-lee-ay'z] principle
<b>2</b>	One example of Le Châtelier's principle is this effect, which is invoked when a molecule is added to a solution that is in part the same as another molecule in the solution.	<b><u>common ion</u></b> effect
<b>3</b>	In the context of Le Châtelier's principle, this term refers to a reagent whose concentration is changed. In other contexts, this term refers to the substance on which an enzyme acts.	<b><u>substrate</u></b>



**Question #13: Literature**

10 points per part

The woman in this story says that she and Harry could have stayed in Paris, or they could have gone shooting in Hungary.		
1	Name this short story in which Harry contemplates the stories he never wrote while dying in Africa of a gangrene infection.	“The <b><u>Snows of Kilimanjaro</u></b> ”
2	This American author wrote “The Snows of Kilimanjaro”. Many of his other short stories are about Nick Adams.	Ernest <b><u>Hemingway</u></b>
3	At the end of “The Snows of Kilimanjaro”, Harry’s wife sees that he has died after she is awoken by one of these animals.	<b><u>hyenas</u></b>

**Question #14: Literature**

10 points per part

In this work, a group of dirty, unruly children is collectively called “ <b>powhitetrash</b> ” [poh-“white-trash”].		
1	Identify this work of autobiographical fiction in which the narrator, Maya, tells of the racism of Stamps, Arkansas and being sexually abused by her mother’s boyfriend in St. Louis.	<b><i><u>I Know Why the Caged Bird Sings</u></i></b>
2	<i>I Know Why the Caged Bird Sings</i> takes its title from a line in this writer’s poem “Sympathy”. This poet wrote of the “debt we pay to human guile” in “We Wear The Mask”.	Paul Laurence <b><u>Dunbar</u></b>
3	This poet, who aspired to be the “lady Paul Laurence Dunbar”, wrote of seven pool players who “shoot straight”, and “sing sin” in “We Real Cool”, part of her collection <i>The Bean Eaters</i> .	Gwendolyn (Elizabeth) <b><u>Brooks</u></b>



**Question #15: Fine Arts**

10 points

This opera begins with a character singing words that mean “I am the Prologue” in the aria “*Si può*” [see poo-oh]. The last line of this opera is “*La commedia è finita!*” [lah koh-MAY-dee-ah eh fee-NEE-tah]. One line in this opera is translated as “If my face is pale, it’s from shame, and lust for revenge!”. This opera’s best known aria, sung before the stabbing of Nedda, is “*Vesti la giubba*” [VES-tee lah JOO-bah], which means “Put on the costume” and is sung by *Canio* [KAH-nee-oh], a very sad comedic actor. Name this opera often performed along with *Pietro Mascagni’s* [pee-ET-roh- mahss-KAHN-yee’z] *Cavalleria Rusticana* [kah-vah-lair-EE-ah roo-stee-KAH-nah] that was written by *Ruggero Leoncavallo* [rood-JAIR-oh lay-ohn-kah-VAH-loh].

*I Pagliacci* [ee pahl-YAHT-chee]

**Question #16: Social Studies**

10 points

This person’s popularity decreased after he claimed a rival had planned to release altered photos to sabotage this person’s daughter’s wedding. This person’s wealth came from contracts to computerize Medicare records that went to his company, Electronic Data Systems. While campaigning, this person repeatedly used the phrase “giant sucking sound” to describe job losses that would be caused by *NAFTA* [NAF-tuh]. This person selected Vietnam War hero James Stockdale as his running mate when he ran for president. Name this billionaire who ran as a third-party presidential candidate in 1992 and 1996.

H(enry) Ross Perot



**Question #17: Science**

10 points

This compound is used to differentiate between **carboxylic** ["car-box-ILL"-ik] acids and alcohols based on whether bubbles are formed. Older fire extinguishers combined this compound with sulfuric acid to create carbon dioxide. This compound and ammonium chloride are produced during one step of the Solvay process. This compound is commonly used with acids, such as vinegar or lemon juice, as a leavening agent. Because it absorbs odors, many people leave open boxes of this compound in their refrigerator. Name this compound whose chemical formula is  $\text{NaHCO}_3$ .

sodium bicarbonate or  
sodium hydrogen carbonate or  
bicarbonate of soda  
[prompt on baking soda  
or bread soda or  
cooking soda]

