



Question #1: Literature – U.S. Literature

10 points

<p>This novel's narrator believes that the Combine secretly controls society, and calls the Chronicles "the culls of the Combine's product". Within this story, a transfer from the Pendleton Work Farm realizes his newfound responsibility after Cheswick's suicide. The protagonist of this novel is put out of his misery following a lobotomy [luh-BAH-tuh-mee] that was ordered after he tried to strangle Nurse Ratched. This novel is narrated by Chief Bromden, and the man who tries to strangle Nurse Ratched is Randle McMurphy. Name this novel set in a mental health facility, written by Ken Kesey.</p>	<p><u><i>One Flew Over the Cuckoo's Nest</i></u></p>
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Question #2: Science – Biology

10 points

<p>This organelle is the destination of COPII ["cop two"]-coated vesicles through anterograde [an-TAIR-oh-"grade"] transport. A malfunctioning phosphotransferase ["phospho-transfer-ace"] in this organelle results in inclusion-cell disease, which prevents this organelle from properly adding mannose-6-phosphate tags. Like the endoplasmic reticulum, this organelle consists of flattened sacs called cisternae [sis-TUR-nee], and has cis [siss] and trans faces. Identify this organelle responsible for packaging proteins, named after the Italian scientist who first identified it.</p>	<p><u>Golgi</u> body [or <u>Golgi</u> apparatus or <u>Golgi</u> complex]</p>
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Question #3: Miscellaneous – Sports

10 points

<p>This event has received recent major sponsorship from Paychex chairperson Tom Golisano. There is controversy as to whether or not this event was started because of Rosemary Kennedy. This event was first held at Soldier Field in Chicago in 1968. It was founded by Eunice Kennedy Shriver, and is symbolized by five stick figures in a circle. Through the Law Enforcement Torch Run, this event's Flame of Hope is transported to local and regional competitions. Name this athletic event that provides opportunities for people with intellectual disabilities.</p>	<p>Special Olympics [do not prompt on "Olympics"; do not accept "Paralympics"]</p>
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Question #4: Social Studies – World History

10 points

<p>This monarch's forehead was scarred during an attack by army officer Robert Pate. This monarch's refusal to dismiss attendants impacted who became prime minister, and became known as the Bedchamber Crisis. This monarch hosted Louis-Philippe [loo-ee fee-leep] of France after the French monarchy was abolished. This leader was very supportive of Charles "Chinese" Gordon and was very critical of Prime Minister William Gladstone when Gordon died. This wife of Prince Albert gave birth to her successor Edward VII [7]. Name this queen who ruled England for 63 years, from 1837 until 1901.</p>	<p>Queen (Alexandrina) Victoria (Hanover)</p>
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Question #5: Literature – British Literature

10 points

This poet opened one poem with a description of **Theocritus's** [thee-oh-"CRY"-tuss'z] singing of the sweet years. One poem by this writer begins, "Yes, call me by my pet-name!". This writer's most famous collection of poems has a name that suggests it consists of translations, though it doesn't. This poet wrote "the breath, smiles, tears, of all my life" as an answer to her question "How do I love thee? Let me count the ways." Name this author of *Sonnets from the Portuguese* whose husband Robert was also a poet.

Elizabeth Barrett
Browning [prompt on
Browning]

Question #6: Mathematics – Math Concepts

10 points

The sum of the reciprocals of these segments' lengths equals the reciprocal of the inradius of a triangle. The length of one of these segments equals the product of two triangle sides divided by twice the circumradius. The place where one of these segments touches the side of a triangle is called a foot, and the place where these segments all meet each other is the orthocenter. In a right triangle, two of these segments are the same as the legs, and in an obtuse triangle two of these segments are outside the triangle. Name these segments that go through a triangle vertex and are perpendicular to the opposite side.

altitudes of triangles
[accept heights of
triangles]



Question #7: Social Studies – Geography

10 points per part

<p>Asunción [ah-soon-see-OHN], the capital of Paraguay, is on the border with this country.</p>		
1	Name this country whose capital and most populous city is Buenos Aires [bway-nohss “EYE-race”].	<u>Argentina</u> [or <u>Argentine Republic</u> or República <u>Argentina</u>]
2	Argentina temporarily occupied these South Atlantic islands in 1982, but lost them in a war to the United Kingdom.	<u>Falkland Islands</u> or <u>Falklands</u> [or Islas <u>Malvinas</u>]
3	This city is the second most populous city in Argentina. It takes its name from a city in Andalusia [ahn-dah-loo-SEE-ah] in southern Spain just northeast of Seville.	<u>Córdoba</u> [KOR-thoh-bah]

Question #8: Social Studies – Geography

10 points per part

<p>This city contains the Azadi Tower, which combines a parabolic arch with a pointed arch, and the Milad Tower, which is one of the twenty tallest freestanding manmade structures in the world.</p>		
1	Name this city 100 miles south of the Caspian Sea and north of Qom [koom].	<u>Tehran</u>
2	Tehran is the capital of, and most populous city in, this country.	(Islamic Republic of) <u>Iran</u> [or (Jomhuri-ye Eslami-ye) <u>Iran</u>]
3	This body of water southwest of Iran is also surrounded by Kuwait, Iraq, Saudi Arabia, the United Arab Emirates, Qatar, and Bahrain.	<u>Persian Gulf</u>



Question #9: Science – Physics

10 points per part

The 2014 Nobel Prize in Physics was shared by scientists who worked on a type of these devices that emit blue light.		
1	Name these electric components that primarily conduct electricity in one direction.	diodes [accept light-emitting diodes ; prompt on LEDs]
2	Diodes are most commonly built using this element; this element is also the semiconductor most commonly used in integrated circuits.	silicon [accept S]
3	Several diodes are often used to construct this kind of device, which is used to convert alternating current into direct current.	rectifier(s)

Question #10: Science – Physics

10 points per part

This quantity is the moment of force, meaning that is essentially a weighting of force according to where the force is exerted.		
1	Name this tendency of a force to make an object rotate.	torque
2	Torque can make an object's axis of rotation [pause] rotate itself. What terms is given to that phenomenon?	precession [or precessing]
3	This type of precession, which is used in nuclear magnetic resonance imaging, is the precession of magnetic moments in magnetic fields.	Larmor precession



Question #11: Literature – World Literature

10 points per part

<p>In this work from the <i>Sturm und Drang</i> [sh-toorm oont drahn-g] literary movement, the title character reacts emotionally to the mention of Klopstock [kloh-p-shtahk].</p>		
1	<p>Name this novel in which the protagonist tries to gain the love of Charlotte, who had married Albert. When he realizes that one member of the love triangle has to die, he kills himself.</p>	<p><i>The <u>Sorrows of Young Werther</u></i> [VAIR-tair] [or <i>Die <u>Leiden des Jungen Werthers</u></i>]</p>
2	<p>This author of <i>The Sorrows of Young Werther</i> also wrote about a scholar who strikes a deal with Mephistopheles, Faust.</p>	<p>Johann Wolfgang von <u>Goethe</u> [GRR-tuh]</p>
3	<p>Werther is buried under this type of tree, which he had written about often to his friend Wilhelm [VIL-helm].</p>	<p><u>linden</u> tree [accept <u>lime</u> tree; accept answers containing <u>Tilia</u>]</p>

Question #12: Literature – World Literature

10 points per part

<p>Following this leader's victories at Genoa and Lucca, Anna Pavlovna called him the Antichrist.</p>		
1	<p>Name this real person who appears in a work of fiction, in which Pierre <u>Bezukhov</u> [BEH-zhoo-kawff] idolizes him before meeting him. When this character enters Moscow, Pierre becomes obsessed with assassinating him.</p>	<p><u>Napoleon</u> (I) <u>Bonaparte</u> [accept either underlined name]</p>
2	<p>Name the novel just described, by Leo Tolstoy.</p>	<p><i><u>War and Peace</u></i> [or <i><u>Voyna y Mir</u></i>]</p>
3	<p>After shooting Dolokhov, Pierre Bezukhov is introduced to this organization by Osip <u>Bazdeyev</u> [bahz-DAY-eff].</p>	<p>Freem<u>asonry</u> or Freem<u>asons</u></p>