**Question #18: Literature**

10 points

In one of this author's stories, Calixta agrees to marry **Bobinôt** [boh-ban-oh] after **Alcée** [al-say] leaves her at a ball. One of this author's characters repeats the word "free" to herself until she dies realizing that her husband survived a train accident. In another work by this author, the protagonist wishes that her cable-car ride would go on forever after spending 15 dollars. This author of "The Story of an Hour" and "A Pair of Silk Stockings" created a character who has affairs with **Alcée Arobin** [al-say ah-roh-ban] and Robert Lebrun before drowning herself in the Gulf of Mexico. Name this author who wrote about Edna Pontellier in *The Awakening*.

Kate **Chopin** [shoh-PAN]  
[or Katherine **O'Flaherty**]



**Question #19: Mathematics**

10 points

**Gösta** [YOES-tah] Mittag-Leffler tried to persuade this mathematician not to publish his ideas because they were too revolutionary. This mathematician proved there is no largest cardinal number because every set's power set is larger than the original set. A very simple fractal, formed by repeatedly removing open middle thirds from an interval, is called this mathematician's set. This person supposed that you could make a list of every real number in binary, then showed that a completely new real number wasn't on the list, to prove that the real numbers are uncountable—a method called his “diagonal argument”. Name this mathematician who pioneered the study of infinite sets.

**Georg** (Ferdinand Ludwig Philipp) **Cantor** [GAY-ork KAHN-tor]

**Question #20: Social Studies**

10 points

Chief Justice John Marshall asserted that this clause of the Constitution can be interpreted as being “dormant” under some conditions. This clause was cited in a failed attempt to justify the National Industrial Recovery Act in the case *Schechter Poultry Corp. v. U.S.* According to the 1905 case *Swift & Company v. U.S.*, this clause allows the government to regulate monopolies. This clause is the third clause in Article I, Section 8, and it ends with the phrases, “with foreign Nations, and among the several States, and with the Indian Tribes.” This clause was used to invalidate a New York law in *Gibbons v. Ogden*. Name this clause that allows the federal government to regulate business activity.

**Commerce** Clause [accept answers that additionally contain “Interstate” or “Foreign” or “Indian”; accept **Article I, Section 8, Clause 3** of the United States Constitution; before “third”]



**Question #21: Literature**

*10 points per part*

The title character of this novel is an orphan who gets hit in the head for saying “Please, sir, I want some more.”		
<b>1</b>	Name this Charles Dickens novel.	<i><u>Oliver Twist</u>, or <u>The Parish Boy’s Progress</u></i>
<b>2</b>	At one point this prostitute kidnaps Oliver Twist. When she later tries to help him, she is beaten by her boyfriend, Bill Sikes.	<i><u>Nancy</u></i>
<b>3</b>	Oliver Twist gets in trouble when the Artful Dodger and Charley Bates steal one of these objects from Mr. Brownlow.	(pocket-) <i><u>handkerchiefs</u></i>

**Question #22: Literature**

*10 points per part*

In this novel, a bookcase falls on Leonard Bast after Charles Wilcox attacks him.		
<b>1</b>	Name this novel in which Bast quits his insurance job and impregnates Helen Schlegel [SHLAY-gul].	<i><u>Howards End</u></i>
<b>2</b>	This English author of <i>A Passage to India</i> wrote <i>Howards End</i> .	E(dward) M(organ) <i><u>Forster</u></i>
<b>3</b>	E. M. Forster also wrote this posthumously-published novel in which the title character has homosexual relationships with Clive Durham and Alec Scudder.	<i><u>Maurice</u></i>



**Question #23: Fine Arts**

10 points per part

This large 1877 painting is set in the <b>Place</b> [plahss] de Dublin.		
<b>1</b>	Name this painting in which many people are holding umbrellas. The center of this painting has a green lamp post.	<b><i>Paris Street; Rainy Day</i></b> [or <i>Rue de Paris, temps de pluie</i> ]
<b>2</b>	This French artist painted <i>Paris Street; Rainy Day</i> as well as <i>The Floor Scrapers</i> .	Gustave <b>Caillebotte</b> [goo-stahv ky-bawt]
<b>3</b>	Gustave Caillebotte was considered a member of this artistic movement and often supported its artists financially, including paying studio rent for Claude Monet.	<b>Impressionists</b> or <b>Impressionism</b>