Question #13: Mathematics – Probability

10 points per part

If you raise this type of polynomial to the power of a positive integer, the extra coefficients that result are a row in Pascal’s triangle.		
1	Give this word for a polynomial that has two terms.	binomials [“by”-NOH-mee-ul]
2	Binomial expansion is useful when solving probability problems. If a fair coin is tossed three times, find the probability that it will come up heads exactly twice.	<u>3/8</u> or <u>0.375</u> or <u>37.5%</u>
3	If a coin is weighted so that it is supposed to come up heads $\frac{2}{3}$ of the time, find the probability that it will come up heads exactly twice if it is tossed three times The answer is not 1.	<u>4/9</u> or <u>0.4 repeating</u>

Question #14: Mathematics – Probability

10 points per part

Suppose you roll two fair, standard, six-sided dice.		
1	Find the probability that the sum of the numbers that come up is 12.	<u>1/36</u>
2	To calculate that answer, you can multiply $\frac{1}{6}$ times $\frac{1}{6}$; the reason that works is that the outcomes of the dice have this relationship to each other, meaning that the outcome of one is not related to the outcome of the other.	<u>independence</u> or <u>independent</u> events
3	Find the probability that the sum of the numbers that come up is either 9 or 10. Give a single answer.	<u>7/36</u>



Question #15: Science – Astronomy

10 points

<p>Most of these objects are classified as diffuse, a category that can be broken down further into emission and reflection types. Those types of these objects are also called HII [“H two”] regions. The examples of these objects that form from red giant stars were misnamed by William Herschel. Galaxies outside our Milky Way were formerly mistakenly classified as these objects. Some of these objects are supernova remnants. The term for these large groups of dust and gas comes from the Latin word for “cloud”. Name these objects of which Messier [meh-syay] One, nicknamed “Crab”, is an example.</p>	<p><u>nebulae</u> [or <u>nebulae</u>]</p>
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Question #16: Social Studies – Economics

10 points

<p>This person wrote “Corn is a necessary, silver is only a superfluity” in the same book in which he wrote “the real measure of the exchangeable value of all commodities” is the amount of labor it can allow a person to purchase or command. He used the notions of the impartial spectator and the propriety of action in his book <i>The Theory of Moral Sentiments</i>. His later book used the example of a pin factory to demonstrate the benefits of the division of labor and the unintended social benefits that occur under capitalism. Name this Scottish economist who wrote about the invisible hand in <i>The Wealth of Nations</i>.</p>	<p>Adam <u>Smith</u></p>
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Question #17: Fine Arts – Classical Music & Opera

10 points

This composer wrote the aria “**Recondita armonia**” [ray-kohn-DEE-tah ar-MOH-nee-ah], which is sung by a painter making a portrait of Mary Magdalene. In another aria by this composer, “Un bel dì”, the title character imagines a ship returning with her husband, a U.S. Navy Lieutenant. Franco Alfano completed this composer’s final opera, which includes the aria “**Nessun [NEH-soon] dorma**”, whose singer expresses confidence in his ability to win the Chinese princess. Name this composer who wrote about Mario Cavaradossi in *Tosca*, about Calàf in *Turandot* [TUR-ahn-doh], and about **Cio-Cio-san [CHOH-choh sahn]** in *Madame Butterfly*.

Giacomo (Antonio Domenico Michele Secondo Maria) **Puccini**
[JAH-koh-moh poot-CHEE-nee]

Question #18: Social Studies – U.S. History

10 points

In 1811, several slaves marched towards this city, burning plantations as they went, in the German Coast Uprising. After the Union took control of this city, it placed Benjamin Butler in charge, but he became so unpopular that he was replaced by Nathaniel Banks. The pirate **Jean Lafitte [zhahn lah-feet]** supported Andrew Jackson in a major U.S. victory near this city that was fought against the British between the signing and the ratification of the Treaty of Ghent that ended the War of 1812. Much of this city was flooded in 2005 by Hurricane Katrina. Name this city in Louisiana.

New Orleans, Louisiana



Question #19: Literature – World Literature

10 points

One member of this fictional group helped the dying **Ilyusha** [eel-YOO-shah] gain the adoration of his schoolmates even though Ilyusha had earlier bitten his finger. A person who is rumored to be part of this group is raised by Grigory and Marfa after his mother, nicknamed Reeking Lizaveta, dies in childbirth. Another member of this group wrote the poem “The Grand Inquisitor”. This group consists of Dmitri, Ivan, Alexei, and Pavel, all of whom are the sons of **Fyodor** [f’yoh-dor]. Name this group of siblings in a novel by Fyodor **Dostoyevsky** [dawss-toy-EV-skee].

the **Brothers**
Karamazov [or **Brat’ya**
Karamazovy]; accept
similar answers containing
both underlined words;
accept **Dmitri**, **Ivan**,
Alexei, and **Pavel** in any
order before “Dmitri”;
accept **Fyodor**
Karamazov’s **sons** before
“Fyodor”]

Question #20: Science – Chemistry

10 points

In one type of this situation, the partition coefficient describes the ratio of two phases. The connection between this situation and chemical kinetics is established by the law of mass action, which explains why various constants can be used for various examples of this situation. When this situation is reached at constant pressure and temperature, the Gibbs free energy is minimized. If one of these situations is disturbed by changing conditions, then its position moves, according to **Le Châtelier’s** [l’-shaht-lee-ay’z] principle. Name this situation in which the forward reaction occurs at the same rate as the reverse reaction, causing concentrations to remain constant.

(chemical) **equilibrium**
[accept partition
equilibrium]



Question #21: Fine Arts – Art History

10 points per part

This artist’s best-known work was originally part of <i>The Gates of Hell</i> .		
1	Name this French sculptor of <i>The Thinker</i> .	(François-)Auguste(-René) Rodin [oh-goost roh-dan]
2	This Auguste Rodin sculpture shows a man without his head and arms.	<i>The <u>Walking Man</u></i> [or <i>L’homme qui marche</i>]
3	Several Rodin sculptures, including <i>The Burghers of Calais</i> and <i>The Walking Man</i> , are made of this metal. A life-size human sculpture by Rodin is named <i>The Age of</i> this metal.	bronze

Question #22: Fine Arts – Art History

10 points per part

Tracy Chevalier [shev-ah-lee-ay] wrote a book about the creation of this painting that was turned into a movie starring Scarlett Johansson.		
1	Name this painting in which the subject is wearing a colorful headscarf and a round hanging piece of jewelry.	<i><u>Girl with a Pearl Earring</u></i>
2	<i>Girl with a Pearl Earring</i> was painted by this Dutch artist.	Jan Vermeer [yahn vur-MEER] [or Johan Vermeer or Johannes Vermeer]
3	This Vermeer painting shows a man with an open hand near a celestial globe. It is similar to his <i>The Geographer</i> .	<i>The <u>Astronomer</u></i>



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

10 points per part

The first of these principles was the elimination of private international understandings.		
1	Name this set of goals outlined by Woodrow Wilson while negotiating the end of World War I.	<u>Fourteen Points</u>
2	The fourteenth point led to the creation of this international organization, but the United States ended up not joining it.	<u>League of Nations</u>
3	This Senate Majority Leader from Massachusetts opposed the League of Nations, saying “The United States is the world’s best hope.”	Henry Cabot <u>Lodge</u>