**Question #24: Fine Arts**

10 points per part

This painting is the winter component of a cycle of paintings set at different times of year.		
<b>1</b>	Name this 1565 painting of people walking, with their dogs behind them, towards a town where a lot of people are skating.	<b><i>The Hunters in the Snow</i></b> [or <i>Jagers in de Sneeuw</i> or <i>The Return of the Hunters</i> ]
<b>2</b>	This painter of <i>The Tower of Babel</i> created <i>The Hunters in the Snow</i> . His son was also a notable painter.	Pieter <b>Bruegel</b> [BROO-gul] the Elder [or Peasant <b>Bruegel</b> ]
<b>3</b>	Pieter Brueghel the <i>Younger</i> made a series of paintings of this person as an adult. This person as a young child is often painted next to Baby Jesus, such as in Leonardo's <i>Virgin of the Rocks</i> .	<b>John the Baptist</b> [prompt on <b>John</b> ]



**Question #25: Social Studies**

*10 points per part*

This person wrote the first draft of the document that became known as the Southern Manifesto.		
<b>1</b>	Name this longtime U.S. senator who won four states in the presidential election of 1948, in which he ran on the ticket of the States' Rights Democratic Party.	(James) Strom <b><u>Thurmond</u></b>
<b>2</b>	The Southern Manifesto was written in reaction to this 1954 Supreme Court decision.	<b><u>Brown v. Board of Education of Topeka</u></b> [accept either part]
<b>3</b>	Throughout most of the 1980s, 1990s, and early 21st century, the president pro tem of the Senate was either Thurmond or this West Virginia Democrat who much earlier had been a local Ku Klux Klan leader.	Robert <b><u>Byrd</u></b>

**Question #26: Social Studies**

*10 points per part*

This person was the namesake of a successful but very unpopular treaty between the U.S. and Great Britain signed in 1794.		
<b>1</b>	Name this first Chief Justice of the United States.	John <b><u>Jay</u></b>
<b>2</b>	While he was chief justice, the Supreme Court decided in this case that residents of one state could sue another state. This case was overturned by the 11th Amendment.	<b><u>Chisholm v. Georgia</u></b> [prompt on <b><u>Georgia</u></b> ]
<b>3</b>	John Jay resigned from his position as chief justice when he was elected to this position. George Clinton held this position before and after Jay.	<b><u>governor</u></b> of <b><u>New York</u></b> (State) [prompt on <b><u>governor</u></b> ]



**Question #27: Mathematics**

*10 points per part*

Answer the following about tossing a fair coin.		
<b>1</b>	If the coin is tossed twice, find the probability of getting two heads.	<u><math>\frac{1}{4}</math></u> or <u>0.25</u>
<b>2</b>	If the coin is tossed three times, find the probability of getting exactly two heads.	<u><math>\frac{3}{8}</math></u> or <u>0.375</u>
<b>3</b>	If a coin is tossed until heads comes up a total of two times, find the probability that it has been tossed exactly three times.	<u><math>\frac{1}{8}</math></u> or <u>0.125</u>

**Question #28: Mathematics**

*10 points per part*

Answer the following about the graph of the equation $y$ equals the quantity $x$ minus 4, end quantity, divided by the quantity $x$ squared minus $2x$ minus 8:		
<b>1</b>	Find the limit of $y$ as $x$ approaches infinity.	$y = \mathbf{0}$
<b>2</b>	Give the $x$ -coordinate of the hole of the graph.	$x = \mathbf{4}$ [accept, but do not otherwise reveal, <u><math>(4, \frac{1}{6})</math></u> ]; if they give the latter answer you can just give them credit for part 3 without reading the part]
<b>3</b>	Find the $y$ -coordinate of the hole of the graph.	$y = \mathbf{\frac{1}{6}}$ [or $y = \mathbf{0.16}$ <u>repeating</u> ; accept <u><math>(4, \frac{1}{6})</math></u> ]



**Question #29: Science**

*10 points*

Fluorescence [flor-“essence”] microscopes named for this phenomenon take advantage of the **evanescent** [ev-uh-NESS-ent] waves it creates. This phenomenon is sometimes demonstrated by aiming light through a leaking fluid container so that the light exits where the fluid exits. Optical fibers often use this phenomenon that occurs when the sine of an angle seems to be greater than 1 in Snell’s equation, which implies that refraction is impossible because the critical angle has been exceeded. Name this phenomenon in which light stays inside a medium.