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

10 points per part

The name of this network is believed to come from a frustrated slave owner after Tice Davids escaped.		
1	Name this network that helped slaves escape.	<u>Underground Railroad</u>
2	The Fugitive Slave Act, which Congress passed to force the return of escaped slaves, was strengthened as part of this package of bills that admitted California as a free state.	<u>Compromise of 1850</u>
3	In 2015, this Columbia University historian completed <i>Gateway to Freedom: The Hidden History of the Underground Railroad</i> . His previous books include <i>The Fiery Trial: Abraham Lincoln and American Slavery</i> .	Eric <u>Foner</u>



Question #25: Science – Chemistry

10 points per part

Substances in this state of matter have essentially fixed volume, but variable shape.		
1	Name this state of matter.	liquid (s) [accept liquidity]
2	The elements francium [“France”-ee-um], cesium [SEE-zee-um], gallium [GAL-ee-um], and rubidium [roo-BID-ee-um] are liquid at conditions close to standard temperature and pressure. Name the two elements that are liquid <i>at</i> standard temperature and pressure.	bromine and mercury [either order]
3	In this phenomenon, a liquid flows naturally through narrow spaces, often against gravity. This phenomenon, which is used by plants and trees, is caused by a combination of surface tension and adhesion.	capillary action or capillarity [or capillary motion]

Question #26: Science – Chemistry

10 points per part

Phosphorous comes in white, red, scarlet, violet, and black varieties, demonstrating this concept.		
1	Give this term for elements that exist in multiple forms.	allotropes [or allotropy or allotropism]
2	In 2010, the Nobel Prize in Physics was awarded for the study of this two-dimensional allotrope of carbon, whose atoms form a hexagonal pattern.	graphene
3	Several other allotropes of carbon with a hexagonal pattern are named for this person, because they resemble the geodesic domes he designed.	(Richard) Buckminster Fuller [accept fullerenes]



Question #27: Literature – U.S. Literature

10 points per part

After this event, Mr. Medbourne, Colonel Killigrew, Mr. Gascoigne [“gas-coin”], and the Widow Wycherly all decide to venture to Florida “to quaff at morning, noon, and night”		
1	Name this event in which a rose is dipped into special water.	Dr. <u>Heidegger</u> ’s <u>experiment</u> [prompt on <u>experiment</u> ; accept similar answers containing both underlined parts]
2	“Dr. Heidegger’s Experiment” was written by this author, as was <i>The Scarlet Letter</i> .	Nathaniel <u>Hawthorne</u> [or Nathaniel <u>Hathorne</u>]
3	The rose that Dr. Heidegger dips in the water from the Fountain of Youth was given to him by this woman, who died the day before she was supposed to marry him.	<u>Sylvia Ward</u> [accept either]

Question #28: Literature – U.S. Literature

10 points per part

This object is found “beside the white chickens”.		
1	Name this object that “so much depends upon”.	red <u>wheelbarrow</u>
2	This Imagist author wrote “The Red Wheelbarrow”, as well as “This Is Just To Say”.	William Carlos <u>Williams</u>
3	In “This Is Just To Say”, the narrator admits to eating these items, which were “so sweet and so cold.”	the <u>plums</u> that were in the icebox [prompt on <u>fruits</u>]



Question #29: Mathematics – Math Concepts

10 points

<p>Rosser's theorem states that the nth of these numbers is greater than n times the natural log of n, which is similar to the fact that there are asymptotically ["ASS-imp"-TAH-tik-lee] n over $\log n$ of these numbers less than or equal to n. By considering the product of all of these numbers, and adding one to that, Euclid proved that there are infinitely many of these numbers. The sieve of Eratosthenes ["air-uh-TOSS"-thuh-neeZ] finds these numbers by crossing out all composite numbers. Name these numbers whose only positive factors are 1 and themselves.</p>	<p><u>prime</u> numbers or <u>primes</u></p>
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Question #30: Social Studies – World History