**total internal reflection**  
[accept **TIRFM**; prompt on partial answers]

**Question #30: Social Studies**

*10 points*

During this battle, a failure to protect the fortresses Gabrielle and Beatrice led Lieutenant Colonel **Charles Piroth** [sharl “peer-oat”] to commit suicide. **Jean Gilles** [zhahn zheel] delivered troops to this battle by air in Operation Castor. This battle was followed by the Battle of Mang Yang Pass, which had the same result. After this battle, a conference determined that the 17th Parallel should be used to divide the country it was fought in. Name this 1954 battle that precipitated France’s withdrawal from Indochina, leading to U.S. troop increases in Vietnam.

Battle of **Dien Bien Phu**



**Question #31: Mathematics**

10 points

Long after this person proposed a formula to model population growth, Alfred Lotka improved upon it. The simplest **Runge-Kutta** [ROON-guh KOOT-tuh] method is equivalent to this person's method for approximating the solutions to differential equations using iterative stepping. The integral of the difference of the reciprocal of the floor function minus the reciprocal of  $x$  gives the number named for this person and Lorenzo **Mascheroni** [mahss-kair-OH-nee]. This person's identity relates the numbers 0, 1,  $i$ , pi, and a constant whose abbreviation honors him. Identify this Swiss mathematician for whom the number  $e$  is named.

Leonhard **Euler** [OY-lur]

**Question #32: Literature**

10 points

Two protagonists die while fighting in this country in Stendhal's novel *Armance*. An author from this country wrote a poem about the senators not doing their jobs because they were anticipating the barbarians and another work that wishes "hope your road is a long one" in a poem about a journey to one of this country's islands. In a novel by an author from this country, the narrator stays with Madame Hortense and mines with Alexis Zorbas. Name this home country of Constantine Cavafy and Nikos **Kazantzakis** [kah-zahnt-ZAH-kiss], the former of whom wrote "Ithaka" about this country's epic hero Odysseus.

Greece or Hellenic Republic



### Extra Question #1: Social Studies

10 points

This country's oldest shopping mall is in the Araneta Center and is named for Muhammad Ali. The Puerto Princesa subterranean river flows under a mountain range in this country's Palawan province. The **Zambales** [zam-BAH-"lace"] Mountains contain this country's Mount Pinatubo, a volcano that erupted powerfully in 1991. Magellan's Cross is displayed in a chapel in this country's **Cebu** [seh-BOO] City. The Bataan peninsula separates the South China Sea from a bay named for this country's capital. This country's most populous city is Quezon City on the island of Luzon. Name this Asian island country whose capital is Manila.

(Republic of the)  
**Philippines** or  
(Republika ng) **Pilipinas**

### Extra Question #2: Fine Arts

10 points

One work attributed to this artist shows a man in a blue robe kneeling by a cardinal robe and hat that are on the ground. This artist depicted the same person inside, with his finger on a skull in one work and working hard at his desk behind a lion in another. Those works all depict Saint Jerome. A work by this artist showing an armored person on horseback also shows a creature with a goat's head and another creature riding a pale horse. Another work by this artist shows a magic square. Name this 16th century German engraver who created *Melencolia One* and *Knight, Death and the Devil*.

**Albrecht Dürer**  
[AHL-brekt DOO-rur]



### Extra Question #3: Mathematics

10 points

This person named the “happy ending problem” in a work extending Ramsey’s theorem that he co-wrote with George Szekeres [SEK-ur-esh]. A theorem connecting chromatic numbers of infinite graphs to their subgraphs is named for this person and Nicolaas Govert de Bruijn [duh BROO-in]. This person proposed a theorem about perpendiculars drawn to the pedal point in a triangle that is now named for him and Louis Mordell. Name this Hungarian mathematician who co-wrote so many papers that people track how closely connected they are to someone who collaborated with him.