10 points

<p>According to the <i>Histories</i> of Herodotus [huh-RAH-dih-tuss], this leader wrote a letter to Idanthyrsus ["eye"-dan-THUR-suss], telling him "Cease thy wanderings and come, let us engage in battle." Idanthyrsus led the Scythians [SITH-ee-unz]. Aristagoras [uh-RISS-tuh-GOR-uss] started a failed rebellion against this leader called the Ionian ["eye"-OH-nee-un] Revolt. Because Athens supported the revolt, this man tried to take control of Greece. This leader was supported by the former Athenian leader Hippias [HIP-ee-uss], but his troops were stopped by Miltiades [mil-"TIE"-uh-deez] at the Battle of Marathon. Name this father of Xerxes [ZURK-seez] I, who ruled Persia after the sons of Cyrus the Great.</p>	<p><u>Darius I</u> [or <u>Darius the Great</u>; prompt on <u>Darius</u>]</p>
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Question #31: Literature – British Literature

10 points

In this novel, the cry “Kill it! Kill it!” is heard as a man whips a woman whom he called a “strumpet”. One character in this novel opts to read *Romeo and Juliet* instead of attending a dinner party featuring the Arch Community Songster. Through the **Bokanovsky [BOH-kuh-NAWF-skee]** process, citizens of the World State in this novel are separated by class into categories named Alpha through Epsilon. This novel is set during the year 632 After Ford, and part of it takes place at a Savage Reservation. Name this dystopian novel featuring Mustapha Mond and John the Savage, written by Aldous Huxley.

Brave New World

Question #32: Science – Physics

10 points

This scientist’s namesake law can be derived using the equation “energy density equals 8 pi times frequency squared divided by the speed of light cubed”. For low frequencies, that law developed by this person approximates the **Rayleigh-Jeans [RAY-lee “jeans”]** law, and for high frequencies it approximates the **Wien [veen]** approximation. This person assumed that oscillation energy was quantized in developing a law describing blackbody radiation. Name this German scientist who gave a ratio of energy to frequency of about 6 times 10^{-34} **["10 to the negative 34th"]** joule-seconds, which is now called his namesake constant and represented by a lowercase *h*.

Max **Planck** [accept **Planck**’s law or **Planck**’s constant]



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

10 points

<p>In a letter to Charles Yancey, this person wrote that a nation will never be both “ignorant and free”. While this person was president, he broke with “Quids” in his party, who were led by John Randolph. He avoided war with Britain after the <i>Chesapeake-Leopard</i> Affair and British insistence that impressment would continue, opting instead for the Embargo Act. The 12th amendment changed how elections worked after this person’s electoral tie with Aaron Burr. Name this drafter of the Declaration of Independence who became the third U.S. president.</p>	<p>Thomas <u>Jefferson</u></p>
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Extra Question #2: Science – Physics

10 points

<p>This person’s formulation of physics, which is equivalent to the Lagrange-d’Alembert [luh-grahnzh dal-um-bair] principle and Hamilton’s principle of stationary action, is his principle of least constraint. The process of removing a magnetic field, often used in old CRT displays, is named for this physicist. One of the laws named for this scientist eliminates the possibility of magnetic monopoles by stating that the divergence of a magnetic field is zero. Another law named for this person states that the electric flux through a closed surface is proportional to charge. Identify this physicist for whom two of Maxwell’s equations are named.</p>	<p>Carl Friedrich Gauss [rhymes with “house”]</p>
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Extra Question #3: Fine Arts – Art History

10 points

<p>Though it can't be seen in the painting, this work is set near an insane asylum where the artist's sister lived. When this painting was stolen in 1994, a note was left behind saying "Thanks for the poor security." There are two pastel and two painting versions of this artwork, whose background red sky may have been inspired by the faraway eruption of Krakatoa. This painting was made in 1893 in Norway. Name this work showing a man on a bridge with his hands on the side of his head and his mouth wide open, by Edvard Munch [moonk].</p>	<p><i>The <u>Scream</u></i> [or <i><u>Skrik</u></i>]</p>
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Extra Question #4: Literature – U.S. Literature