Paul Erdős [“AIR”-dush]

### Extra Question #4: Literature

10 points

This poet discusses praying during insomnia in “By Night When Others Soundly Slept” and bids God “My sinking heart I pray Thee raise / So shall I give it Thee” in “Deliverance from a Fit of Fainting”. This poet tells one title character “I prize thy love more than whole mines of gold”. This poet addressed the title object of a poem as “I cast thee by as one unfit for light” and called it the “ill-form’d offspring of my feeble brain”. This writer used the poem “The Author to her Book” to respond to the criticism of her collection *The Tenth Muse Lately Sprung up in America*. Name this poet of “To My Dear and Loving Husband”.

Anne (Dudley)  
Bradstreet [accept either underlined name]



**Extra Question #5: Science**

*10 points*

This condition can be diagnosed based on symptoms according to the Swiss System. On an EKG, this symptom can be indicated by an Osborn J wave. People with this condition may produce extra urine due to increased pressure in the arteries from redirected blood flow toward the core and may demonstrate paradoxical undressing. Afterdrop can be observed when treating this condition and was originally thought to contribute to rewarming shock. In mild cases, this condition can be treated by concentrating the patient's own body heat. Name this condition where the body temperature drops below 95 degrees.

**hypothermia** [accept **hypothermic**; do not accept "hyperthermia" or "hyperthermic"]



### Extra Question #6: Science

*10 points per part*

Flowers on these plants have a number of petals that is a multiple of 3 and have parallel leaf veins.		
<b>1</b>	Give this term for <b>angiosperms</b> [AN-jee-oh-“sperms”] whose seeds have one embryonic leaf.	<b>monocots</b> [“MONO-cots”] [accept <b>monocotyledon</b> ]
<b>2</b>	In orchids, this structure and the carpel are fused to a column. This male part of a flower contains the filament and anther.	<b>stamen</b> (s)
<b>3</b>	The order of monocots named for these flowers also includes tulips. These plants have large flowers and are similar to irises.	<b>lily</b> /ies [or <b>Liliales</b> or <b>Lilia</b> ]

### Extra Question #7: Science

*10 points per part*

These compounds have a <b>carboxyl</b> [“car-BOX-ill”] group and the group they are named for, which consists of one nitrogen atom and two hydrogen atoms.		
<b>1</b>	Name these compounds that combine to form proteins.	<b>amino acids</b>
<b>2</b>	Amino acids are joined by this type of bond. The same term refers to short chains of amino acids.	<b>peptide</b> bonds [prompt on <b>amide</b> bonds]
<b>3</b>	Five amino acids, including <b>glycine</b> [GLY-seen], are denoted by this term because their side chains are not aromatic.	<b>aliphatic</b> [al-ih-FAT-ik] amino acids



### Extra Question #8: Literature

10 points per part

This play ends with a song about the sun rising, interrupted by news of a suicide.		
1	Name this play in which Satine cheats at cards, Anna dies of consumption, and Vaska kills Kostilyoff [KOH-stil-yawff] while all of them share a cramped cellar.	<i>The <b>Lower Depths</b></i> [or <i><b>Na Dne</b></i> ]
2	This social realist author wrote <i>The Lower Depths</i> .	Maxim <b>Gorky</b> [or Alexei Maximovich <b>Peshkov</b> ]
3	The suicide at the end of <i>The Lower Depths</i> is by a character with this profession. In Luigi Pirandello's <i>Six Characters in Search of an Author</i> , a group with this occupation is interrupted while rehearsing a play.	<b>actors</b>

### Extra Question #9: Literature

10 points per part

This play's title character's childhood house burned down so that her mother's lover, a brick manufacturer, could rebuild it.		
1	Identify this play in which Jean [zhahn] tries to convince the title character to open a hotel with him on Lake Como, but only manages to convince her to kill herself with a razor.	<i><b>Miss Julie</b></i> [or <i><b>Fröken Julie</b></i> ]
2	This Swedish naturalist playwright wrote <i>Miss Julie</i> .	(Johan) August <b>Strindberg</b>
3	This Strindberg novel is named for the location where Arvid Falk talks to his friends. In <i>Jane Eyre</i> , a location with this name is the place where the title character is locked up and where her Uncle Reed died.	<i>The <b>Red Room</b></i> [or <i><b>Röda rummet</b></i> ]