10 points

<p>In this poem, a spotted hawk complains of the narrator's "gab and [his] loitering", though the narrator describes himself as "not a bit tamed and untranslatable". The reader is told to "keep encouraged" in searching for the speaker, who is "somewhere waiting for you". This poem admits to being contradictory before saying, "I am large, I contain multitudes." This poem is narrated by a man "now thirty-seven years old in perfect health", who claims that "every atom belonging to me as good belongs to you". Name this Walt Whitman poem written in the first person.</p>	<p>"<u>Song of Myself</u>" [accept "<u>Poem of Walt Whitman, an American</u>"]</p>
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Extra Question #5: Mathematics – Math Concepts

10 points

Hilbert’s 10th problem asked for an algorithm about the type of these things named for **Diophantus** [“die”-oh-FAN-tuss]. After taking calculus and linear algebra, it’s common for the next math class people take to be about the differential type of these things. The quadratic formula is used when one side of these things is a second-degree **polynomial** [“poly”-NOH-mee-ul] and the other side is zero. When these statements are true for all possible values of variables, they are called identities. Name these statements that declare that two sides must have the same value.

equations [accept equality/ies; accept Diophantine equations]



Extra Question #6: Literature – U.S. Literature

10 points per part

This poet wrote that Christians that were “black as Cain, may be refined, and join th’ angelic train.”		
1	Name this poet who asked that the Goddess guide the every action of our first president in “To His Excellency General Washington.”	Phillis <u>Wheatley</u>
2	At 17, Phillis had published one of these poems “on the death of George Whitefield”. In another poem of this type, Thomas Gray wrote that “the paths of glory lead but to the grave.”	<u>elegy</u> [accept <u>elegaic</u> poem] (The Gray poem is “Elegy Written in a Country Churchyard”.)
3	Two answers required. Most of Wheatley’s poetry was collected in a volume entitled “Poems on Various Subjects,” with the subtitle specifying these <i>two</i> subjects.	(Poems on Various Subjects,) <u>Religious</u> and <u>Moral</u> [accept answers in either order]

Extra Question #7: Literature – U.S. Literature

10 points per part

This farmer bought the slave Pearl Blossom, who served his concubine, Lotus.		
1	Name this character. Shortly after the birth of his first son, his wife suggests that they purchase land from the struggling House of Hwang, from where his wife came.	<u>Wang Lung</u> [accept either]
2	Pearl Buck wrote a trilogy of books about Wang Lung’s family; the trilogy as a whole, and the first book, both have what name?	<i>The <u>Good Earth</u></i>
3	<i>The Good Earth</i> takes place in the early 20th century in this Asian nation. <i>Dream of the Red Chamber</i> is considered one of its Four Great Classical Novels.	<u>China</u> [or <u>Zhongguo</u>]



Extra Question #8: Mathematics – Geometry

10 points per part

If a polygon has this property, then all of its diagonals are within the polygon.		
1	Name this property.	<u>convexity</u> or <u>convex</u> polygon
2	Equivalently, every interior angle of a convex polygon must measure less than this number of degrees.	<u>180</u> degrees [accept <u>pi</u> radians]
3	Find the number of diagonals of a convex polygon with 11 sides.	<u>44</u> diagonals

Extra Question #9: Mathematics – Geometry

10 points per part

The Hancock Center in Chicago is essentially in this shape.		
1	Give the term for a section of a cone or pyramid cut off by a plane.	<u>frustum</u> [do not accept “frustrum”]
2	What term refers to the distance from the edge of the base of a cone to the apex of the cone?	<u>slant height</u> (do not accept “slant” or “height”)
3	Find the ratio of the <i>volumes</i> of the two parts of a cone if it is sliced by a plane parallel to the base, halfway between the circle and the apex. It doesn't matter whether you put the larger part first or second.	<u>7</u> to 1 or <u>1 to 7</u> or <u>1/7</u>